A realist perspective on the use of research evidence in health policymaking

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Abstract

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The achievement of "evidence-informed" policy is an aspiration espoused by policymakers, academics and citizens alike, but governments have faced considerable challenges in pursuit of this ideal. The methodological orientation known as scientific realism, in which outcome patterns in the social world are understood as manifestations of the operation of social mechanisms in specific conducive contexts, is increasingly popular in the social sciences, including within public health and social policy. Yet, little research to date has examined evidence-informed health policymaking through a realist lens. This thesis addresses this gap.

The purpose of this thesis is to explore the usefulness and explanatory value of realist approaches for the study of the use of evidence by health policymakers, and the influence of complex interventions designed to institutionalize the systematic application of evidence to health policymaking. The thesis presents two qualitative syntheses and a primary case study in pursuit of this aim.

Following a survey of relevant literature (**Chapter 1**) and a discussion of methodological foundations (**Chapter 2**), a comprehensive systematic review of qualitative research on evidence-informed health policymaking is summarized (**Chapter 3**). The latter forms the basis for the subsequent two chapters, a thematic synthesis on the factors affecting evidence use by health policymakers (**Chapter 4**) and a realist synthesis on the institutionalization of evidence-informed policymaking (**Chapter 5**). The thesis then pivots from synthesized secondary evidence to original primary research. A qualitative realist case study on the knowledge transfer work of the West African Health Organization (WAHO) is presented (**Chapter 6**), culminating in the proposal of a realist program theory setting out explanations for how and under what conditions their flagship program – WAHO's Knowledge Transfer Platform – influences the use of evidence in national health policymaking in West Africa. The thesis closes with a pair of essays that provide lessons, interpretations and critical reflections, both methodological (**Chapter 7**) and practical (**Chapter 8**).

Acknowledgements

This thesis took forever.

I began this doctoral program in October of 2014 with a shortage of experience and an excess of confidence. I had no idea back then just how bumpy a ride this was going to be. The process has humbled (and aged) me. It's also taught me a number of important lessons, only some of them academic.

I have learned that mental health is more important than work, and that – sometimes, at least – rest and self-care have to take precedence over meeting arbitrary deadlines.

I've learned that academic culture can sometimes be toxic, nasty and exploitative, and that being a decent member of the academic community means standing up for students and junior staff, advocating for more fair, sustainable and humane working conditions, and engaging with colleagues constructively rather than combatively.

I have also learned that big "individual" achievements don't happen without a strong community of support.

One of the side-effects of what has been a long and protracted doctoral education is that I have accumulated a long list of colleagues, teammates, mentors, benefactors, cheerleaders and friends, all of whom I owe a debt of gratitude for helping me to get to the end of this journey.

For nearly a decade now, I have been wandering in and out of the Department of Social Policy and Intervention in Oxford, a place that has shaped me intellectually and professionally, and has introduced me to countless brilliant classmates and colleagues who have influenced my thinking and my work. During my MSc, I benefitted enormously from the teaching of Chris Bonell, Frances Gardner and G.J. Melendez-Torres. Serendipitous marathon conversations with Dave Humphreys in the hallways of Barnett House and in innumerable Oxford pubs were also valuable. I am grateful to Jenny Burton, Alice Burton, Felix van Urk and Charlotte van Nus for their friendship and support, especially during the early days of my DPhil. Elizabeth Nye, Anders Bach-Mortensen, Ani Movsisyan, Carly Hudelson, Sophia Backhaus, Vira Ameli, Bridget Steele and many other fellow DPhil students with whom I shared workspace in Room S17 were constant sources of inspiration and motivation (and were good enough to tolerate my penchant for sarcasm and dad jokes).

Amidst one of the more challenging stretches in the early years, I was lucky to be able to flee Oxford and take refuge at the Johns Hopkins School of Public Health, where I was invited to

spend a year as a visiting scholar. I am indebted to Sara Bennett, my supervisor there, and the staff and students of the Department of International Health and the Health Systems program, who welcomed me so warmly in Baltimore.

In 2017, Jane Barlow inherited me as a third-year student with not much more than a rough set of research ideas and barely a salvageable word written. Under her supervision, my writing improved, and so did my mood. I regained an interest in academic research that had all but evaporated in the first two years of the degree. Jane had an amazing ability to differentiate between those situations that called for direct and detailed input, including some tough criticism, and those when I needed the space and time to figure things out on my own. Her eye for detail made this thesis better, and her warmth and care helped keep this train on the rails.

At a time when I was still struggling to get this project off the ground, Irene Agyepong – a public health leader and a giant of health systems research in Ghana – took a chance on me. When she could have easily ignored my out-of-nowhere emails seeking advice and begging to collaborate, Prof Irene instead invited me to Accra to take part in an intensive fellowship and summer school in health policy and systems research. Through the COMCAHPSS fellowship I was blessed to be exposed to the brilliant teaching and mentorship of Aku Kwamie, Augustina Kodua, Lucy Gilson, Helen Schneider, Uta Lehmann, Jill Olivier and other leading health systems scholars, and to gain the friendship and moral support of my fellow-fellows, Nassirou Ibrahim, Fatima Moulioum, Oti Ujah, Abigail Derkyi-Kwarteng, Joe Dodoo, Selina Defor and Andy Ayim.

My work with COMCAHPSS eventually took me to Bobo-Dioulasso, Burkina Faso and the headquarters of the West African Health Organization (WAHO), where Issiaka Sombié took me under his wing for the better part of two years. Prof Sombié was a supportive advisor, and he was always willing to take the time to talk with me (sometimes for hours) about the finer points of health governance in West Africa. I am grateful for his wisdom, his mentorship, and his patience with my shaky command of French. During my time in Burkina, Ermel Johnson and Moukaïla Amadou became close friends and supportive colleagues. Their advice on navigating both the complex bureaucracy of WAHO and the labyrinthine streets of Bobo-Dioulasso was invaluable. So many others at WAHO – especially Virgil Lokossou, Namoudou Keita, Aissa Bouwayé, Tarpowah Kear, Aristide Bado, Yves Mongbo, Aisha Yusuf, William Bosu, Carlos

Sometimes, community is found in unexpected places. At the start of this journey, I could not have fathomed that a group of ice hockey players in southern England would end up being my family away from home. For years now, the Oxford University Ice Hockey Club has served as my best excuse to close my laptop, leave the library and take a much-needed break from this thesis to hit the ice and have some fun. Aneel Brar, Eric Budgell, Tim Donnison, Robert Koivula, Kevin McGlynn, Michael Newsome, and many other teammates have become close friends. I look forward to skating alongside them at our annual alumni games well into our senior years.

After countless stops and starts and years of reading, planning and fieldwork, it finally came time in early-2020 to sit down and write this thing. Just as I took to isolating myself from the outside world to focus on churning out page after page of this thesis, the world was forced to do the same to curb the worst effects of a once-in-a-century pandemic. This was a trying time for everyone – a time marked by depression, fear, loneliness and uncertainty. But unlike so many others, I didn't have to face it alone.

Just before the pandemic hit in 2020, Emma Walker-Silverman came into my life. As winter gave way to spring, it became clear that "taking it slow" was not going to be an option. Like many budding couples in March, 2020, the advent of social distancing policies abruptly presented us with a stark choice: shack up or break up. I am infinitely grateful that we agreed that the former option was preferable to the latter. Why this brilliant, beautiful, talented, charming, good-humoured woman would want to spend her time with an old hunk of coal like me is anybody's guess. But these are the kinds of blessings that wise men don't question.

I can't imagine being able to summon the strength to grind through those hardest days of writing amidst COVID-19 lockdowns – or, indeed, the most difficult days since then – without the promise of a study break, a cuddle, a meal, or a walk or run in the park with Emma. She was a constant source of love, motivation, validation and – when circumstances called for it – (constructive) criticism. Now that Emma is well into her own doctoral journey, I only hope I can provide her some fraction of the strength, encouragement and comfort that she gave me.

Studying at an expensive, élite, private university – especially as an international student – is an enormous privilege. For every student fortunate enough to spend time in a place like Oxford, there are countless others who, despite being eminently qualified, are never afforded the opportunity. I was one of the lucky ones who had a loving pair of backers in my corner who found a way to make this dream possible. In April, 2012, a younger, wider-eyed version of myself was overjoyed to be offered a place on the MSc in Evidence-Based Social Intervention at Oxford. It rapidly became apparent, however, that the student loans and little other funding I had at my disposal wouldn't come close to getting me there. It was at this point that my guardian angels – my maternal grandparents, Terry and Bill Crawford (Nana and Pops) – came to my rescue. Nana and Pops saw in me, I think, a desire and commitment to transforming whatever talents or potential I had into doing something good in the world. They understood that I saw my intellectual development as an important step on the way to realizing that dream, and they gifted

me the opportunity to pursue it here at Oxford. I can't ever repay Nana and Pops for this wonderful gift. Both of them passed away while I was working toward this degree. But the faith they showed in me back then continues to drive me today in everything that I do.

The final word is reserved for the most important ally, advocate and cheerleader in my life. I know that almost everyone thinks that their mom is the greatest mom in the world, but in my case I have no doubt that it's true: the honour goes to Maureen Verboom.

My mom was my first intellectual mentor. When I was kid, she surrounded me with books and encouraged me to find value and pleasure in reading for its own sake. She taught me that time spent writing was time well spent, even if no one was likely to read what I produced (an essential lesson for any academic!). She nurtured all of my curiosities, whether they were passing infatuations or more enduring fascinations. Her love and support was, is, and always has been genuinely unconditional (I can't remember a single time that she's been dismissive or disparaging of an idea of mine – not even the bad ones!). With poise and dignity, my mom led our family through the trauma of tragic loss, and the struggle of rebuilding our lives amidst immense grief. In the most formative periods of my young life, and those of my siblings, she had to play the role of both mother and father, and through grit and self-sacrifice, she made sure we turned out ok. I am forever in her debt.

–Ben

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Introduction

Since the late 20th century, two significant parallel developments have been underway in the worlds of public policymaking and program evaluation, respectively. Following the rise of evidence-based medicine in the early 1990s, the notion that evidence from academic research should be systematically incorporated into public policymaking has gained considerable purchase. During the same period, theory-driven, realist approaches to evaluation and research synthesis – in which the effects of policies and programs are conceptualized as the empirical manifestation of causal mechanisms operating within enabling social contexts – have increased in popularity. This thesis is situated at the nexus of these two developments, focusing on the use of realist inquiry as a methodological orientation and analytical approach for studying the use of research evidence in health policymaking.

The overarching purpose of this thesis, therefore, is to explore the usefulness and explanatory value of realist inquiry for investigating the processes underlying the achievement of evidence-informed health policymaking, and the influence of complex interventions for improving the use of evidence in health policymaking.

The thesis has five objectives, each of which contributes directly or indirectly to this overarching purpose:

1) To thematically synthesize qualitative research on the use of evidence in health policy formulation, generating a thematic inventory of the key factors influencing evidence-informed policymaking;
2) To conduct a realist synthesis to unearth the key mechanisms underlying efforts to institutionalize systematic approaches to evidence-informed health policymaking, and the contextual conditions that trigger them;
3) To critically reflect on the methodological advantages and challenges related to the two qualitative synthesis methods used in this thesis, generating lessons for the synthesis of qualitative evidence on complex social phenomena;
4) To construct a realist program theory for the knowledge transfer work of the West African Health Organization, proposing explanations for how, why and under what

conditions their flagship program – the WAHO Knowledge Transfer Platform – influences the use of evidence in national health policymaking; and

5) To generate substantive lessons on the influence of research evidence in health policy, and critical reflections on contemporary efforts to promote evidence-informed policymaking.

This thesis is divided into four parts. It consists of a total of eight chapters.

Part 1 situates the thesis in the context of the broader academic literature, and provides essential methodological information. In **Chapter 1**, I describe key developments in the movements for evidence-based and evidence-informed policymaking, survey key models and theories of policymaking, and summarize the most important conceptual and empirical contributions from the past 40 years of research on the links between evidence and policy. In **Chapter 2**, I summarize the key principles of realist methodology, before providing detailed methodological protocols for each of the research projects that constitute the original research contributions of this thesis.

In **Part 2**, I present findings from a systematic review and two interpretive research syntheses on the links between research evidence and health policymaking. First, in **Chapter 3**, I summarize the results of a comprehensive systematic review of the published qualitative research on evidence use by health policymakers. The studies identified in this review functioned as the sampling frame for two interpretive evidence syntheses which are similar in subject matter, but radically different methodologically. A thematic synthesis identifying the key factors affecting evidence use in health policymaking is reported in **Chapter 4**, and a realist synthesis examining the social mechanisms underlying the institutionalization of evidence-informed policymaking in health is presented in **Chapter 5**.

Part 3 marks the pivot in this thesis from synthesized evidence to original primary research. In **Chapter 6**, I present the findings of a qualitative realist case study that explored the influence of the West African Health Organization (WAHO) on evidence-informed health

policymaking in the West African region. The study produced a detailed program theory for a complex, multi-level social intervention – the WAHO knowledge transfer platform – that can be applied to WAHO's future evaluation and planning work.

Finally, **Part 4** consists of two essays, one consisting of methodological reflections, and the other substantive interpretations on the role of research in policymaking. In **Chapter 7**, I provide a structured methodological reflection on the relative merits of thematic and realist synthesis for the study of complex policy issues, using the syntheses in Chapters 4 and 5 as case studies. I close the thesis in **Chapter 8** by discussing its lessons for efforts to improve evidence use in health policy, laying out detailed cases both for, and against, the pursuit of the evidence-informed policymaking ideal.

Part 1: Background

Chapter 1: A survey of literature on evidence use and health policymaking

In this chapter, I provide a survey of background information and existing literature of relevance to this thesis. This literature review is divided into four sections. In the first section, I introduce the subject of evidence-informed policymaking in health, discussing the origins of this movement, the basic tenets of its current manifestation and application in health policy, including the centrality of systematic review evidence to the model, and tensions within and critiques of the model. In the second section, I discuss the migration of evidence-informed approaches into "supranational" policy circles, describing the now popular "movement" for evidence-based policymaking in global health, and the increasingly relevant role of international and regional health governance agencies to evidence-informed policymaking. In the third section, I provide an overview of relevant conceptual and theoretical literature in policy studies, defining some key concepts and reviewing an influential typology of models of evidence-to-policy processes, followed by a survey of the major theories from political science and policy studies that have been applied to studies of research use. Finally, in the fourth section, I provide an overview of previous empirical and normative scholarship on evidence use in health policy, discussing, in turn, research on the "barriers" to and "facilitators" of evidence use, research on the political aspects of evidence-based policymaking, and evidence on interventions to increase, or otherwise support, the use of evidence in health policy processes.

The roots and key tenets of evidence-informed policymaking in health

Since the early-1990s the Evidence-Based Medicine (EBM) movement has popularized the notion that the systematic application of evidence to decision-making should be a core feature of the provision of clinical care by physicians (Greenhalgh, 2014; Straus, Glasziou, Richardson, & Haynes, 2018). The approach was developed by academic physicians at Canada's

McMaster University, who defined EBM as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (Sackett, Rosenberg, Gray, Haynes & Richardson, 1996, p. 71). Central to the EBM model are two methodological principles (Oakley, Gough, Oliver, & Thomas, 2005): (1) the importance of unbiased, controlled comparisons (usually in the form of randomized controlled trials) for evaluating the effectiveness of clinical interventions, and (2) the need for up-to date, comprehensive syntheses of existing effectiveness evidence, to provide medical professionals with reliable and precise estimates of the effects of the clinical interventions at their disposal. The latter principle gave rise in 1993 to the Cochrane Collaboration, now simply called 'Cochrane' (Chandler, Higgins, Deeks, Davenport, & Clarke, 2020), a non-profit network of researchers, health professionals and healthcare consumers who prepare, maintain and disseminate systematic reviews on a range of questions across virtually every medical specialty (Bero & Rennie, 1995). Cochrane's *Database of Systematic Reviews* contains thousands of systematic reviews, and the organization boasts a membership of some 37,000 contributors from 130+ countries (Cochrane, 2018, 2021).

The popularity of EBM has spawned similar efforts to promote "evidence-based practice" in other clinical areas such as nursing (DiCenso, Guyatt, & Ciliska, 2005; Ingersoll, 2000; LoBiondo-Wood & Haber, 2017), midwifery (Anderson, Rooks, & Rebeca Barroso, 2016), psychology (APA Presidential Task Force on Evidence-Based Practice, 2006), and dentistry (Richards & Lawrence, 1995), among others, as well as non-clinical and quasi-clinical fields, notably social work (Newman, Moseley, Tierney, & Ellis, 2005), education (Davies, 1999), and public health (Brownson, Baker, Deshpande, & Gillespie, 2017). Informed, at least in part, by the EBM model (Klein, 2000) and related evidence-based practice movements in social services

(Nutley, Smith, & Davies, 2000b), the late-1990s and early-2000s saw a surge in calls for more systematic approaches to the use of research evidence in public policymaking activities (Chalmers, 2003, 2005; Nutley, Walter, & Davies, 2007; Oakley et al., 2005).

Variously referred to as "evidence-based" (Nutley et al., 2000b; Yamey & Feachem, 2011) and "evidence-informed" (Bosch-Capblanch et al., 2012; Oxman, Lavis, Lewin, & Fretheim, 2009a) policymaking (for present purposes, the terms can be considered synonymous), this relatively recent push for formalized, systematic processes of evidence use in policy decisions has been bolstered by endorsements from powerful voices outside of the academic sphere. Most notably, the United Kingdom (UK) Labour Party's 1997 election manifesto memorably asserted that "what matters is what works" (Nutley et al., 2000b) and, following their election victory that year, the term "evidence-based policy" began to feature prominently in UK Government policy documents and in the rhetoric of the country's political leaders (Smith, 2013a). As will be discussed below, it did not take long for these ideas to spread internationally, initially mainly to other Western countries, but soon after to the 'developing world' (Sutcliffe & Court, 2005) and later into the work of global and regional policy agencies and international governance bodies (Barnes & Parkhurst, 2014; Yamey & Feachem, 2011).

While sustained interest in the utility of social science research for informing the development of social policies is not new, and dates back at least to the first half of the 20th century (Fox, 1990; Oakley et al., 2005), the rise of the "evidence-based" and "evidence-informed" paradigms represents a substantial turning point in conventional thinking on research use in policymaking. Proponents of evidence-based policymaking explicitly trace their roots to the EBM movement (e.g., Yamey & Volmink, 2014); unsurprisingly, as a result of this lineage, the dominant contemporary model of evidence-based policy has inherited some of the core

features of EBM, the prominence of "systematic" approaches in general – and systematic review methods, in particular – being chief among them.

Within this approach (Bosch-Capblanch et al., 2012; Lavis et al., 2012; Lewin et al., 2012; Oxman et al., 2009a), evidence-informed policymaking has been operationalized as a largely linear process in which synthesized 'global' evidence is integrated with 'local' evidence (i.e., population preferences and needs, local priorities, resource availability, etc.) before being 'filtered' through judgements about the expected benefits, harms and costs of policy options, and about trade-offs between these desirable and undesirable potential impacts, to produce what are considered "well-informed" decisions. A schematic representation of this model is provided in **Figure 1**.
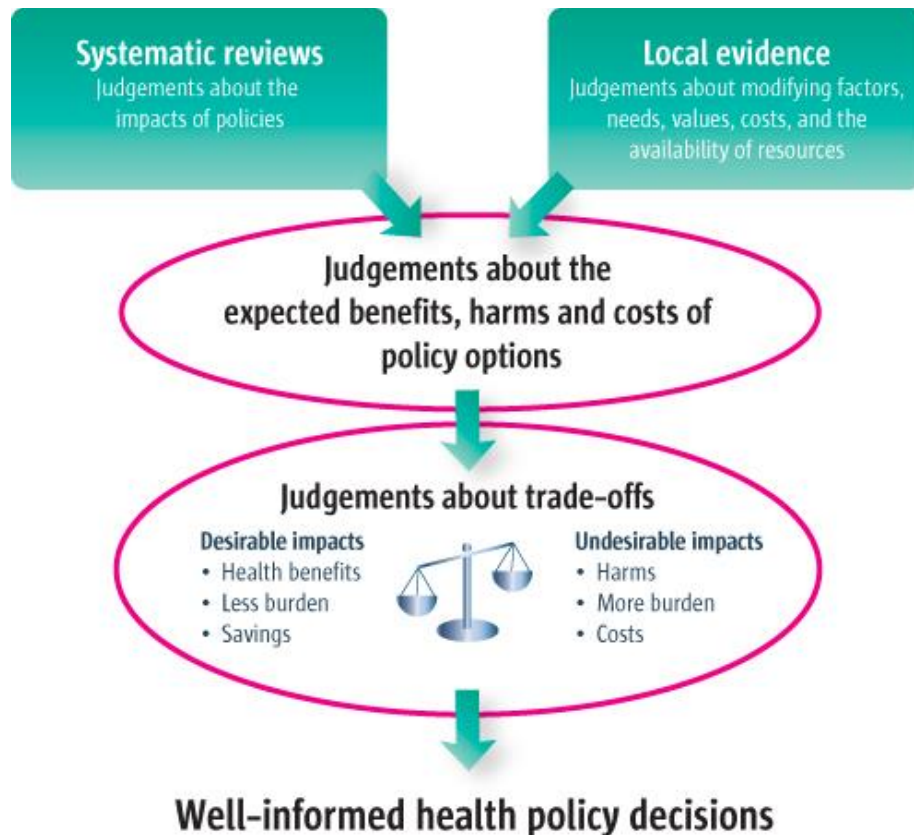
Figure 1: Schematic representation of the conventional model of evidence-informed health policymaking (Oxman et al., 2009a)

Central to this model is the contention that, even while various forms of local "evidence" are essential to decision-making, informed decisions are best taken by considering local information in the context of *all* relevant evidence, also referred to as *global* evidence (Oxman et al., 2009a). As part of this approach, the systematic review is proposed as the primary vehicle for assembling and communicating this global evidence (Grimshaw, Eccles, Lavis, Hill, & Squires, 2012).

While systematic reviews of controlled trials (i.e., effectiveness studies) conducted in the style of Cochrane reviews remain at the heart of most conceptions of evidence-informed policymaking, the movement has also embraced the importance of empirical research (and systematic reviews thereof) generated using other study designs (Lavis, 2009), including observational epidemiological studies (Egger, Smith, & Schneider, 2001), economic evaluations (Carande-Kulis et al., 2000), and qualitative studies (Barnett-Page & Thomas, 2009; Mays, Pope, & Popay, 2005). Findings from these studies and reviews, so the argument goes, can be applied to address several types of question of relevance to policymakers. For example, systematic reviews are now understood to be able to help policymakers: define, clarify and frame a policy *problem* (Lavis, Wilson, Oxman, Lewin, & Fretheim, 2009c); to adjudicate between competing *policy options* by framing the various policy alternatives available (Lavis et al., 2009b) and by weighing up the pros and cons of different options (Oxman, Lavis, Fretheim, & Lewin, 2009b); and to address questions related to policy *implementation* (Fretheim, Munabi-Babigumira, Oxman, Lavis, & Lewin, 2009). In order to illustrate the variety of policy activities and decisions that evidence is purported to be able to inform, in **Table 1** I provide a summary of the types of systematic review evidence that proponents of evidence-informed policymaking prescribe,

organized according to three broad stages of the policy process, namely defining the problem,

adjudicating between policy options, and policy implementation (Lavis, 2009).

Table 1: Types of systematic review evidence to inform decisions in the policy process
Adapted from Lavis (2009)

Policy stage	Policy activity	Type(s) of systematic review needed
1. Defining, clarifying, and framing the policy problem	Identifying indicators to establish magnitude of problem & factors contributing to it	Reviews of observational studies
	Making comparisons (over time, across settings, etc.) to establish magnitude of problem and factors contributing to it	Reviews of observational studies
	Identifying alternate framings of the problem to mobilize support from multiple groups/stakeholders	Reviews of qualitative studies that examine stakeholder experiences with and views of the problem
2. Examining and adjudicating between different policy options	Identifying potential policy options to address the problem	Theoretical models and frameworks embedded in or used to organize reviews of any type
	Identifying and quantifying policy benefits (positive effects)	Reviews of effectiveness studies
	Identifying and quantifying policy harms (negative effects)	Reviews of effectiveness studies; Reviews of observational studies
	Characterising a policy's cost-effectiveness	Reviews of economic evaluations
	Identifying core components of a policy option to facilitate adaptation	Reviews of qualitative studies that examine how policy options work; Reviews of observational studies
	Understanding views & experiences of potential beneficiaries & other stakeholders	Reviews of qualitative studies that examine stakeholder experiences with and views of policy options
3. Identifying considerations related to implementation of policy options	Identifying implementation barriers	Reviews of observational studies and qualitative studies
	Identifying and quantifying effects of implementation strategies	Reviews of effectiveness studies
	Identifying core components of a policy option to facilitate implementation	Reviews of qualitative studies that examine how policy options work; Reviews of observational studies

The rise of evidence-informed policymaking has not come without criticism (Greenhalgh

& Russell, 2009). First and foremost, critics argue that such approaches ignore the complexity of

the policymaking process as it actually occurs (Black, 2001), reproducing a 'linear' model of

policymaking that has long been dismissed by scholars of the policy sciences and political

sociology as idealistic and unrepresentative of reality (Sabatier & Weible, 2014). This point is

elaborated upon further below, in the section *Models of evidence use and theories of policymaking*. Similarly, proponents are accused of attempting to impose purely technocratic procedures on what are essentially political and value-based decision-making processes (Barnes & Parkhurst, 2014), potentially threatening the integrity of democratic decision-making. The politics of evidence-informed decision-making in health policy is discussed below as part of the section entitled *Previous scholarship on evidence use in health policymaking*. Finally, critics have pointed to the apparent paradox that proponents of the evidence-based and evidence-informed policy – whose central demand is that decision-making be informed by "high-quality" empirical research – can usher precious little high-quality research evidence to justify their efforts to promote the systematic use of research, and virtually no evidence to support the claim that evidence-based policymaking does more good than harm, and that it produces improvements in population health the achievement of other policy outcomes, thus failing to meet their own standards of rigor (Hammersley, 2005).

Despite these criticisms, the ideals of evidence-based and, increasingly, evidence-informed policymaking, continue to command a great deal of enthusiasm in academic circles. Moreover, use of the movement's terminology has appeared in government documents and political rhetoric across several countries since around the turn of the century, most prominently in the United Kingdom, Canada, the United States, Australia and the Netherlands (Smith, 2013a). A more recent change has been the increased advocacy for evidence-based approaches to policymaking within global, international, and regional governance and policy, a development to which I turn in the section that follows.

Global health, regional governance and evidence-informed policymaking

The significant interest in evidence-informed approaches to decision-making within national and sub-national health policy has led more recently to discussion, debate and research in the global health literature about the appropriate place for research evidence in the work of supranational health governance agencies, and the role of such bodies in promoting evidence-based policymaking among their constituent member states . While "evidence-based policymaking in global health" is presented by some of its proponents as a new "movement" in its own right, it also tends to be treated as a natural progression from EBM and an extension of the conventional evidence-based policy model described above (Yamey & Feachem, 2011). Indeed, in their textbook on global health policy, Yamey & Volmink (2014) state that "[e]vidence-based policy-making (EBP) in global health can be defined as the conscientious, explicit, and judicious use of evidence to guide and shape global health policies" (p. 135), a characterization that is unambiguously based on the classical definition of EBM described above. The term "global health" itself – now in vogue within both academic and policy circles – refers to the issues and problems affecting human health that transcend international borders, have no obvious state responsibility, and/or which individual states are unwilling or unable to tackle alone, and that consequently demand some form of inter-state cooperation or intervention (Beaglehole & Bonita, 2010; Yach & Bettcher, 1998a, 1998b). Conventionally, "global health policy" is used to refer to an agenda and set of policy activities that aim (in theory) to pursue health equity within and between countries, and that prioritizes the health of humans worldwide over that of any particular nation's inhabitants (Koplan et al., 2009). Global health "actors" are thus defined as the institutions, agencies and policy bodies tasked with overseeing and implementing this agenda.

The World Health Organization (WHO) is arguably the single most prominent actor in global health governance and, as the undisputed scientific and technical health agency within the United Nations (UN) system, WHO appears to have played a key role in facilitating the emergence of evidence-based approaches in the global health community. In 1998, the World Health Assembly (the political arm of WHO) passed a resolution "urg[ing] all Member States to […] adopt an evidence-based approach to health promotion policy and practice, using the full range of quantitative and qualitative methodologies" (WHA, 1998), and in 2004, WHO devoted their flagship publication, the *World Health Report*, to promoting the generation and use of evidence for health systems strengthening in low- and middle-income countries (LMICs) (WHO, 2004). In a 2013 speech, former WHO Director-General Margaret Chan identified the need for her organization "to open the eyes of policy-makers to the power of research and evidence as a decision-making tool." This followed acknowledgement by her predecessor, Lee Jong-wook, that "there is a gap between today's scientific advances and their application – between what we know and what is actually being done" in health policymaking (WHO, 2004). The 56th World Health Assembly in 2003 marked a particularly important milestone for evidence-based global health governance, when the body adopted the Framework Convention on Tobacco Control, the only treaty ever adopted under the auspices of WHO and what has been referred to as "the world's first evidence-based treaty" (Shibuya et al., 2003).

However, global health governance is a rapidly evolving and increasingly complex domain. The past quarter-century has seen an increase in both the quantity and diversity of actors engaged in setting the global health agenda and influencing health policymaking, and a diffusion of political and normative power across these groups, leaving WHO to compete with many other (types of) actors for prominence, including an increasing number outside the United Nations

system (Moon et al., 2010). An important consideration within this changing landscape is the potential role of regional governance bodies, intergovernmental organizations whose membership is based, at least in part, on geographic location. Regional economic blocs – including most prominently the Association of South-East Asian States, the European Union, and the Southern African Development Community, among several others – exemplify perhaps the most familiar form of regional governance (Thakur & Van Langenhove, 2006). However, in addition to economic and political union, many regional intergovernmental bodies have long strived to engage in coordination and cooperation on health issues, and issues of public health and healthcare arguably make up an increasingly important focus of these institutions in many parts of the world (Penfold & Fourie, 2015; Riggirozzi, 2015).

The Economic Community of West African States (ECOWAS) – the regional economic and political bloc in West Africa – houses the vast majority of its health governance functions within a specialized institution called the West African Health Organization (WAHO), which is the agency whose work I examine in-depth as part of the primary research in this thesis (presented in **Chapter 6**). WAHO was founded in 1987 through the unanimous adoption by ECOWAS's 15 Heads of State and Government of its founding Protocol, which established the organization's mission as "the attainment of the highest possible standard and protection of health of the peoples in [West African] the sub-region through the harmonisation of the policies of Member States, pooling of resources, cooperation with one another and with others for a collective and strategic combat against the health problems of the sub-region" (WAHO, 1987). Following a long period of planning and preparation – including the formal merger WAHO's Anglophone and Francophone predecessor organizations, the West African Health Community and l'Organisation de coordination et de coopération pour la lutte contre les grandes endémies,

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respectively – WAHO became fully operational in March of 2000. While WAHO's headquarters in Bobo-Dioulasso, Burkina Faso house the agency's general directorate and several dozen professional and administrative staff, the organization's work spans the region's 15 countries and at any given time up to half of WAHO officials can be found attending meetings with member states and on in-country 'missions' implementing programs across the region.

During the past decade, WAHO has increasingly focused on strengthening capacity for research generation and the use of evidence in policymaking within the region, with a particular focus on member states' national ministries of health. This is especially evidenced by WAHO's most recent strategic plan, which prioritizes "improv[ing] the production, dissemination and utilization of health information and research within the ECOWAS region" including developing "mechanisms for regular dissemination and utilization of knowledge, evidence and information" (WAHO, 2015h). In practice, WAHO's interventions to improve evidence use have taken the form of facilitating networking activities and events for representatives from the 15 ECOWAS health ministries, convening regional policy dialogues including an Annual Regional Forum on Best Practices, hosting trainings and workshops for national-level policymakers on accessing, assessing and applying evidence in decision-making, and, most recently, overseeing the development and implementation of an knowledge transfer "platform" that aims to support the institutionalization of evidence-to-policy processes across the region (Sombie et al., 2017b).

While primarily a scientific and technical agency, WAHO's role is not limited to designing and implementing technical interventions. Like WHO, WAHO has a political arm – The ECOWAS Assembly of Health Ministers – which oversees the organization's work, and which convenes annually to deliberate on health matters of regional importance. During their 18th Ordinary Session in June 2017 the Assembly of Health Ministers passed a "Resolution on

the Use of Evidence in Developing Health Care Policies, Plans, Standards and Protocols in the ECOWAS Region" which acknowledged that, in the West African region, "a significant amount of research is conducted and that very few findings are used in policy and practice" and that "the development of health care policies, plans, standards and protocols requires the use of evidence" (ECOWAS Assembly of Health Ministers, 2017). The Resolution explicitly "commends the West African Health Organisation (WAHO) for its commitment to promoting and the use of evidence" and calls on WAHO "to monitor [the Resolution's] effective implementation" (ECOWAS Assembly of Health Ministers, 2017).

In addition to its scientific and technical capacity, therefore, WAHO enjoys a degree of legitimacy by virtue of its recognition by national political authorities as the primary intergovernmental body in West Africa responsible for health. Indeed, this unique political mandate is highlighted as WAHO's main "comparative advantage" in both the organization's strategic planning literature (WAHO, 2002, 2008, 2015h), and that of the agency's primary division tasked with promoting the use of evidence, WAHO's Department of Research and Health Information Systems (WAHO, 2015f). Indeed, it is their potentially "legitimacy-enhancing" function that some budding legal scholarship identifies as the possible added value of regional bodies like WAHO, especially in regions with fragile states and characterized by low levels of economic and social development (Ojomo, 2017a, 2017b). This line of thinking implies that strong regional governance structures, with high levels of perceived legitimacy, can serve a possible compensatory function in the context of limited state capacity and, in some cases, suspicion and hostility toward state power structures (Ojomo, 2017b). As it relates to the relationship between research and policymaking, this argument suggests that WAHO may be uniquely situated politically to strengthen and maintain the capacity of West African states (in

the form of their ministries of health) to effectively engage with and systematically draw upon research evidence in national health policymaking processes.

However, many questions remain unanswered. What is the so-called "added value" to national policy processes of a regional governance body in the context of the complex (and still rapidly changing) global health infrastructure described above? Does WAHO's apparently unique combination of perceived legitimacy, political authority and scientific and technical expertise make it more effective in the fostering of evidence-informed policymaking than "competing" actors, like global health organizations and Western government development agencies, who may be regarded differently both by policymakers and publics? And if so, how do these dynamics play out, and what are the mechanisms that underlie the relationship between WAHO's strategies and approaches, on the one hand, and country-level policymaking activities, on the other? In **Chapter 6** of this thesis I begin exploring some of these dynamics through a realist investigation of regional efforts to promote evidence use in national health policymaking, taking the work of WAHO as a case study, and potentially laying the groundwork for a future program of research to address these questions further.

Having introduced the key tenets of evidence-informed policymaking, sketched some of the tensions and debates around evidence use in health policy, and discussed the possible role of regional institutions in promoting the use of evidence in policymaking, I turn in the next section to an overview of some of the conceptual and theoretical literature that has been applied in the study of evidence-to-policy processes.

Conceptual and theoretical perspectives on evidence and policymaking

In this section I provide a survey of the most commonly used and most influential theories and frameworks of the policy process, with an emphasis on those that have been used

for conceptualizing and studying the relationship between research evidence and policymaking. Scholars of knowledge translation, political science and policy studies have used these theories as the foundation for descriptive studies of the policy process, and the role of evidence within it. Some of these theories have also been used to inform the development of interventions to increase the uptake of evidence in policymaking and to improve the capacity of policymakers and policy bodies to use research. Before delving into a survey of these theories, I first introduce what has become a highly-influential typology of evidence use in policymaking, a framework to which I return repeatedly, both over the course of the discussion of policy theories below and throughout this thesis more generally.

While theorizing about the use of scientific evidence in policymaking dates to at least to the early-to-mid-20th century, the most enduring conceptualization was developed during the 1970s by Carol Weiss, and articulated in her seminal article *The many meanings of research utilization* (Weiss, 1979), in which six descriptive models were posited, each of which illustrates a different way research can be used in decision-making. Each of Weiss's models of evidence use merits brief mention.

1) In the ***knowledge-driven*** model, research evidence is conceptualized as directly informing policy simply by virtue of its existence; that is, "the sheer fact that knowledge exists presses it toward development and use" (Weiss, 1979, p. 427). Weiss considered this "the most venerable" of her models, and noted that it is probably the least often observed in real-world practice.
2) In the ***problem-solving model***, evidence is uncontroversially produced by researchers and communicated to policymakers in a direct and apolitical fashion for application to a universally agreed set of policy aims.
3) The ***interactive model*** describes an iterative search process in which policymakers seek out evidence from multiple sources (including researchers and other actors) for consideration alongside other inputs (e.g., personal experience, political judgement, etc.) in policy development. The interactive and problem-solving models are arguably most analogous with contemporary mainstream notions of how evidence-based and evidence-informed policymaking *should* be undertaken.
4) In the ***political model*** research is sought and cited selectively to legitimate pre-existing policy agendas or to discredit those of political opponents.

5) In the ***tactical model*** either research is retroactively referenced to explain away unpopular policy outcomes, or 'scientific uncertainty' or a 'lack of existing research' is invoked to justify inaction on policy issues.

6) The ***enlightenment model*** describes a gradual process through which the broad conceptual paradigms, theoretical perspectives and trends that emerge from the conduct of science itself indirectly shape ways of thinking in policy circles and, as a result, influence agendas and decisions. While individual study (or review) results may not directly alter decisions, the accumulation of evidence in disciplines and sub-disciplines and the diffusion of this knowledge into policy networks indirectly shapes how agendas are set (e.g., the framing of problems) and how policy decisions are made (e.g., the interventions used).

Weiss's descriptive models of evidence use map fairly neatly to the three functional categories of research use commonly described by scholars of knowledge translation: the *instrumental*, *symbolic,* and *conceptual* uses of evidence (Lavis, Ross, & Hurley, 2002; Pelz, 1978). For the sake of conceptual clarity, these categories are defined, and Weiss's corresponding models listed, in **Table 2**.

Table 2: Instrumental, symbolic and conceptual uses of evidence and associated models

Functional category of evidence use	Description	Associated models (Weiss, 1979)
Instrumental	Acting on research in a direct and specific way – "evidence-based policymaking" and "evidence-informed policymaking"	1. Knowledge-driven 2. Problem-solving 3. Interactive
Symbolic	Strategically using research – whether systematically or not – to meet political ends rather than solve policy problems	4. Political 5. Tactical
Conceptual	Research influencing policy in indirect, conceptual, and sometimes unpredictable ways	6. Enlightenment

During the years since Weiss's pioneering work, a large number of models and frameworks have been developed or adapted to describe the relationship between research evidence, on the one hand, and policy and practice, on the other (Estabrooks, Thompson, Lovely, & Hofmeyer, 2006; Graham et al., 2006; Mitton, Adair, McKenzie, Patten, & Perry, 2007; Nutley et al., 2007; Young, Ashby, Boaz, & Grayson, 2002), most of which have built upon or

are analogous to all or some of the models in Weiss's typology. Indeed, in 2012 the London-based Overseas Development Institute compiled a (non-exhaustive) list of theories relevant to the evidence-policy interface, finding 32 such theories (Macintyre, 2012). A more recent review – also non-exhaustive – located more than 40 models and frameworks designed to conceptualize the "research translation" process (Milat & Li, 2017). There is much overlap between these theories, and hence they should not necessarily be considered to be in competition. Rather, they are likely to vary in their accuracy and usefulness depending on the content and context of decision-making under examination, and whether the theory is being used for descriptive, analytic, or prescriptive purposes.

However, researchers of evidence-to-policy processes increasingly recognize that theories of relevance to policymaking from more developed fields – especially political science, policy studies, and political sociology – can and should be used to inform studies of evidence use and have hitherto only scarcely been drawn upon in this literature (Cairney, 2016; Oliver, Lorenc, & Innvær, 2014b). Moreover, they note that when studies do cite policy theories, they often do so superficially and/or with little evidence in descriptions of the design of data collection and analysis procedures of any meaningful influence of such theories (Liverani, Hawkins, & Parkhurst, 2013; Oliver, Innvær, Lorenc, Woodman, & Thomas, 2014a).

The majority of the original research in this thesis is conducted within the realist framework, a methodology that is explicitly theory-driven. While no specific formal theory of the policy process is endorsed in this thesis, it was nonetheless important to become acquainted with the breadth of relevant conceptual and theoretical thinking on policy processes. In the following subsections, therefore, I provide a sketch of some of the most important theories of the policy process from the past century, placing emphasis, where relevant, on those that have been

used extensively or exclusively to study evidence-to-policy processes, or that may have particular use in this topic area. For coherence and convenience of presentation these theories are grouped according to the following categories: (1) traditional rational/engineering theories of the policy process; (2) theories based on critiques of the rational-linear model; (3) theories based on the so-called 'two communities' metaphor; and (4) policy 'network' and 'communities' theories. In the following sub-sections, I review each of these categories in turn, discussing their strengths and weaknesses and providing some illustrative examples.

Traditional 'rational-linear' theories and the 'policy cycle'

The most basic theories of evidence-to-policy processes assume a linear progression from knowledge production to knowledge use: research evidence is generated in response to a pre-defined problem, and is then applied in various ways to address the problem (Buse, Mays, & Walt, 2012). These theories, which are analogous to Weiss's (1979) *knowledge-driven* and *problem-solving* models, locate research at the centre of decision-making. Some have argued that calls for "evidence-based policy" essentially constitute rebranded forms of rational-linear models of evidence use (Black, 2001; Greenhalgh & Russell, 2009).

Rational-linear or 'engineering' models of evidence-to-policy processes tend to be based on a basic theoretical device that has appeared under various names in the policy studies literature, including the 'decision process' (Lasswell, 1956), 'policy cycle' (Jones, 1984) and, more commonly as of recent, the 'stages heuristic' (Sabatier & Jenkins-Smith, 1993). Current manifestations of the stages heuristic in policymaking research (Sabatier & Weible, 2014), particularly in healthcare and public health (Buse et al., 2012; Gilson, 2014), divide the process into four discrete stages of decision-making which occur in a linear, cyclical fashion: (1) *Problem identification* (how and why issues end up on the policy agenda); (2) *Policy formulation*

(the design, development and adoption of a policy intervention and/or its selection from a menu of competing alternatives); (3) *Policy implementation* (how the policies are actually put into action 'on the ground'); and (4) *Policy evaluation* (the monitoring and evaluation of policy impact; whether stated policy goals are actually achieved) (Brugha, Bruen, & Tangcharoensathien, 2014). As part of models of this sort, each "stage" in the policy process is understood to involve distinct policy activities and decisions requiring different types of information.

The stages heuristic, and other 'rational' or 'linear' representations of evidence-to-policy processes, have been rightly criticized for being overly idealistic and simplistic pictures of the reality of policymaking (Colebatch, 2005; Sabatier & Weible, 2014). Indeed, few (if any) scholars of policy studies contend that these models accurately represent reality. Still, the 'policy cycle' heuristic remains widely deployed in studies of health policy – particularly by researchers not formally situated within academic policy studies departments (Cairney, 2016) – probably because of its ease of use and convenience in distilling the complexities of policymaking into manageable 'policy activities' that can be examined individually (Walt & Gilson, 2014), even if these activity categories do not capture the subtle complexity of real-world policymaking (John, 2003). These models may be particularly tempting in studies of research use, as they can facilitate the examination (qualitatively and quantitatively) of differential use of evidence across these different policy 'activities' (Lavis et al., 2002), and an exploration of whether policymakers report distinctive research needs depending on the 'stage' of decision-making (Lavis, 2009).

Bounded rationality, Incrementalism, and Policy Streams

A second broad set of theories emerged in direct response to critiques of rational-linear theories of the policy process (Nutley et al., 2007). The impetus for much of this work was

Herbert Simon's (1957) insight that humans are fundamentally limited in their ability behave in ways consistent with objective rationality. Rather, in human decision-making, so-called 'bounded rationality' predominates (Simon, 1982). Incapable of comprehensively considering all possible policy alternatives, unclear in their policy aims, and limited in their access to information, resources and time, policymakers are forced into what Simon referred to as 'satisficing' (Simon, 1957). That is, they tend to settle on short-term, pragmatic solutions to immediate policy problems. These policy decisions are acceptable, or 'good enough' (Nutley et al., 2007) but not necessarily optimal.

Simon's work on satisficing and bounded rationality spawned the so-called 'incremental model' of policymaking, which posits that policymakers essentially 'muddle through' (Lindblom, 1959), considering policy options that appear most politically feasible, and eventually taking the course of action that achieves the greatest level of stakeholder consensus (Lindblom & Woodhouse, 1980). Policy changes under this model tend to be small-scale and marginal, with research evidence playing a less instrumental role in the formation and prioritization of alternatives than in traditional rational-linear models. Rather, the role of evidence resembles that of Weiss's *political* and *tactical* models, in which research is used strategically to bolster bargaining positions or to delay policy action (Nutley et al., 2007). Incrementalism does not rule out the possibility of large-scale policy change, but it conceptualizes such changes as the gradual accumulation of multiple small-scale policy developments.

Responding to the over-simplicity and assumptions related to rationality that characterize traditional policy theories, Cohen, March, and Olsen (1972) described the 'garbage can' model, which attempts to capture the fundamental irrationality and 'messiness' of policymaking

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activities. They use the metaphor of a garbage can, into which a slew of policy problems and potential solutions are dumped. When political conditions present the opportunity for policy action, a policy "solution" can become paired with a policy "problem," leading to policy change. In contrast to the traditional policy cycle, in the garbage can model, ideas for policy solutions may in fact precede the existence of policy problems, rather than following logically from a rational analysis of them. Cohen et al.'s model describes a highly chaotic, politicized and irrational policy process.

In his influential work during the 1980s, John Kingdon refined the garbage can model to develop a theory attempting to explain how policy issues come to appear on the policy agenda. According to this policy streams theory (Kingdon, 1984), major policy action depends on whether policy entrepreneurs (influential policy actors, including, though not exclusively, government decision-makers) can seize 'windows of opportunity', which arise with the convergence of three dynamic processes or 'streams' of activity (the 'policy', 'problem' and 'politics' streams), which are always in flux. The infrequency with which the *problem stream* (e.g., sufficient public appreciation of the problem's severity, informed perhaps by burden of disease figures), *policy stream* (e.g., availability of actionable, feasible and acceptable solutions to the problem), and *political stream* (e.g., political will, resulting from intense external lobbying or changes in the balance of power) actually align may help to explain the prevalence of inaction or delayed action on a range of issues. Each of the three streams can be influenced by research evidence in various ways, but the 'policy stream' is perhaps the most relevant to analyses of evidence-based policymaking. As part of this theory, the existence of policy options with strong evidence of effectiveness (combined with perceived importance of the problem and sufficient political will to address it) increases the likelihood of policy action.

The 'two communities' metaphor and related theories

The dominant mode of theorizing about evidence use in policy since the early-1980s is based on the so-called 'two communities' metaphor for the relationship between researchers and policy actors (Dunn, 1980), a conceptualization that assumes that these are two homogeneous groups of actors who are distinct in terms of culture, values, and incentives – that they live in "separate worlds" (Caplan, 1979). This model is based in part on the hypothesis that those who produce evidence and those who are meant to use evidence perceive and valuate research differently (Choi et al., 2005). For example, whereas researchers may value rigor, the reduction of bias, and the large-scale and long-term pursuit of truth, decision-makers may value evidence that is practical, problem-oriented, politically palatable, and communicated in a straightforward, easy-to-understand, and 'actionable' way. Moreover, policymakers may have broader definitions of what constitutes evidence than researchers, extending the definition beyond conventional research evidence to include organizational knowledge, tacit knowledge, received wisdom, and personal expertise.

It is from two communities conceptions of reality that the now ubiquitous concepts of 'knowledge translation' (Pablos-Mendez & Shademani, 2006; Straus, Tetroe, & Graham, 2013), 'knowledge transfer' (Ottoson, 2009) and 'linkage and (knowledge) exchange' (Denis & Lomas, 2003; Lomas, 2000a, 2000b) were derived. Literature based on 'two communities' theories portrays the challenge of evidence use as a 'gap' between researchers and policymakers, a technical problem of communication or interaction. Indeed, most efforts to increase or improve evidence use in policy settings (discussed below) employ various interventions aimed at 'bridging the gap', either by getting researchers and decision-makers to work together or by improving the 'flow' of knowledge between the two groups. These theories overlap

considerably, therefore, with Weiss's *interactive model*, which describes a back-and-forth dialogue between policymakers and other groups (notably, researchers) through which evidence and other inputs are injected into policy deliberations. Implicit in less critical versions of this approach is the assumption that successful evidence use in policymaking can be assessed simply by determining 'how much' evidence is used or 'how quickly' it is taken up.

Empirical work has cast serious doubt on the validity of the two communities theory (Gibson, 2003; Newman, 2014; Newman, Cherney, & Head, 2016; Wehrens, 2013), both in terms of its descriptive validity (i.e., its ability to describe the nature of the real-world research-policy relationship), and its prescriptive utility (i.e., its usefulness in improving the relationship between research and policymaking). Nevertheless, close examination reveals that many contemporary studies lean heavily on the core assumptions of this model, even if they don't explicitly fly the 'two communities' banner (Newman, 2017). Chief among the critiques of these theories is that they ignore other potentially important stakeholders that might mediate or otherwise affect the relationship between the research and policy worlds (Lindquist, 1990), including the popular media, interest groups, and other private sector actors, as well as international and regional governance organizations. They also place the emphasis squarely on academic communities – those (generally) with relatively little political savvy and relevant lobbying skills – to advocate for their research to be taken up by policymakers (Newman, 2017). Developments in the field of policy studies have led to more nuanced theories that aim to capture the many interacting factors that affect policy development.

Policy 'networks' and 'communities' theories

Later and more refined manifestations of the two communities thesis (e.g., Lomas, 2000a, 2000b; Ward, House, & Hamer, 2009) explicitly recognized the flaw in assuming the

homogeneity of researcher and policy groups and recognized that the research-policy relationship was more iterative and interactive than linear and direct. However, the primacy of the dichotomous evidence use/non-use outcome (as opposed to questions of 'how', 'why', and 'under what circumstances' evidence is used) inherent in virtually all 'two communities' theories (Wingens, 1990), and the failure of these theories to engage with the political, organizational and institutional influences on evidence use (Lin & Gibson, 2003) (with some notable exceptions, e.g., Lomas, 1997) has led scholars of evidence-informed policymaking to borrow more sophisticated and politically engaged theories from policy studies and political science to investigate evidence-to-policy processes.

These theories may represent a more accurate picture of the relationship between policymakers and researchers, positing the existence of 'networks' or 'communities' of actors, united either by their common 'ways of knowing', by prioritization of particular health issues, or by a shared commitment to a policy intervention or set of policy interventions to address problems (Atkinson & Coleman, 1992). Crucially, the actors that populate each of these policy communities can be drawn from groups of national and international policymakers and academia (as well as NGOs, advocacy organizations, other civil society groups, and members of the media). Therefore, rather than researchers and policymakers occupying two separate cultural worlds, subgroups of both researchers and policymakers may find themselves working alongside each other, advocating similar policy goals, and engaged in political debate against other groups of actors from the policy and research worlds.

Two of the most influential of these theories are epistemic communities theory and the advocacy coalition framework. *Epistemic communities* are networks of actors distinguished particularly by a shared base of knowledge and commitment to a certain epistemological

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approach (Haas, 1992). In the *advocacy coalition framework,* broad policy domains (e.g., global health policy) are divided thematically into policy sub-systems (e.g., maternal and child health), which themselves are populated by different *advocacy coalitions*, groups of policymakers researchers, civil society actors, influential members of the public, and others, united by shared norms and values, who work in opposition to other advocacy coalitions to achieve their intended policy goals (Sabatier, 1987; Sabatier & Jenkins-Smith, 1993). Network and community theories tend to engage more meaningfully with the political reality of policymaking than two communities models.

Section summary

In this section I have provided an overview of the key theories of the policy process and related concepts that have particular relevance to evidence use in policymaking. As acknowledged above, the various theories discussed here are not necessarily in conflict with one another; rather, they may be complementary, shedding light on the diverse ways evidence can be used in policy, and/or may be differentially useful depending on the policymaking context under consideration (Nutley et al., 2007). However, as Nutley et al. (2007) note, they were largely developed to describe the policy process as a whole, and were not necessarily designed with research evidence explicitly considered. In this thesis, no single theory or model of the policy process was taken as a starting point. Rather, some of the 'formal' theories and concepts described in this section were drawn upon as needed to help to make sense of the findings of the thematic synthesis, realist synthesis and realist case study that make up the empirical contribution of this thesis.

Previous research on evidence use in health policymaking

The study of the use of research evidence, in policymaking in general and in health policymaking in particular, is in its relative infancy. Systematic reviews on the topic (Innvær, Vist, Trommald, & Oxman, 2002; Liverani et al., 2013; Masood, Kothari, & Regan, 2020; Oliver et al., 2014a; Orton, Lloyd-Williams, Taylor-Robinson, O'Flaherty, & Capewell, 2011; Verboom & Baumann, 2020) reveal a large and growing body of primary work, but one that has been preoccupied overwhelmingly with descriptive questions related to evidence uptake, most notably the identification of barriers to and facilitators of the uptake of research evidence – with less attention paid to the *processes* and *mechanisms* through which research can impact upon decision-making, and to the political, ideological, and institutional factors that might affect how research interacts with policy. Also relatively poorly developed is the literature on the effectiveness of interventions designed with the intention of promoting or improving evidence use by policymakers. While it appears that the output of qualitative research in this area is accelerating rapidly (Verboom & Baumann, 2020) there remains a relative dearth of work exploring the role of international policy institutions (both global and regional) in fostering evidence-informed policymaking within their member states.

What follows is a brief summary of extant research of relevance to this thesis, divided into the following categories: 1) research on the barriers to and facilitators of evidence use in policymaking; 2) literature on the politics of evidence use; and 3) research on interventions and strategies for promoting evidence use in policymaking.

Research and reviews on the barriers to and facilitators of evidence use in policymaking

A significant proportion of past research on the use of evidence in policymaking processes has focused rather narrowly on identifying the barriers to and facilitators of evidence

use by decision-makers. A systematic review of this work was conducted by Oliver et al. (2014a), who located 145 studies published between 2000 and 2012 across all public policy sectors (i.e., not just health). They catalogued all of the observed barriers to and facilitators of evidence use *reported by study authors,* identified the most commonly reported factors, and tabulated them by theme. In **Table 3**, I summarize the most commonly reported barriers and facilitators, organized into thematic categories.

Table 3: Barriers to and facilitators of evidence use by policymakers
Adapted from (Oliver et al., 2014a)

Category	Most common barriers	Most common facilitators
Contact and collaboration	*Time constraints and lack of opportunity for evidence use*	*Researcher-policymaker collaboration* *Relationships of trust/respect between policymakers and researchers* Researcher contact with policymakers
Organization and resources	*Lack of research availability* Financial costs Lack of staff/personnel	*Access to and improved dissemination of research* Managerial support for evidence use
Characteristics of research and researchers	*Lack of perceived clarity, relevance, and reliability* Research presented in non-useful format	*High perceived clarity, relevance and reliability of findings* Research presented in usable format
Policymaker characteristics	*Lack of research skills* Lack of research awareness Lack of political will	Policymaker research skills
Policy characteristics	*Pressures on policy other than evidence (competing priorities)*	Perceived importance of the policy

The five most frequently mentioned barriers to the use of evidence by policymakers (italicized in the table) were: (1) lack of availability of and/or accessibility of research evidence; (2) lack of perceived clarity, relevance and/or reliability of research findings; (3) not having sufficient time or opportunity to use evidence; (4) lack of research-related skills; and (5) the influence of other pressures on policy competing with evidence for attention and influence. Unsurprisingly, the most commonly reported facilitators of evidence use closely mirror these barriers. They were: (1) availability of and/or ability to access evidence, facilitated by high quality dissemination of research; (2) collaboration between researchers and decision-makers; (3)

perceived clarity, relevance and/or reliability of the evidence; (4) the existence and/or strength of relationships with policymakers (as reported by researchers); and (5) the existence and/or strength of relationships with researchers and information staff (as reported by policymakers) (Oliver et al., 2014a).

These factors, particularly those related to the evidence "supply" (i.e., its quality and quantity, and the clarity with which it is communicated) and to researcher-policymaker interactions (i.e., the existence of informal relationships, formal collaborations, etc.), are the primary basis on which most interventions to address the perceived lack of evidence use in policymaking (discussed below) have been designed (Murthy et al., 2012). However, it is not clear that knowledge of this set of factors – simplified and abstracted from multiple studies conducted in diverse contexts – will necessarily translate into effective interventions (Cairney, 2016).

It is worth noting, however, that the vast majority of the studies analyzed by Oliver et al. were based on short interviews with either researchers or decision-makers, while a much smaller proportion used quantitative surveys or participant observation approaches. Many of the factors relevant to evidence use (e.g., structural factors) may operate outside of the immediate conscious awareness of interview respondents, while others (e.g., those that are politically contentious) are likely to be subject to self-report and social desirability biases, and as a result may not be easily elicited using interview methods. Caution must therefore be exercised before interpreting this list as either exhaustive or even representative of the full assortment of factors that affect whether or not evidence influences policymaking. More fundamental criticisms have been raised about the validity of the 'barrier' and 'facilitator' constructs generally (Biesbroek et al., 2015), with concerns that, in reducing complex social processes to static and discrete 'factors,' barriers and

facilitators reviews risk generating findings that are more misleading than informative (Bach-Mortensen & Verboom, 2020).

Perhaps equally importantly, little is known about the overall methodological quality of the original primary studies that contributed to the inventory of barriers and facilitators provided in **Table 3**. While Oliver et al. (2014a) listed the methods of data collection (e.g., interviews, focus groups, etc.) and the analytical approaches (e.g., grounded theory, descriptive statistics, etc.) used by each study, they did not appraise the quality of their included studies, as has become standard practice in systematic reviews. It is therefore difficult to draw strong conclusions about the validity and relative importance of the factors described above. In **Chapter 3** of this thesis, I summarize the findings of a comprehensive review of the published qualitative literature on evidence use by health policymakers (Verboom & Baumann, 2020), and in **Chapter 4**, I report the findings of a thematic synthesis on the factors affecting evidence use in which, among other things, I draw on a critical appraisal of the included studies' methodological quality to inform the synthesis. In **Chapter 5**, I present a theory-driven synthesis conducted within the realist paradigm, analyzing a subset of this literature, that is presented as a potentially more informative and useful alternative to "conventional" thematic and barrier and facilitator reviews.

Literature on the politics of evidence use

In both academic and popular discussions of evidence-based policymaking, the role of politics and ideology is commonly presented as a major impediment to the (appropriate) use of evidence. Ray Pawson (2006b) describes research evidence as the "six stone weakling of the policy world", no match for "the four-hundred pound brute called politics" (p. viii). From this

perspective, political and ideological factors are framed as formidable barriers to rational and effective decision-making.

Anecdotal evidence often appears to support this characterization: it is not difficult to identify instances where evidence appears to have been ignored, suppressed, or misused in the face of political and ideological pressure. For example, despite strong evidence that "abstinence-only" interventions for the prevention of unwanted pregnancy and sexually-transmitted infections are generally ineffective and potentially harmful (Brückner & Bearman, 2005), hundreds of millions of dollars remained earmarked for such programs in the American development assistance budget throughout the administration of George W. Bush (2001-2009) (Santelli et al., 2006). According to some observers, this mismatch between the best available research evidence and US global health policy persisted because of the influence of American domestic political interests (Buse, Martin-Hilber, Widyantoro, & Hawkes, 2006).

Despite the widespread availability and invocation of anecdotes like this, a growing normative literature has begun to push back against the wholesale dismissal of politics as detrimental to the process of policymaking in general and evidence-based policymaking in particular (Cairney, 2016; Newman, 2017; Parkhurst, 2016). This literature makes at least three major observations about evidence-based policymaking in health, that some claim could be harmful to the model's viability (Barnes & Parkhurst, 2014).

First, evidence-based policy is accused of ignoring and/or obscuring the fundamentally political nature of policymaking. By placing evidence at the centre of decision-making, policymaking is presented as a technocratic enterprise in which complex policy questions can be directly answered by scientific studies, without appealing to political debate or questions of values (Barnes & Parkhurst, 2014). Contrary to this conceptualization, more critical scholars of

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health policy recognize the central mandate of policymakers to be taking decisions about the appropriate distribution of limited resources among competing alternatives (which themselves address competing public health priorities) according to the perceived *societal value* of policy options and priorities (Buse et al., 2012). Political scientist David Easton defined the process of policymaking as "the authoritative allocation of values" (Easton, 1953), quite unlike the technocratic ideal implied by models of evidence-informed policymaking. Indeed, it has been argued that elected policymakers and, by extension, their appointees have "every right", by virtue of their mandate as leaders in representative democracies, to dismiss or ignore research evidence that conflicts with the values and preferences of their constituents (Mulgan, 2005). Even some academic commentators who have called for efforts to pursue evidence-informed policymaking, and who are firmly embedded in biomedical or traditionally positivist disciplines, have stated that consideration of values, human rights and politics can and often should carry more weight than the prevailing scientific evidence (Humphreys & Piot, 2012).

Second, commentators point out that not only is real-world *policymaking* not the apolitical, objective and value-neutral enterprise that some evidence-based advocates seem to describe, but *research* itself is also a value-laden, political activity. That is, the prevailing decision-making processes related to the ways health research is funded, generated, and assembled to produce the evidence base on which policymakers are expected to act, is not objective and rational, but rather is messy and is driven by political considerations. This can have a substantial impact upon the bodies of evidence available to policymakers interested in using research to inform their work. For instance, decisions about the health problems and candidate policy interventions to which research funding should be invested are inherently political and interest-driven. Funding from the public purse is most likely to be allocated to problems and

interventions that are politically popular, whereas those issues that are politically contentious are unlikely to receive funding attention. For example, as a result of lobbying from firearms manufacturers and interest groups like the National Rifle Association, the Republican Party-controlled United States Congress passed legislation in 1996 curtailing the Centers for Disease Control and Prevention's use of federal funds to conduct research into the possible public health impacts of gun-control measures (Cagle & Martinez, 2004). Corporate-funded research, on the other hand, tends to be market-driven, as exemplified by the disproportionately large amount of pharmaceutical industry research devoted to the long-term treatment of chronic diseases (e.g., statins for high cholesterol) versus the relatively less profitable short-term treatment of acute bacterial infections (Service, 2004). Regardless of the source, critics argue, the reality of interest-driven research funding, coupled with calls for policies to draw only on up-to-date, high-quality, "best available evidence," has the potential to skew policymaking priorities in favour of the narrow subset of health problems identified either as politically popular or potentially profitable (Barnes & Parkhurst, 2014).

A final political critique of evidence-based public health policymaking contends that the institutionalization of an 'engineering' model of policymaking has the potential to privilege "downstream" solutions to health problems while stifling efforts at health-related political reform to address the upstream, "macro-structural" conditions that produce health problems in the first place (Barnes & Parkhurst, 2014). This critique is partly based on the understanding that evidence-based policy's commitment to 'best available' (experimental) evidence could systematically bias the types of intervention options available to policymakers, in favour of those most amenable to controlled evaluation or for which outcomes are most easily detected in the short term (Greenhalgh & Russell, 2009). This means, according to these commentators, that

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many structural-level interventions that are difficult to subject to randomized evaluation (Victora, Habicht, & Bryce, 2004) (e.g., governance reform, large-scale health systems change, resource redistribution to mitigate social inequality, etc.) may not be pursued under a strictly evidence-based regime because of the lack of "quality" associated with the evidence supporting their effectiveness. Indeed, some have argued that evidence-based public health – when implemented in its purest form – may actually inadvertently perpetuate structural health inequalities. This is because the large-scale introduction of "evidence-based" interventions is likely to disproportionately benefit the population groups from which participants in research tend to be drawn: young, educated, middle-class people living in high-income countries and who do not suffer from comorbid ailments (Biller-Andorno, Lie, & Ter Meulen, 2002; White, Adams, & Heywood, 2009).

This expanding normative literature does not appear to have been accompanied by major growth in the empirical literature on the politics of evidence use. Liverani et al. (2013) systematically reviewed the empirical research examining the political and institutional influences of evidence use in public health policy (also including studies that did not place research evidence at the centre of the study question but nonetheless collected data that shed light on the evidence-policy relationship), finding a patchwork of case studies of varying quality, rather than a coherent body of literature with a shared terminology and theoretical grounding.

A consistent finding from much of this literature demonstrates, perhaps intuitively, that competing priorities and political considerations sometimes impede the consistent and appropriate use of research evidence in policy settings. Summarizing their overall findings, the review authors reported that in some contexts, factors such as "the level of state centralisation and democratisation, the influence of external donors and organisations, the organisation and

function of bureaucracies, and the framing of evidence in relation to social norms and values"
affected the use of health evidence (Liverani et al., 2013, p. 1). However, they stressed that "our
understanding [of the politics of evidence use] remains piecemeal given the limited number of
empirical analyses on the subject, the paucity of comparative works, and the limited
consideration of political and institutional theory in these studies" (Liverani et al., 2013, p. 1).
The research proposed in this thesis helps to fill some of the gaps related to the institutional
aspects of evidence use, both through a realist synthesis on the institutionalization of evidence-
informed policymaking (**Chapter 5**) and a realist case study on a complex institutional
intervention to strengthen evidence use in national-level policymaking in West Africa
(**Chapter 6**).
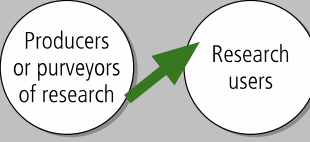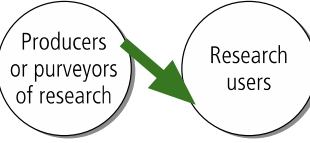
Research on strategies and interventions for promoting evidence use

Literature on the design and evaluation of interventions for the promotion of evidence-
informed policymaking in health is not well developed. The interventions that have been
developed and evaluated have largely been designed to mitigate the barriers, and bolster the
facilitators, of research use that were summarized above. Overwhelmingly, these interventions
subscribe to the assumptions of the two communities thesis introduced in the previous section:
the idea that researchers and policymakers occupy different physical, epistemological, temporal
and cultural universes, and that to encourage evidence-informed policymaking, the gulf between
these universes must be bridged.

These interventions – sometimes referred to as knowledge translation or knowledge
exchange interventions (Armstrong et al., 2011) – have typically been understood to serve one or
more of five primary functions, according to Nutley and colleagues (2007). These mechanisms

or functions – *dissemination*, *social influence*, *facilitation*, *incentives and reinforcement*, and

interaction – are defined in **Table 4**.

Table 4: Classification of interventions for promoting use of research evidence in policymaking and corresponding functions or "mechanisms"
Adapted from Lavis, Lomas, Hamid, and Sewankambo (2006) and Nutley et al. (2007)

Role of key actors (Lavis et al., 2006)	Mechanisms (functions) (Nutley et al., 2007)	Examples of interventions
Producers or purveyors of research → Research users. Model A — Push efforts by producers or purveyors	1. *Dissemination* – providing research evidence to users in simplified/summarized forms and/or formats tailored to the target audience	Development and dissemination of systematic reviews, rapid reviews, evidence summaries, policy briefs, evidence maps, online materials, etc. Libraries and repositories of above products
Producers or purveyors of research → Research users. Model B — User pull efforts	2. *Social influence* – influential persons inform and persuade policymakers 3. *Facilitation* – technical, financial, organizational and emotional support 4. *Incentives and reinforcement* – rewards and other forms of control	Research training for policymakers (e.g., in critical appraisal) Knowledge brokers (to assist with accessing and interpreting evidence) 'Rapid response' programs (units tasked with delivering on-demand, synthesized evidence to policymakers)
Producers or purveyors of research / One group of research users. Model C — Exchange efforts	5. *Interaction* – development and strengthening of links between the research and policy communities	Formal partnerships and networks of researchers and policymakers (local, national & international) Knowledge brokers (to facilitate partnerships and knowledge exchange)

The table also summarizes Lavis and colleagues' (2006) classification of knowledge

translation interventions, which categorizes interventions according to the roles of key actors

involved, namely research producers and purveyors (academics) and users (policymakers)

(Armstrong et al., 2011). *Push* interventions (sometimes called supply-side interventions) are

essentially research dissemination efforts. They are designed to increase the availability and

accessibility of research evidence, sometimes through the presentation of evidence in simplified

or summarized formats, and to encourage uptake and use of such evidence "products." *Pull*

interventions (sometimes called demand-side interventions) are designed to encourage, facilitate or incentivize policymakers to "reach in" to the research world to access evidence to address their information needs. *Exchange (or 'Linkage and Exchange')* interventions bring researchers and policymakers together with a view to improving policymakers' access to and use of research. **Table 4** demonstrates the overlap between the Nutley and Lavis classifications, and provides illustrative examples of interventions in each category.

Recent systematic reviews have been conducted to assemble the effectiveness literature on interventions designed to bridge the perceived 'gap' between research and policy (Boaz, Baeza, & Fraser, 2011; Murthy et al., 2012; Perrier, Mrklas, Lavis, & Straus, 2011; Sarkies et al., 2017; Williamson, Makkar, McGrath, & Redman, 2015), finding that only a small number had been evaluated according to conventional standards of rigor. Few interventions were found effective, but there was some evidence of modest effects on research uptake when multi-component interventions combining several of the functions listed above were evaluated.

An intervention that merits particular mention is 'knowledge brokering,' which as a result of the influence of Jonathan Lomas's 'linkage and exchange' model of knowledge transfer (Lomas, 2007), has become a popular strategy for bridging the perceived 'gap' between the worlds of research and policy, especially in health ministries and regional public health departments in North America. Knowledge brokering involves the use of individuals or organizational bodies as intermediaries between researchers and policymakers, help to serve one or more of three possible functions: information management (e.g., translating and disseminating relevant research between the two groups), linkage and exchange (e.g., facilitating the development of positive relationships between the two groups) and capacity development

(assisting policymakers to develop the skills to access, assess and apply evidence to decisions) (Ward et al., 2009).

Much of the work of what are called 'knowledge transfer platforms' – including that implemented by the West African Health Organization to build capacity within the region's ministries of health – can be understood as a form of institutional knowledge brokering. The specifics of these interventions are discussed further in the case study presented in **Chapter 6**. The increasingly popular trend toward targeting capacity building interventions for evidence-informed policy at what is sometimes called the 'institutional level' (Hawkes et al., 2015) is discussed in **Chapter 5**, as part of the prelude to a realist synthesis on the institutionalization of evidence-informed policymaking.

Conclusion

In this chapter I have provided a basic sketch of the key literature related to the use of evidence in health policymaking. I introduced some of the foundations, key principles and implications of evidence-informed policymaking, from the perspectives both of its champions and detractors. I sketched the global health policy landscape and its relation to evidence-informed policymaking, and introduced the budding role of regional bodies like the West African Health Organization in improving research-policy relations in health. After surveying some of the most relevant conceptual and theoretical literature from political science and policy studies, I moved on to discuss (and highlight key deficiencies in) previous research on when, how and why evidence influences policymaking, the political and institutional dimensions of these processes, and some of the most popular strategies for strengthening them.

In **Chapter 2**, to which I now turn, I shift from the substantive to the methodological, introducing the key concepts and principles of realist methodology before describing in detail the

approaches used and methodological procedures undertaken in carrying out the original research

for this doctoral thesis.

Chapter 2: Methodology and methods

In this, the final chapter before my presentation of this thesis's original research, I provide a methodological roadmap for reading and interpreting this work. I begin by summarizing the principles and features of scientific realism, the overarching methodological lens for this thesis and the approach that informed two of its three principal research contributions. Then, over four subsequent sections, I detail the methodological procedures undertaken for this thesis, devoting one section each to: 1) a systematic review of the qualitative research on evidence use in health policymaking; a 2) thematic synthesis on the factors affecting evidence-informed policymaking and 3) a realist synthesis on the institutionalization of evidence use, both of which draw on the studies identified in the systematic review; and 4) a realist case study on the role of a regional governance body in supporting the institutionalization of evidence use in national health policy in West Africa. Each of these sections corresponds to the research presented in the chapters that follow this one (**Chapters 3 through 7**).

Principles of realist inquiry

Realist inquiry is a theory-driven approach to the study of complex social phenomena with a specific and explicit philosophical grounding in what is sometimes referred to as the school of 'scientific realism' (Pawson & Tilley, 1997), which was inspired by and is closely related to the critical realist theory of (social) science (Bhaskar, 2008). (Critical) realism is sometimes said to occupy the philosophical middle ground between positivism and/or empiricism, on the one hand, and constructivism and/or relativism, on the other (Gilson et al., 2011; Pawson, 2006b), in that it maintains that there exists a single, "real" world, our understanding of which can be improved through observation, but also that our observations are mediated through and constrained by our senses, cognitions and human constructs. We can

improve our understanding of social reality, but that understanding will always be partial and flawed. Key features of realist philosophy include the recognition that social reality is stratified into the observable (e.g., manifest empirical regularities) and the unobservable (e.g., the latent and active causal forces that generate these regularities) – an idea called 'ontological depth' (Jagosh, 2019) – and a commitment to the 'generative model' of social causation (Harré, 1985).

The generative model, in which causation is understood *internally* as the transformative potential of phenomena (Pawson & Tilley, 1997), is distinguished in realist thinking from the so-called 'successionist' theory of causation, which underpins, for example, conventional (quasi)experimental logic (Harré, 1985). In the successionist causal framework, which can be traced to the classic works of British empiricists David Hume (1740) and John Stuart Mill (1843), causation is understood *externally* as the product of 'constant conjunctions' of events and is marked by the search for "social laws." This contrasts sharply with the realist position, in which it is argued that "[w]hat causes something to happen has nothing to do with the number of times we have observed it happening. Explanation depends instead on identifying causal mechanisms and how they work, and discovering if they have been activated and under what conditions" (Sayer, 2000, p. 14).

Realist inquiry represents one member of the family of approaches known as theory-driven evaluation (Chen & Rossi, 1980; Chen, 2014). Theory is therefore central to realist evaluation and synthesis. Indeed, in the realist understanding, programs are sometimes said to be "theories incarnate" (Pawson, 2006b, p. 26), in that all deliberate efforts to intervene in social systems can be conceptualized as (usually tacit) tests of a theory or theories about what might generate social change. Of particular concern to realist inquiry are those theories at the so-called middle range of abstraction (Pawson, 2000, 2010). In the words of Robert Merton (1968), who

coined the term, middle-range theories are "theories intermediate to the minor working hypotheses evolved in abundance during the day-by-day routine of research, and the all-inclusive speculations comprising a master conceptual scheme" (pp. 5-6). A theory of the middle range, therefore, is an explanatory theory that can be tested with observable data and, unlike so-called "grand theories" is not abstract to the point of dealing with large-scale social and cultural forces. In realist research, the kinds of middle-range theories of relevance are referred to as program theories, defined as a "theory that hypothesizes how a program is expected to work, given contextual influences and underlying mechanisms of action" (Jagosh, 2019, p. 362).

The use of middle-range theory, and the centrality of the construct of the social mechanism to causal explanation, are, of course, not unique to realist evaluation and synthesis. Both are core features of research conducted in the tradition of analytical sociology, for example (Elster, 1998; Hedstrom, 2005; Hedström & Ylikoski, 2010). What is unique to realist research, however, is the use of the context-mechanism-outcome (CMO) configuration as the explanatory apparatus for making sense of social causation (Pawson & Tilley, 1997). Realist research involves the identification and elucidation of the social *mechanisms* (M) that underlie the generation of *outcomes* (O) in specific *contexts* (C), and CMO configurations are used by realist researchers as an analytical heuristic. That is, realist research entails the use of coding schemes built around CMO patterns, and/or the construction (and scrutinizing) of explanatory narratives expressed as CMO configurations, to explain causal processes and relationships. A schematic representation of the CMO configuration is provided in **Figure 2**.
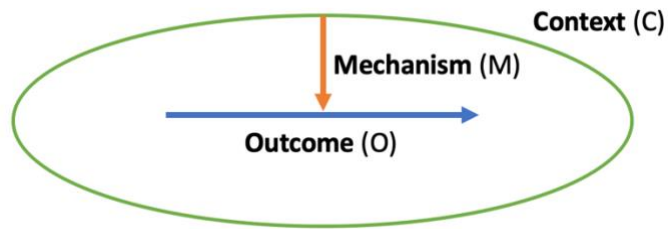
Figure 2: Schematic representation of generative causation: Social mechanisms generating regularities (outcomes) in specific contexts. Adapted from Pawson and Tilley (1997)

It is worth elaborating briefly on each of the three realist explanatory ingredients – contexts, mechanisms and outcomes. First, the concept of *outcomes* is, of course, familiar to intervention researchers and program evaluators, realist and non-realist alike. Outcomes are causal effects – intended or unintended, anticipated or unanticipated, intermediate or "final." In realist philosophy, outcomes are not expected to manifest in highly predictable regularities, but rather in semi-predictable, contingent patterns (Pawson & Tilley, 1997), an idea encapsulated by the concept of the demi-regularity (Lawson, 1997), which refers to the realist insight that human agency manifests in semi-predictable ways. In other words, outcomes can be expected to occur in recognizable patterns, but patterns that are highly dependent on context.

Much conceptual work has been invested in clarifying the meaning of *mechanism* in the context of program evaluation in general and realist evaluation in particular (Astbury & Leeuw, 2010; Dalkin, Greenhalgh, Jones, Cunningham, & Lhussier, 2015; Lacouture, Breton, Guichard, & Ridde, 2015; Lemire et al., 2020). Mechanisms can be understood as causal processes; they are proposed explanations or accounts of how and why outcome patterns manifest as they do (or are expected to do) in certain contexts (Pawson & Tilley, 1997). While there are many constructs of 'mechanism' in the literature (Westhorp, 2018), in realist evaluation they are often conceptualized as the confluence of *resources* and *reasoning* (Dalkin et al., 2015) or *capacities* and *choices*; that is, they are understood as processes through which program recipients or

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"beneficiaries" choose (or reason) to respond to the resources (or capacities) furnished by a program. Therefore, explanatory accounts in intervention research that invoke mechanisms should "capture the way in which a programme's resources impinge on the stakeholders' reasoning" (Pawson, 2013, p. 26). Crucially, though, mechanisms are *not* synonymous with program components, intervention activities or 'inputs.' Rather, they are the (usually) invisible (Pawson, 2008) causal forces underlying social change. A pared down definition of the realist understanding of mechanisms suggests three essential features: "mechanisms are usually hidden, […] [they] are sensitive to variations in context; and [they] generate outcomes" (Astbury & Leeuw, 2010, p. 368).

Based on these definitions of outcomes (which manifest in demi-regular patterns across space and time) and mechanisms (which only activate if the conditions are right), it will be clear that *context* is fundamental to the realist explanatory apparatus. Compared to the concept of the mechanism, however, the idea of *context* has received relatively little conceptual attention by realist methodologists (Shaw et al., 2018 is a notable exception). At least two points differentiate the realist conception of context from the way it tends to be treated elsewhere in social research. First, context is not synonymous with locale, but rather refers to myriad social conditions that vary across space and time. In the words of Pawson and Tilley (1997), "whilst indeed programs are initiated in prisons, hospitals, schools, neighbourhoods, and car parks, it is the prior set of social rules, norms, values, and interrelationships gathered in these places which sets limits on the efficacy of program mechanisms" (p. 70). Second, contexts are not neutral backdrops for programs or other social activity, but rather have active, causal 'powers,' just as mechanisms do. However, without being paired with a mechanism or mechanisms in a realist causal explanation (in the form of a CMO configuration), their explanatory value is limited (Pawson & Manzano-

Santaella, 2012). This is not, therefore, simply a restatement of uncontroversial truism that causal relationships between exposure (e.g., an intervention) and outcome can be expected to vary with context. Rather, the claim is that context plays an instrumental role in the unfolding of causal processes (Maxwell, 2012). Therefore, while context is critical to realist inquiry, the objective is not to identify the optimal mix of contextual factors that maximize the effectiveness of an intervention. Instead, context is about helping to *explain* the differential manifestation of outcome patterns *and* mechanisms, and – from a practical standpoint – to inform modifications and adaptations at the level of implementation (Greenhalgh, 2021).

Having sketched the key principles of realist methodology, the remainder of this chapter is devoted to providing detailed descriptions of the methodological procedures used in the research conducted for this thesis.

Systematic review methods

In this section I describe the methods used in a systematic review of the qualitative literature on evidence use in health policymaking, which fed into thematic and realist syntheses on closely related topics. An earlier version of the protocol for this systematic review (and for the thematic synthesis that follows) was published in a peer-reviewed journal (Verboom, Montgomery, & Bennett, 2016). The protocol was also published in PROSPERO, a prospective register for systematic reviews (PROSPERO registration number: CRD42018087940).

Overarching review objectives

The principal objectives for this review were:

1) To identify all qualitative studies investigating the use of research evidence in health policymaking in order to:
2) generate the sampling frame for the thematic and realist syntheses presented in this thesis; and to
3) descriptively map this body of literature;

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4) To conduct a thematic synthesis to identify, synthesize and classify the key factors that influence whether and how research evidence is used in health policymaking;

5) To conduct a realist synthesis examining the key mechanisms underlying (an aspect of) evidence-informed health policymaking and the most important contextual conditions in which these mechanisms are activated.

The first objective was achieved through the use of standard systematic review methods, described in the subsequent section of this chapter, and a descriptive mapping of this literature, which I summarize in **Chapter 3** and report in a separate published paper, the details of which are beyond the scope of this thesis (Verboom & Baumann, 2020). For the purposes of this thesis, the chief output of the first objective was an inventory of all 319 qualitative studies conducted on evidence-to-policy processes to date, which functioned as the sampling frame for the thematic and realist syntheses, the methods for which are described in the present chapter, and the results of which are presented in **Chapters 4 and 5**.

In the sections that follow I turn to a description of the methods used for the systematic review, before detailing the procedures for conducting the thematic synthesis and realist synthesis.

Criteria for considering studies for this review

In this section I outline the criteria against which studies were assessed for inclusion in the review. Briefly, in order to be included, a study had to:

- Be a qualitative study, published or unpublished;
- Examine the work of *policymakers* in *policymaking* settings; and
- Report data concerning the use of *research evidence* to inform decisions about *health policy*.

In the sub-sections that follow, I provide a more detailed explanation of and rationale for these inclusion criteria.

Types of studies

In terms of study design, this review included qualitative studies that reported primary data. I adopted a definition that considers a study to be 'qualitative' if it uses qualitative methods both for data collection and data analysis. This definition is consistent with that used in several recent qualitative syntheses (Glenton et al., 2013; Munro et al., 2007; Noyes & Popay, 2007; Van Dort, Zheng, & Baysari, 2019) and was cited as one useful definition in the Cochrane Qualitative and Implementation Methods Group supplementary guidance on qualitative evidence synthesis (Noyes et al., 2018; Noyes & Lewin, 2011). Methods of qualitative *data collection* include (but are not limited to) interviews, focus groups, and participant observation methods, while methods of qualitative *data analysis* include, for example, various forms of thematic analysis, ethnography, discourse analysis and phenomenological approaches. This definition excludes, for example, studies in which data are collected through interviews or focus groups, but are analyzed exclusively through quantitative methods (e.g., tallies, frequencies, descriptive statistics, etc.). I included mixed methods studies that used both qualitative and quantitative methods, provided it was possible to identify and extract findings derived only from the qualitative methods.

I did not exclude studies according to the epistemological assumption(s) on which they were based and/or theoretical tradition(s) within which they were conducted. That is, I included all work within the broad 'qualitative paradigm.'

Studies were not excluded from the review on the basis of any hierarchy of qualitative evidence or criteria related to study quality. While it is commonplace in reviews of quantitative evidence (e.g., intervention effectiveness reviews) to impose an inclusion "cut-off" based on study-level methodological characteristics thought to impact the internal validity of study results (e.g., use of a control group, appropriately conducted randomized allocation of participants, etc.),

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quality appraisal remains a point of contention in qualitative research (Barbour, 2001; Hannes, 2011; Spencer, Ritchie, Lewis, & Dillon, 2003), and no such set of "cut-off" criteria have gained wide support among methodologists (Atkins et al., 2008; Carroll & Booth, 2015; Garside, 2014; Hannes & Macaitis, 2012; Noyes et al., 2018; Noyes, Popay, Pearson, Hannes, & Booth, 2008).

However, including eligible qualitative studies without consideration of methodological quality has the potential to bias synthesis findings (Walsh & Downe, 2005). Therefore, while all eligible studies were retained, descriptively mapped, and organized in a tabular sampling frame, not all studies were included in the thematic and realist syntheses. Rather, as described below, purposive sampling procedures were designed to meet the specific needs of each synthesis. Additionally, in both syntheses, methodological rigor was appraised and accounted for in the process of making interpretations and drawing conclusions, albeit using much different approaches across the two syntheses.

Studies were not excluded on the basis of publication status (e.g., type of publication), date of publication, or the language in which the study was reported.

Types of participants and settings

Studies were eligible for inclusion in this review if they involved policymakers engaged in policymaking activities with an explicit (though not necessarily exclusive) focus on health issues. For the purposes of this review, the population 'policymakers' includes elected officials, appointed civil servants, policy advisors and/or bureaucrats of any rank, working at the local, provincial/state, national, or global/international levels.

Unlike in previous reviews of evidence use in public health (Orton et al., 2011) and non-health sectors of policy (Lorenc et al., 2014), studies were not excluded on the basis of the country or countries in which they were conducted. The rationale for this inclusiveness was to

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capture as broadly as possible the potential influence on evidence use of factors related to the diversity of political, economic, and social contexts in which the activity of policymaking takes place.

Subject matter of studies

To be eligible for inclusion, studies had to examine the use or reported use of some type of *research evidence* by policymakers working at least in part on *health policy*.

For the purposes of this review, *health policy* decisions are those taken with the explicit goal of promoting the health of the population (whether at the sub-national, national, or international level) and/or having to do with the financing and organization of health care services. This definition excludes policy decisions related to the provision of individual clinical interventions. However, recognizing the now widely-appreciated importance of the social determinants of health (Marmot & Wilkinson, 2005), and understanding that policy decisions made outside of ministries and departments of health, across a variety of sectors (e.g., transport, education, criminal justice, etc.), can have meaningful impacts on health (Marmot, Friel, Bell, Houweling, & Taylor, 2008), studies of policymakers with non-health portfolios were included if population health, or the relationship between their decisions and health outcomes, was an explicit focus of the research.

Research evidence was defined at the outset as research produced by academic researchers and/or published in academic journals. This definition is similar to that used in a recent systematic review of evidence use in non-health settings (Lorenc et al., 2014), whose authors found that their original attempt to use a broader definition of research evidence produced results so conceptually heterogeneous that a meaningful synthesis was unfeasible. In practice, this criterion was implemented flexibly, allowing for the inclusion of studies on the use

of various forms of evidence that was the product of a scientific and/or formal analytical process and/or that was consistent with typical academic standards. This definition excludes studies that look exclusively at the use of raw data (e.g. routine monitoring and surveillance data) by decision-makers. For inclusion, the focus on evidence use had to be significant (i.e., a core focus of the study) and explicit (e.g., stated in the study's research questions or objectives). Naturally, the assessment of all of these criteria involved the application of subjective judgement, necessitating the use of duplicate screening to protect against bias (discussed below).

Eligible studies could have examined the use of research evidence in general, a specific methodological category of research (e.g. randomized controlled trials, systematic reviews or other study types) or a particular form of research evidence (e.g. evidence 'embedded' within written or verbal policy advice, including briefs, advisory reports, presentations and guidelines).

Search methods for identification of studies

Efficiently searching for and locating the desired studies for a qualitative systematic review in health is a particularly challenging task. It is well known that (1) studies in public health and health promotion tend to be more "scattered" than medical studies, across a more diverse array of both journals and databases (Peersman & Oakley, 2001), and that (2) qualitative studies are notoriously difficult to systematically locate through bibliographic database searches alone, due in part to incomplete indexing, uninformative titles and abstracts, and poorly described methods (Barroso et al., 2003; Booth, 2011; Evans, 2002). Successfully locating studies for this review therefore required probing a broad range of sources of peer-reviewed literature.

In **Box 1**, I list the databases and journals that functioned as study sources for this review. I searched a broad array of relevant electronic bibliographic databases using search strategies

that were developed in consultation with information retrieval specialists and were subjected to several stages of piloting. The sensitivity of each subsequent iteration of my search strategies was strengthened by assessing detection of a list of key papers that were included in previous reviews on evidence use in policymaking. Strategies were iteratively amended (mainly through the addition of search terms and novel combinations of search terms) until all of these key papers were captured. Where feasible, I adapted and applied a validated methodological search filter (DeJean, Giacomini, Simeonov, & Smith, 2016) to aid in the identification of qualitative studies. The string of terms used to search Medline (in Ovid) is provided in **Appendix A**.

Box 1: Study sources for systematic review

Bibliographic databases (no date/language limitation):	Journals (January 2010 to January 2019):
Applied Social Sciences Index and Abstracts (ASSIA)	BMC Health Services Research
Conference Proceedings Citation Index – Social Science and Humanities	BMC Public Health
	Evidence & Policy
Global Health	Health Policy
International Bibliography of the Social Sciences (IBSS)	Health Policy & Planning
International Political Science Abstracts (IPSA)	Health Research Policy and Systems
MEDLINE	Implementation Science
SCOPUS	International Journal of Health Policy & Management
Social Sciences Citation Index (SSCI)	
Worldwide Political Science Abstracts (WPSA)	Journal of Health Politics, Policy & Law
	Milbank Quarterly
	Social Science and Medicine

In addition to the electronic searches, all issues of 11 relevant academic journals published from January 2010 to January 2019 (inclusive) were hand-searched. The reference lists of all included studies and the included studies lists of previous reviews whose subject matter was similar to this review (Innvær et al., 2002; Lavis et al., 2005; Liverani et al., 2013; Lorenc et al., 2014; Masood et al., 2020; Newson, King, Rychetnik, Milat, & Bauman, 2018; Oliver et al., 2014a; Orton et al., 2011) were also searched. Experts and colleagues were contacted for information about any as yet unidentified studies. An inventory of studies of evidence-to-policy

processes of which I was already aware was also screened for relevant studies not detected through other sources.

Data collection and analysis

In this section I describe the methods for selecting studies, extracting and managing data, assessing the quality of included studies, and analyzing and presenting the review findings. While I designed and personally carried out each of these procedures, one of my co-authors, Aron Baumann (AB), assisted with conducting most of these tasks in parallel. Such double-screening and extraction is standard practice in systematic reviewing (Petticrew & Roberts, 2008), and is designed to limit the potential influence of bias and human error. AB was provided with detailed instructions outlining (1) the review's inclusion criteria and associated definitions related to relevant study types, populations and settings, and study subject matter; (2) procedures for extracting and recording data from included studies; and (3) criteria and relevant definitions to be applied in assessing the quality of included studies.

Selection of studies

Study screening and selection were conducted according to standard systematic review methods (Petticrew & Roberts, 2008) using Covidence systematic review software. Both reviewers independently screened all titles and abstracts. Records deemed potentially relevant by both authors were retained for further review. Conflicting judgements were resolved through discussion. Both authors then independently screened the full-text versions of all potentially relevant articles for inclusion in the review. All studies deemed to meet the inclusion criteria were included. Again, disagreements were resolved through discussion. Deferral to a third party to resolve disagreements on inclusion decisions was not necessary at either stage. Reasons for the exclusion of studies at the full-text review stage were recorded.

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Extraction of descriptive information and generation of sampling frame

A bespoke spreadsheet was designed using Microsoft Excel to capture all relevant descriptive information related to each included study, including:

- Basic study information (authors, title, journal, year of publication)
- A brief summary of the study's aim and research questions, and whether the concepts of 'barriers to' and/or 'facilitators of' the use of evidence were used in the study
- Study design, description of data sources and qualitative analysis methods, theories or frameworks used for data collection and/or analysis
- Description of the study setting, policymaking context, level of policymaking (i.e. sub-national, national and/or international/global), and country or countries of focus
- Description and number of participants
- Description of the policy decision(s) or process(es) and policy sector(s) investigated
- Type or form of research evidence investigated, and whether the study investigated instrumental, symbolic, and/or conceptual uses of evidence

The extraction tool was piloted in duplicate on 50 included studies over multiple phases and iteratively revised. The remaining studies were divided between both authors for independent extraction; I checked and revised all extractions conducted by AB to ensure consistency.

The output of this process was a detailed inventory of all qualitative studies on the use of evidence by health policymakers. A descriptive mapping of this literature – to understand the geographical and temporal distribution of these studies, the predominant methods, publication venues, and theories used, and the most common overarching focus or research questions – was carried out and published elsewhere (Verboom & Baumann, 2020).

For present purposes, this inventory of 319 qualitative studies functioned as the sampling frame for the thematic synthesis and realist synthesis that constitute two of the principal original contributions of this thesis. In the two sections that follow, I detail the methods used for each of these syntheses.

Thematic synthesis methods

Thematic synthesis objective

The purpose of this thematic synthesis was to identify, synthesize and classify evidence on the factors affecting the use of evidence by health policymakers (i.e., the factors that influence whether and how policymakers make use of research evidence in their work). The chief outputs of this synthesis are a detailed narrative discussion of the factors affecting evidence use, and a tabular summary of these key factors, organized in thematic categories (both of which are presented in **Chapter 4**).

Purposive sampling of studies

The relative merits of exhaustive retrieval of eligible studies, on the one hand, and selective (i.e., purposive or purposeful) sampling from a pool of eligible studies, on the other, has been debated by qualitative reviewers for nearly as long as qualitative synthesis has been a popular review method. Advocates of comprehensive sampling (e.g., Barroso et al., 2003), echoing standards applied in quantitative systematic reviews and meta-analyses, express concern that failure to include all eligible studies could bias synthesis findings. Others (e.g., Booth, 2001; Dixon-Woods et al., 2006a) counter that, given that the aim of qualitative synthesis is not (necessarily) to maximize precision or reduce bias but rather is to provide an in-depth examination of a phenomenon or phenomena, it should not be driven by the probabilistic sampling logic used in quantitative studies, but rather should deploy purposive, non-probabilistic strategies consistent with the goals of this kind of synthesis and more akin to those typically employed in primary qualitative research (Booth, 2016). It has been suggested that this divide owes in part to the so-called "dual heritage" of qualitative evidence synthesis, that is, the roots of qualitative synthesis both in the (mainly) quantitative systematic review tradition (typified by

Cochrane and Campbell Collaboration reviews and meta-analyses) and the qualitative research tradition (Booth, 2013).

In this project, I aimed to achieve something of a middle ground between these two viewpoints by conducting exhaustive searches to identify (and, elsewhere, descriptively analyze) all eligible studies, but purposively sampling a subset of these for the purposes of the in-depth thematic synthesis. The full list of studies meeting the review's inclusion criteria therefore functioned as the sampling frame for the thematic synthesis.

There are several potential methods for the purposive sampling of studies for qualitative synthesis (Suri, 2011), but still relatively few examples of these methods applied in practice, and little in the way of methodological guidance on matching sampling approaches to the aims of a synthesis. In this review I used three distinct types of purposive sampling, along similar lines as Benoot, Hannes, and Bilsen (2016). First, *intensity sampling* was used to select several core papers (1) of relatively high methodological quality, (2) providing relatively rich and thick descriptions of the phenomena under investigation, and (3) with research questions and aims that significantly overlap with those of the synthesis. Second, *maximum variation sampling* was used to select cases with characteristics (e.g., policy settings, geographical contexts, specific health or policy issue of focus) that were not well captured in the first round of sampling. Finally, *disconfirming case sampling* was used to actively seek studies with findings that seem to contradict and/or modify the emerging narrative(s) of the synthesis. While these three sampling methods are presented in the approximate order in which I intended to conduct them, in practice study sampling was more of an iterative process, with some temporal overlap between these phases of sampling. The sampling process was led by me, but all sampling decisions were made in consultation with my co-author, Anders Bach-Mortensen (ABM).

Extraction of data from primary studies

There is no universally accepted approach for the extraction of data for the purposes of qualitative evidence synthesis. Strategies vary from the very selective to the very inclusive. In extremely inclusive approaches, the entire texts of included papers are essentially treated as data, while in others, findings are only extracted from included studies when they are explicitly supported by direct quotations from study participants within the text of the article (Noyes & Lewin, 2011). This latter approach risks missing findings that, on the individual study level are perhaps of secondary importance, but collectively may emerge as important recurrent themes across studies. I therefore took an approach emphasizing inclusiveness, since in this synthesis I was interested in the full breadth of factors related to evidence use in health policy.

Adapting Thomas and Harden's (2008) and Glenton et al.'s (2013) strategies, I extracted all data labelled by study authors as results and/or findings, etc. and discussion, conclusion(s) and/or interpretation(s), etc. Since the 'informants' in a qualitative evidence synthesis are the original primary study authors (not their participants), all author interpretations of study results (in the form of themes, categories, diagrams, tables, etc.) qualified as data for this thematic synthesis (Glenton et al., 2013; Noyes & Lewin, 2011). Data were extracted verbatim from study papers directly into EPPI-Reviewer software.

Assessment of study quality

It is essential to conduct a critical appraisal of the studies included in a qualitative synthesis to help inform the interpretation of the extracted data (Hannes, 2011), including the degree of confidence that can reasonably be had in each of the review's findings (Noyes et al., 2018). However, there is no universally accepted instrument for critically appraising studies included in qualitative syntheses and no agreement on precisely how the quality of qualitative

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studies should be assessed (Garside, 2014). Cochrane Supplementary Guidance for qualitative syntheses advises reviewers to choose an instrument according to the qualitative research experience and skills of review team members and the specific needs of their review, and that an appraisal instrument should assess quality across multiple domains, including reporting, methodological rigor, and conceptual depth and breadth (Hannes, 2011; Noyes et al., 2018).

Study quality in this thematic synthesis was assessed according to an adapted version of the Critical Appraisal Skills Programme's (CASP) tool for appraising qualitative research (Critical Appraisal Skills Programme, 2013). CASP is arguably the most 'user-friendly' of the widely used tools. However, in a comparative assessment of three popular critical appraisal tools, CASP was found wanting in terms of sensitivity to descriptive, interpretive and theoretical validity (Hannes, Lockwood, & Pearson, 2010). To address these limitations, I augmented the CASP tool with four items adapted from the Joanna Briggs Institute Qualitative Assessment and Review Instrument (The Joanna Briggs Institute, 2014), which Hannes et al. (2010) identified as a more coherent and sensitive to the areas of validity that the CASP tool is unable to adequately address. The adapted CASP instrument is provided in **Appendix B**. It contains twelve items, all of which can be answered with either 'Yes', 'No', or 'Unclear'. In order to support interpretation of the synthesis findings, each included study was assigned an overall score of 'high,' 'moderate' or 'low' overall methodological quality according to a holistic reading of included papers, guided by consideration of these twelve items. It is important to note that these items are not designed to yield an overall numerical "score" for the methodological quality of studies. Rather, the questions are designed as prompts to guide the reviewers in a critical reading of the studies. Indeed, as there is no consensus on the relative weight that should be ascribed to any individual

characteristic of study quality, the presentation of a simple summed score of the tool's items would risk being more misleading than informative.

With the help of ABM, the augmented CASP instrument was piloted in duplicate on a random sample of five studies. The results of our assessments were compared and discussed to establish a consensus on how to apply the instrument moving forward. Following the pilot stage, all studies sampled for the thematic synthesis were critically appraised by both authors. Disagreements were discussed and resolved, and the help of a third party to resolve disagreements was not required. As mentioned above, the results of the quality assessment were not used to exclude studies from the review, but quality ratings were used to inform interpretation of the data (Hannes, 2011).

Analysis (synthesis) methods

Data extracted from the studies that were sampled for the synthesis were analyzed using Thomas & Harden's (2008) method of qualitative thematic synthesis. Analysis was aided by EPPI-Reviewer software. Thematic synthesis involves the line-by-line coding of the text of included studies to produce so-called 'descriptive themes' within studies, followed by the re-interpretation and synthesis of these newly organized data across studies to produce higher-order 'analytical themes' that "go beyond" the findings of the individual primary studies. This potential generation of new concepts or theory via the production of higher order themes represents a synthesis step hitherto not attempted in systematic reviews of evidence use in policymaking. No themes were specified *a priori* to guide the review. Rather, themes were allowed to emerge inductively as I interpreted individual study data and synthesized data across studies.

The synthesis process followed the three stages of thematic synthesis described by Thomas & Harden (2008), the first two of which take place concurrently: (1) coding text; (2) developing descriptive themes; and (3) developing analytical themes.

During the first and second stage, the data from each included study were considered in isolation. I read and reread the text of each study in EPPI-Reviewer, and developed codes to describe the meaning and content of the text line-by-line. Sections of text (e.g., sentences, paragraphs, whole sections of papers) could be assigned a single code or multiple codes. As codes emerged and accumulated during this process, I organized them hierarchically, as appropriate, to develop descriptive themes to explain the data. During this stage, all of the text assigned to each code was periodically checked for interpretive consistency, to determine whether new codes were necessary, and to contemplate whether some codes should be collapsed. Throughout this process, ABM was consulted regularly to discuss coding decisions and the validity of the emerging list of descriptive themes, and amendments were made as necessary.

During the third stage of thematic synthesis, 'higher order' analytical themes are developed from critical examination of the aggregated descriptive themes developed in stage two (Thomas & Harden, 2008). At this point in the analysis, I reconsidered the set of data, now coded across studies and organized into descriptive themes, and interrogated it for newly emerging cross-study themes. As in stage two, ABM was consulted regularly to discuss the appropriateness of decisions related to the development, defining, and naming of analytical themes, and the organization of descriptive themes into analytical groupings. Following consultations with ABM, amendments to themes were made, as necessary, and the original descriptively-coded data were revisited and reconsidered in the context of any newly emergent

themes. This iterative process continued until examination of the data ceased to yield new analytical themes.

As the synthesis process progressed, emerging analytical themes were interpreted as 'factors' affecting (i.e., influences on) evidence use in health policymaking, and were summarized in tables according to broad categories. As new findings emerged from the interrogation of the data, the inventory of factors was amended as appropriate.

Realist synthesis methods

Realist synthesis objectives

The realist synthesis conducted for this thesis, the findings of which are presented in **Chapter 5**, began with a very broadly-defined objective, on the understanding that during the early stages of a realist review it is typical for the focus to narrow dramatically. The broad objective with which the synthesis began was: to propose and test a middle-range theory explaining the generative mechanisms underlying the use of evidence in health policymaking. As the process of developing the synthesis's initial program theory progressed (described below), a tighter and more actionable theory began to take shape, focused on the outcomes and processes associated with the institutionalization of evidence use in policymaking. The research objective for the realist synthesis ultimately became: to identify outcomes associated with deliberate efforts to institutionalize processes of evidence use in health-related policymaking, and to explain these outcomes by appealing to the social mechanisms that generate them, and the conducive contexts in which these mechanisms operate.

A secondary objective of this realist synthesis – in tandem with the thematic synthesis described above and reported in **Chapter 4** – was to generate reflections to inform a comparative methodological reflection on the relative merits of realist versus thematic approaches to

reviewing qualitative literature on complex phenomena, taking the topic of evidence-informed health policymaking as a case in point. These reflections are provided as part of the closing discussion to this thesis in **Chapter 7**.

In the sections that follow, I describe the methods through which I carried out this realist synthesis. In designing and conducting this synthesis I followed the guidance laid out in the founding document of realist synthesis, Ray Pawson's *Evidence-based policy: A realist perspective* (Pawson, 2006b), and in an article-length exposition of the realist synthesis approach (Pawson, Greenhalgh, Harvey, & Walshe, 2005). I also drew on worked examples of realist reviews, most notably those conducted by Pawson and colleagues (Pawson, 2002a, 2004; Pawson, Greenhalgh, & Brennan, 2016). I also consulted two sets of realist synthesis guidance: the RAMESES (Realist and Meta-Narrative Evidence Syntheses: Evolving Standards) training materials on realist synthesis (Wong, Westhorp, Pawson, & Greenhalgh, 2013) and the introduction to realist synthesis published by the Economic and Social Research Council's Research Methods Programme (Pawson, Greenhalgh, Harvey, & Walshe, 2004).

For clarity, I have organized the discussion of methods for this synthesis according to the four stages and eight constituent activities described by Pawson et al. (2004). The four stages are: (1) *Defining the scope of the review*, (2) *Searching for and appraising the evidence*, (3) *Extracting and synthesizing findings*, and (4) *Drawing conclusions and making recommendations*. It must be emphasized from the outset that conducting a realist synthesis is a highly iterative process, and that these stages overlap considerably, and involve cycles of feedback, in which the 'output' of one stage necessitates re-visiting a previous one.

Stage 1: Defining and refining the scope of the review

Unlike in "conventional" systematic reviews, the review scope, the specific conceptual focus, and the research questions to be addressed in a realist synthesis are subject to change significantly on the basis of early theorizing and engagement with the literature. The first stage of realist synthesis outlined by Pawson et al. (2004) captures this early fluidity. Stage 1 contains three steps: (1.1) *Identifying the question*, (1.2) *Clarifying the purpose of the review,* and (1.3) *Finding and articulating candidate theories*.

Steps 1.1 and 1.2: Identifying the question and Clarifying the review purpose

The initial, broad research questions were driven by the review's overarching objective – described above – to generate and test an explanatory theory on the social mechanisms underlying the use of research evidence in health policymaking. This broad objective, was subsequently refined to focus in on deliberate efforts to institutionalize evidence-informed decision-making within policymaking organizations and/or policy contexts.

The final objective settled on for this synthesis was: *"to identify outcomes associated with deliberate efforts to institutionalize processes of evidence use in health-related policymaking, and to explain these outcomes by appealing to the social mechanisms that generate them, and the conducive contexts in which these mechanisms operate."*

The review purpose thus evolved over the course of developing the initial program theory, from a general focus on explaining patterns of evidence uptake and use (on reflection, a topic that is far too broad to be feasible to address to a satisfactory standard) to the more specific focus on explaining outcomes associated with efforts to institutionalize evidence-informed policymaking.

Step 1.3: Finding and articulating theoretical propositions

The purpose of a realist synthesis is to propose and refine theory. In this early step within a realist synthesis usually an initial rough theory is developed based on prior knowledge, a non-systematic scanning of the research literature, and/or 'official' views or understandings of an intervention or issue (often embedded within policy documents and other grey literature). However it is constructed, the general idea is to produce a working theoretical framework that can later be 'populated' with empirical evidence over the course of conducting the synthesis and refined into an explanatory middle-range theory.

Previously conducted realist reviews vary widely in how they have approached generating this framework, and many are opaque in their reporting of the process (Wong et al., 2013). At minimum, an exploratory search of the literature to extract promising or interesting explanatory propositions is generally deemed necessary. Sometimes, the researchers are interested in subjecting a specific formal theory or theories to empirical scrutiny, in which case the starting point is the academic literature. In my case, I was not interested in testing a specific formal theory. Instead, I sought to identify some of the more common ideas and assumptions about evidence use in health policy held by research and policy actors themselves, and testing these against empirical evidence. Such ideas may well be informed by formal academic theory but they can also be described as versions of what Pawson and Tilley called 'folk theories' (Pawson & Tilley, 1997).

For this synthesis I constructed a novel process for generating relevant theoretical propositions for testing. The initial theoretical framework was constructed through an exploration of opinion pieces in the academic literature that commented on (aspects of) the

relationship between research evidence and policy. Articles were considered for inclusion in the initial theorizing process if they met the following criteria:

- Opinion-based article published in an academic journal (e.g., commentary, letter, editorial, etc.)
- Major focus on some aspect of the relationship between research evidence and policy (including in non-health sectors)
- Contains, either explicitly or by implication, at least one extractable conditional statement about how, why or under what conditions research evidence is used in policy-making.

Book reviews, papers reporting empirical studies or literature reviews, and formal theoretical papers were excluded. Articles were not excluded on the basis of publication date. For practical reasons, only English language articles were considered.

With the help of a co-author, Ani Movsisyan (AM), I consulted a variety of sources – bibliographic databases, the tables of contents of key journals, and the reference lists of seminal works on evidence use in policymaking – and compiled an inventory of just over 100 relevant commentary articles from which to extract theoretical propositions. Commentaries were authored by both policymakers and academic researchers, and often combinations of both.

Two waves of purposive sampling were performed on eligible commentary papers. First, using intensity sampling we identified papers that appeared to be most rich in theoretical propositions. Second, we used maximum variation sampling to diversify the sample according to, for example, publication venue, policy and health issue(s) discussed, article type (e.g., editorial, letter, etc.) and author type (e.g., policymaker versus researcher).

I designed an extraction process and a basic bespoke tool that focused on identifying conditional propositions about how, when and why research evidence is used by policymakers. To pilot these procedures, AM and I independently conducted data extraction on ten papers in duplicate. We then reconvened to discuss and refine our procedures, before progressing to the bulk of the extraction work. We extracted all text fragments from sampled opinion papers that

contained explicit or derivable conditional or causal statements about the relationship between research evidence and policymaking. Statements were extracted and managed in the refined bespoke table, and re-stated as conditional propositions (e.g., taking the form "if…then", "if…then…because", or similar) (Booth, Sutton, & Papaioannou, 2016b).

Through a process akin to descriptive content analysis (Hsieh & Shannon, 2005), I began refining these statements – which, in their extracted form, remained 'close' to the original data – into more general propositions about the use of evidence in policymaking. This broader set of general propositions about evidence-to-policy processes is beyond the scope of this thesis, but will be reported in a future paper. For the purpose of this thesis, the initial theoretical propositions were derived from a sub-set of this list: those on how, why and in what respects deliberate efforts to institutionalize evidence-informed policymaking within policymaking organizations and/or settings. In brief, these propositions address four functional domains, all of which are hypothesized to be conducive to the achievement of evidence-informed policymaking: the *embedding* of evidence use processes within the infrastructure of government, the *formalization* of structures and procedures related to evidence uptake and use, the *normalization* of the use of evidence, and *mandating* the use of evidence. These propositions, including associated hypothesized mechanisms, are detailed in the introductory sections of the realist synthesis reported in **Chapter 5** of this thesis.

Stage 2: Searching for primary studies and appraising the evidence

The second stage described by Pawson et al. (2004) is made up of two steps: (2.1) *Searching for the evidence* and (2.2) *Appraising the evidence*.

Step 2.1: Searching for (and sampling) primary studies

Searching for empirical studies to test the candidate theory in a realist synthesis is an iterative process, often requiring several, progressively more specific and deliberate encounters with the sources searched (whether they be databases, websites, reference lists, or others) (Pawson, 2006b). To test the program theory in this synthesis I drew on the same body of empirical literature as in the thematic synthesis, that is, primary qualitative studies that describe, evaluate, explain or otherwise investigate the relationship between research evidence and health policymaking. The comprehensive inventory of 319 such studies that emerged from the systematic review (the methods for which are described above) served as the 'sampling frame' from which studies were drawn to test and refine the theory and its constituent propositions in this synthesis.

Unlike in conventional systematic reviews – and similar to many qualitative evidence syntheses – in this synthesis I did not aim to work with a 'census' of all possible studies that could address the review questions. Instead, I sampled studies to strategically investigate the evolving synthesis questions until a degree of conceptual or theoretical 'saturation' (Glaser & Strauss, 1967) was achieved and the questions had been satisfactorily addressed. Deciding the exact cut-off point is, of course, a subjective determination; I attempted to draw the line when "sufficient evidence [was] found such that it [was deemed] reasonable to claim that the theory is *coherent and plausible*" (Wong et al., 2013, p. 30, emphasis added).

The included studies therefore constitute a purposive sample of the much broader literature on evidence use in health policymaking. The inventory of 319 studies identified in the systematic review described earlier was searched for studies that examined health policymaking in the context of deliberate efforts to institutionalize norms of evidence use, or to systematize

evidence use processes. These studies were prioritized for analysis in the review. With the knowledge that some studies of relatively low relevance and rigor can still sometimes yield useful 'nuggets' of information, the inventory was searched a second time for studies that mentioned institutionalization efforts, even if these were not the core focus of the study. This second batch of studies was then integrated into the synthesis. Finally, a third round of sampling was used to identify studies that might provide either corroboratory or disconfirming evidence of the developing synthesis.

Following selection for inclusion in the synthesis, backward citation tracking was done by scanning the reference lists of included studies, and forward citation tracking conducted using Google Scholar, in order to locate any sibling papers linked to the included studies. Unpublished materials associated with the main 'index' paper – including working papers, dissertations and alternative or longer-form versions of the article, background technical documents, and so forth – can serve as useful sources of data, sometimes more richly shedding light on the social mechanisms and contexts underlying the manifestation of outcomes than actual published papers, the latter of which may be subject to more rigid reporting (e.g., word count) restrictions. More commonly, however, sibling papers took the form of published academic articles from the same study as the main paper. In some cases, where the index paper reported on a multiple case study, supporting papers were located that reported on the constituent single case studies (e.g., of one country or policy process). In other cases – particularly when the index paper reported the findings of a program evaluation – sibling papers often reported on pre-evaluation formative work. The latter tended to provide more rich contextual information that the main evaluation paper.

Step 2.2: Appraising the evidence

The realist version of quality appraisal involves assessing candidate evidence fragments on both *relevance* and *rigor*. The former refers not to a list of study-level inclusion criteria, but to whether an evidence fragment (e.g., passage, paragraph, section of a study, participant quotation, etc.) provides evidence that is useful to the testing the review's theory. The latter is not defined according to a pre-defined quality checklist, but is based on whether the relevant inference in the original study can be considered credible and trustworthy, following an assessment of how well it is supported in the original source (Pawson, 2006b).

An important facet of how study quality is dealt with in realist synthesis is the principle, articulated by Pawson (2006a), that sometimes "the worth of a study is determined in the synthesis" (p. 141) in that "[t]here are often nuggets of wisdom in methodologically weak studies" (p. 127). Therefore, a small number of studies that appeared to be either generally poorly conducted, of relatively low relevance to the synthesis question, or both, were included because of unique, insightful and useful interpretive passages that, while presented in the context of a generally weak analysis, nonetheless enriched the synthesis.

Unlike in standard syntheses – including the thematic synthesis in this thesis – in which judgements of relevance tend to take place at a single time-point, and rigor at a second discrete time-point, judgements of relevance and rigor in this realist synthesis were made constantly over the course of the process of data extraction and analysis.

Stage 3: Extracting data and synthesizing findings

The third stage of a realist synthesis marks the shift from seeking out relevant empirical data to actually analyzing those data against the preliminary theory developed earlier and

synthesizing data to generate novel findings. This stage consists of two steps, which in this review were conducted concurrently: (3.1) *Extracting the data* and (3.2) *Synthesizing findings*.

Step 3.1 and 3.2: Extracting the data and synthesizing the findings

I personally read and reread all included study papers. During the first reading, I conducted a round of 'soft deductive coding' by informally highlighting potentially relevant fragments of text and using annotations to explain their identification with one or more of the functional categories of evidence use institutionalization described above (i.e., embedding, formalizing, normalizing and mandating), and their possible illustration of configurations of contexts, mechanisms and outcomes anticipated in the initial program theory. During the second reading of each paper I began a more formal process of coding study fragments on these categories, and at this point also allowed CMO codes to inductively emerge from the data. Unlike in the first review – in which I employed line-by-line coding per Thomas & Harden's (2008) Thematic Synthesis – not all fragments of text within study papers were assigned codes, as in some cases full sections of papers were not of relevance to the synthesis.

In realist synthesis, "the primary data [are] regarded as case studies, whose purpose is to test, revise and refine the preliminary theory. It is expected that they will reveal a mix of methods, a mix of information and, above all, mixed messages" (Pawson, 2006b, p. 74). In conducting the analysis I set out to identify the differential manifestation of relevant outcomes on the basis of contexts and mechanisms, and the differential expression of mechanisms according to features of the context (broadly defined). Consistent with the principles of realist inquiry, the analysis process was highly iterative. I regularly shifted between interrogating empirical cases, refining the emergent theory, and revisiting the sampling frame for further empirical evidence to test the theory's constituent propositions as they evolved.

Conduct of the synthesis involved, *inter alia*, the use of reasoning processes described by Pawson (2006b) as "juxtaposing, adjudicating, reconciling, consolidating and situating the evidence" (p. 76). In some cases, for example, two included studies were *juxtaposed* such that observations from one (e.g., on mechanisms) helped to make sense of and explain findings in another (e.g., on outcome patterns). In others, seemingly contradictory findings were resolved through *adjudication,* by appealing to the relative methodological strengths of one study compared to another, or *reconciled* by identifying contextual factors that explain the apparent contradiction. In others still, multiple competing causal explanations identified across included studies were *consolidated* into more sophisticated, multi-faceted explanations, or their comparison across cases facilitated greater understanding of their "scope conditions," allowing for the survival of each rival explanation but in a more contextually *situated* form.

Stage 4: Drawing conclusions and making recommendations

The output of the analysis process just described was a refined version of the program theory on the mechanisms underlying deliberate efforts to institutionalize the use of evidence in health policymaking, and the contextual conditions that trigger or otherwise modify the activity of these mechanisms. The analytical findings of this synthesis were presented in the form of refinements to the four propositions that made up the initial theory. These four propositions are revisited, one by one, in the Discussion section of the realist synthesis (in **Chapter 5**) and refinements are proposed on the basis of their examination against the included empirical cases. In addition, an exploratory "rival program theory" was proposed, on the basis of evidence on the potential unintended and unanticipated consequences of institutionalization efforts that emerged from my examination of the included primary studies.

Realist case study methods

Realist case study purpose and objectives

The final original research contribution in this thesis is a case study (presented in **Chapter 6**) in which I apply a realist approach to analyze stakeholder conceptions of the effects of a complex, multi-component strategy to strengthen the use of evidence in national health policymaking in West Africa. The case study investigates a knowledge transfer platform implemented by the West African Health Organization (henceforth the WAHO-KTP), under the umbrella of the donor-funded 'Moving maternal, newborn and child health Evidence into Policy in West Africa Project' (the MEP Project). The WAHO KTP is a set of individual-, organizational- and institutional-level interventions targeting multiple actors in West Africa. Through this study I set out to capture the 'folk theories' of program designers and other stakeholders – their assumptions and ideas about how the WAHO KTP is expected to achieve its objectives – in the form of a program theory that, in future evaluative work, could be subjected to proper empirical scrutiny.

The stated purpose of this study at its outset was:

> *To identify possible explanations of the processes through which WAHO's Knowledge Transfer Platform promotes the use of research evidence in national health policymaking, and to generate a realist program theory that can be tested in future research.*

I also set out a list of specific objectives at the start of the study, namely:

1) To describe the vision and ethos (philosophy) underlying the design of WAHO's Regional Knowledge Transfer Platform, from the point of view of program designers and other stakeholders;
2) To identify and describe the outcomes related to the use of evidence in policymaking that the WAHO Knowledge Transfer Platform is intended to generate; and
3) To hypothesize the key generative mechanisms through which stakeholders expect the WAHO Knowledge Transfer Platform to produce these outcomes, and to contemplate the contextual conditions in which these mechanisms are likely to be activated.

The output of this study is an empirically-derived description of the key assumptions behind, and mechanisms and outcomes underlying, the WAHO KTP, from the point of view of its main stakeholders – namely, the program designers, funders and implementers, as well as others with links to organization's work (e.g., key policy actors in WAHO Member States).

Study design and methodology: A realist case study

This study takes the form of an in-depth single case study (Yin, 2013). Case studies are useful for answering 'how' and 'why' questions through the in-depth exploration of a phenomenon or phenomena in context (Yin, 2013). A case study can shed light on the complexity of the key factors and processes influencing social phenomena, and thus is a suitable design for the study of the processes underlying decision-making in health policy and health systems, given their dynamic, non-linear and unpredictable characteristics (Gilson, 2012). The processes underlying evidence use in policymaking, and therefore the mechanisms associated with WAHO's KTP, are highly dependent on the contexts in which they are implemented and received, and in which their outcomes are expected to manifest.

I have labelled this study a 'realist case study' because in designing its methods I drew heavily on realist evaluation methodology (Pawson & Tilley, 1997), however, the study does not constitute a "full" or "complete" *realist evaluation*. Theories – in particular those in the middle-range of abstraction – are central to realist inquiry: while some studies set out to test an established program theory, culminating in its validation, refinement, or refutation, others involve the conduct of empirical work to generate or propose such a theory, which can later be subjected to further empirical scrutiny. This project takes the latter form, aiming ultimately to generate and propose a novel program theory specific to the effects of WAHO's KTP on evidence-informed national health policymaking in West Africa. Therefore this study is not a

realist evaluation because rather than testing and refining a program theory the study aims to generate information that will help to *develop* a theory that can later be tested and refined (e.g., in a future realist evaluation).

Data sources and methods of data collection

In this section I describe the sources of data and methods of data collection used in this study. There is no "cookbook" approach to selecting methods in realist inquiry. Strictly speaking realist methodology is "method-neutral" (Pawson & Tilley, 1997) and the data sources chosen should follow from the focus of the study and the questions being investigated. Data in the present study were drawn exclusively from qualitative sources, reflecting both the exploratory character of the work and the interpretive nature of the research questions.

I drew on three broad categories of data: (1) *observation* (mainly non-participant) of the work of WAHO in general and the oversight and implementation of the WAHO KTP in particular; (2) a diverse array of *documents* related in various ways to the program; and (3) key informant *interviews* with program designers, funders and implementers, as well as other stakeholders of the program, including potential program beneficiaries (i.e., national-level policymakers). The details of these sources of data, and the methods used to collect them, are described in the sub-sections that follow.

Observation

Between June 2018 and September 2019, I conducted extensive observation of WAHO's work, both at the organization's headquarters, as well as key meetings in the West African region and abroad. First, between June and October 2018, I conducted four months of preliminary fieldwork at WAHO headquarters in Bobo-Dioulasso, undertaking an (unpaid) attachment in the office of WAHO's Head of Research, Professor Issiaka Sombié (details of this arrangement and

my formal letter of invitation from WAHO's Director General to conduct this work can be found in **Appendix C**). Throughout this attachment, I was embedded in the Department of Planning, Research and Health Information, working alongside professional staff of WAHO's Health Research Unit to familiarize myself with the internal workings of the organization and to build rapport with the members of staff responsible for designing and implementing the WAHO KTP. Over the course of this initial phase I conducted informal exploratory discussions with senior WAHO professional staff, the majority of whom later gave more formal interviews in a subsequent phase of fieldwork.

Following the initial phase of observation, I began observing (and, in some cases, actively participating in) key meetings and activities related to the organization's work in general and the WAHO KTP in particular. Between November 2018 and September 2019, I attended meetings in Bénin, Burkina Faso, Canada and Nigeria. These included embedding myself in the Research Unit's delegation to the Canadian Conference on Global Health in Toronto, Canada (November, 2018), observing the entirety of the week-long Assembly of Health Ministers forum in Cotonou, Bénin (April-May, 2019), and participating in the 2019 edition of the annual *Nigeria Research Days* event (itself a component intervention of the WAHO KTP) in Abuja (September, 2019). Observational data collection at WAHO headquarters in Bobo-Dioulasso continued during the period of March to August 2019, during which the majority of this study's interviews (discussed below) were conducted.

Documents

Prior to any formal fieldwork, I conducted an unstructured desk review of documents related to WAHO to gain a general understanding of the organization's history, main objectives and activities. These included, for example, WAHO Strategic Plans (WAHO, 2002, 2008,

2015h), core ECOWAS documents (e.g., ECOWAS, 1993), and academic articles describing

WAHO's activities in the region (e.g., Aidam & Sombié, 2016; Ojomo, 2017a, 2017b).

For the more formal analysis addressing this study's research questions, I sought all

documents related directly to WAHO's efforts to strengthen evidence use by WAHO Member

State Ministries of Health, with particular focus on the WAHO KTP. These included: program

webpages, internal WAHO strategic documents, documents describing the work of the Health

Research Unit, evaluations and activity reports of WAHO KTP interventions and activities, and

relevant literature from the project's donors. Forty-three documents were included in all. These

are listed and described alongside the case study results in **Chapter 6**.

Key-informant interviews

In this study I sought the perspectives of program stakeholders on how and why they

expected the WAHO KTP to achieve its intended outcomes. I aimed to conduct interviews with

stakeholders who could provide an informed perspective on the MEP Project (its objectives,

funding, and implementation) and the WAHO KTP (including its component interventions,

process of development and evolution). I also interviewed other informants who, while not

necessarily intimately familiar with MEP and the WAHO KTP, nevertheless could provide

general insights on WAHO's ability to strengthen research systems and impact policy

development processes in the West African region. Stakeholders with direct knowledge of the

program generally fell into three (sometimes overlapping) categories: program funders (staff of

the Canadian donor agencies that provide the majority of MEP's funding), program designers

(WAHO officials and other staff, especially within the organization's Research Unit), and

program implementers (WAHO staff, as well as contracted consultants, responsible for

delivering the various interventions of the KTP).

Internal WAHO informants were recruited through my main WAHO contact, Professor Sombié, and were contacted via email to request their participation in the study. The names and contact details of other informants were obtained primarily through snowball sampling. Written informed consent was obtained from all interview participants. Informants were advised of their right to withdraw from participation in the research at any point. No financial incentives were offered to interview participants. I personally conducted all interviews. In-person interviews were conducted at mutually agreed locations, usually the participants' offices. Interviews were audio recorded with the consent of the informants. All data were stored securely on a password-protected computer.

The content of the interviews varied depending on the informant and the period of the study. In realist inquiry, interviews are usually driven by the researcher's evolving working theory of the phenomenon under investigation (Pawson, 1996), and are often carried out through what has been termed a 'teaching and learning' cycle (Manzano, 2016). In short, interviews involve a combination of 'teaching' the informants about the evolving program theory, and 'learning' their understandings of how the phenomena of interest operate, and the degree to which their understandings comport with the evolving theory. Therefore, the interviewer and the interviewee exchange the roles of 'teacher' and 'learner' over the course of the interview.

My interviews with core program designers and implementers – especially in the middle to latter stages of the study – resembled these types of realist interviews. Interviews began with questions related to the stakeholder's role(s) within or in relation to WAHO's work on evidence use, and their understandings of the goals of the MEP Project and WAHO KTP. Informants were asked to hypothesize about the likely effects (i.e., outcomes), mechanisms of action, and contextual variability of the WAHO KTP intervention components with which they had

familiarity, as well as the intended mechanisms associated with overarching aspects of the

program's ethos. Some interviewees did not have direct, intimate familiarity with the program

under investigation, but I was still able to elicit their understandings and perceptions of WAHO's

work on strengthening health systems in the region, and its potential influence on linking

research with policy to achieve health system strengthening objectives. These interviews were,

perhaps unsurprisingly, less structured and more open-ended than some of the more structured

'realist' interviews conducted with core program designers and implementers. The sample topic

guide (in **Appendix D**) contains a representative list of the *types* of questions I pursued in the

more structured interviews. In **Chapter 6**, I provide a description of the 32 interview participants

for this study, who in total gave 39 interviews.

Methods of data analysis

The analysis of data in this study took place over three (iterative and overlapping)

"stages." First, I read (and, if relevant, listened to recordings of) each data source with the aim of

developing an immersive understanding of its content and meaning. This "stage" did not

necessarily precede the stages that followed, but was repeated as new interview data (or, indeed,

documents or field notes) became available.

Second, I developed preliminary analytical categories to "code" fragments of the data

identified as potentially important or relevant. During this stage I placed a great deal of emphasis

on identifying and understanding the intended *outcomes* of the WAHO KTP program. Where

possible, I also provisionally classified text fragments as referring to aspects of *context* and/or

mechanism, in line with realist analytical reasoning. This stage involved the use of procedures

very similar to what is sometimes called 'conventional' qualitative content analysis (Hsieh &

Shannon, 2005), which is a highly inductive process. Conventional content analysis has the

advantage of "gaining direct information from study participants without imposing preconceived categories […] [so that] knowledge generated […] is based on participants' unique perspectives and grounded in the actual data" (Hsieh & Shannon, 2005, pp. 1280-1). This approach is consistent with the overarching aim of this chapter, that is, to elicit and describe stakeholder perceptions and assumptions.

During the third stage of data analysis, I applied retroductive reasoning in my rereading and re-interpretation of the data fragments previously identified as potentially relevant, attempting to postulate and flesh out the causal forces (i.e., mechanisms) underlying the stakeholder accounts of the WAHO KTP (Sayer, 2000). Retroduction involves both inductive and deductive modes of reasoning, in addition to the use of "hunches" and one's "informed imagination" (Greenhalgh et al., 2017). This stage also involved, out of necessity, a form of abductive reasoning – inference to the best explanation (Tavory & Timmermans, 2014) – to fill in gaps where mechanisms were either not well-described within data sources or "remained hidden" in stakeholder narratives (Papoutsi et al., 2018). Much of this reasoning was done in the text of my fieldnotes, which were then fed back into the analysis as data sources in their own right.

During the analysis process I attempted to strike a balance between the pragmatic reduction of data to a manageable volume and format, on the one hand, and the preservation of the essence of the data (e.g., the original meanings of the informants' words) on the other (Gale, Heath, Cameron, Rashid, & Redwood, 2013). To facilitate this, and to provide a check on the robustness of the emerging findings, I occasionally revisited and re-interrogated documents, notes and interview records, attempting to detect competing explanations and hitherto unconsidered interpretations. Throughout the entire process of data analysis I kept detailed

written memos describing reflections on the data and the experience of conducting the analysis, attempting to document the processes through which themes emerged and evolved, and chronicling major analysis decisions.

Ethical considerations

Ethical clearance for this study was granted by the University of Oxford's central ethics review committee and the Burkina Faso Ministry of Health's Comité d'Ethique pour la recherche en santé. During the early planning phases of this project, I endeavoured to engage critically with the ethical implications of, and challenges related to, the conduct of this project by consulting the literature on research ethics in health policy and systems research (e.g., Hyder, Pratt, Ali, Kass, & Sewankambo, 2014), by considering the ethical implications of my methodological plans, and through reflection on my positionality vis-à-vis the phenomena being investigated and the participants with whom I intended to work. My supervisor in Oxford and mentors in Ghana and Burkina Faso were invaluable sources of knowledge and support in this process. In addition to the conventional ethical requirements of limiting participant burdens and risks, and balancing these with the benefits of the research, other ethical issues of particular importance to international health research of this kind – namely *justice*, *responsiveness* to the research community and other stakeholders, and *reciprocity* vis-à-vis research participants – were identified, and their relationship to my project critically engaged with.

Conclusion

In this chapter I have presented in detail the methodological approach taken in this thesis. I started the chapter by sketching the basic tenets of realist methodology, which serves as the basis for two of the three original research contributions in this thesis. I then turned to a detailed description of the methodological procedures I used in carrying out the original research for this

thesis: a thematic synthesis, realist synthesis and realist case study, each addressing separate but

interrelated questions related to evidence use by health policymakers. This marks the end of the

background portion of this thesis. I now turn to **Parts 2 and 3** – which together constitute the

bulk of this document – in which I present the findings of this research.

Part 2: Qualitative syntheses on evidence use in health policymaking: Realist and thematic approaches

Chapter 3: A systematic review of qualitative research on the use of evidence in health policymaking

The ensuing three chapters of this thesis present the findings of a major systematic review and pair of evidence syntheses on the role of research evidence in health policymaking. Before turning to the substantive contributions of this undertaking – that is, the findings of the thematic synthesis on factors affecting evidence use (in **Chapter 4**) and the realist synthesis on the institutionalization of evidence use processes in health policymaking (in **Chapter 5**) – I use the present chapter to:

1) Provide a rationale, both for conducting an exhaustive systematic review of the peer-reviewed qualitative literature on evidence use in health policymaking, and for the thematic and realist syntheses that grew out of it; and
2) Present the results of the searching, screening, sampling and data extraction phases of this review in order to set the stage for the thematic synthesis and realist synthesis, which follow in the subsequent chapters.

This chapter is presented in three sections. In the first section, I summarize the approaches taken in previously published systematic reviews of (qualitative) evidence on health policymaking, describing important gaps in and limitations of this review literature and how the thematic synthesis in Chapter 4 builds on this work. In the second section, I summarize the two previous realist(-inspired) reviews on interventions related to evidence use in policymaking, illustrating important gaps that are addressed by the realist synthesis in Chapter 5 of this thesis. These summaries are not meant to re-state the findings of these reviews and syntheses, but rather to illustrate some of their strengths and weaknesses, contributions and gaps, to illustrate the need for the review and syntheses I conducted for this thesis. In the third and final section I describe the results of the searching, screening and sampling phases of this review, setting the stage for the syntheses in Chapters 5 and 6.

Previous reviews on the factors affecting evidence use by health policymakers

Six systematic reviews of qualitative studies with a significant focus on the use of research evidence by health policymakers had been published when this review began (Innvær et al., 2002; Lavis et al., 2005; Liverani et al., 2013; Masood et al., 2020; Oliver et al., 2014a; Orton et al., 2011). The topical scope, inclusion criteria, methods, and search dates of these reviews, and the number of studies included in each, are summarized in **Table 5**.

The first systematic review on this topic summarized the published literature on the barriers to and facilitators of evidence use in health policymaking up to June 2000, locating 24 studies (Innvær et al., 2002). This was followed in 2005 by a review on the factors affecting the use of evidence by health policymakers and managers to inform a larger study on how systematic reviews can be made more useful for decision-makers (Lavis et al., 2005). Lavis et al. (2005) explicitly drew on the methods of Innvær et al. (2002). Both reviews provided a list of the most important barriers and facilitators to evidence use that were reported in primary studies, alongside a narrative discussion of their findings. Neither provided a transparent assessment of study quality or applied interpretive synthesis methods.

Oliver et al. (2014a) updated and expanded upon these two early reviews in September 2012, by looking at the barriers to and facilitators of the use of research evidence across all policy sectors (i.e., not just health). They provided an exhaustive mapping of the barriers and facilitators literature, but they did not attempt a cross-study interpretive synthesis of study results, nor did they appraise the quality of included studies according to any criteria. Rather, the barriers and facilitators reported by primary study authors were simply tallied in a 'vote-counting' procedure, summed across studies, and presented in tabular form without accounting for the particulars of the included studies or the quality of the methods used.

Table 5: Previous systematic reviews of evidence use in health policymaking

Citation	Topical scope / Review question(s)	Inclusion criteria	Description of Method(s)	Search Date *No. of studies included*
Innvær et al. (2002)	Facilitators of and barriers to the use of research evidence by health policymakers	- Studies examining barriers/facilitators of evidence use - Interview studies and surveys	- Tally of barriers and facilitators - Narrative discussion - No quality appraisal	June 2000 *24 studies*
Lavis et al. (2005)	Factors influencing the use of evidence by health care policymakers and managers	- Not explicitly stated, but modelled on Innvær et al. (2002) - No study design restrictions	- Ranking of barriers and facilitators - Narrative review - No quality appraisal	Search date not provided *17 studies (10 included policymakers)*
Orton et al. (2011)	Evidence use by public health actors (including policymakers): - Extent of evidence use - Types of research used - Process of evidence use - Barriers and facilitators to evidence use; other factors	- Studies examining evidence use in public health - Settings with universal health care systems - No study design restrictions	- Narrative discussion - Quality appraisal using CASP tool	March 2010 *18 studies*
Liverani et al. (2013)	Political factors affecting evidence use in public health policy, including: - Political features - Institutional mechanisms - Other contextual factors	- Studies examining evidence in the public health policy process - No study design restrictions	- Narrative discussion - No quality appraisal	May 2012 *56 studies*
*Oliver et al. (2014)	Barriers to and facilitators of the use of evidence by policymakers (all sectors)	- Studies examining factors affecting evidence use - Primary studies or systematic reviews	- Tally of reported barriers and facilitators - No quality appraisal	September 2012 *145 studies* *Update to Innvær et al. (2002)
†Masood et al. (2020)	Evidence use by public health policymakers: - Extent of evidence use - Types of research used - Process of evidence use - Factors other than evidence that influence policy decisions - Facilitators of and barriers to evidence use	- Studies examining evidence use in public health policy decision-making - Settings with universal health care coverage - No study design restrictions	- Narrative synthesis - Quality appraisal with CASP tool and Mixed Methods Appraisal Tool	January 2016 *16 studies* †Update to Orton et al. (2011)

A fourth review (Orton et al., 2011; up to date as of March 2010) extended beyond barriers and facilitators to include studies examining a range of facets of the public health decision-making process, but limited their included studies to those conducted in countries with universal healthcare systems (effectively excluding studies conducted in low-income countries, intergovernmental policymaking bodies, and the United States). While the review was narrow in geographic scope, it was broader in topical focus than other reviews. The authors examined five areas: the extent of evidence use, the types of evidence used, the process through which evidence is taken up, factors competing with evidence to influence decision-making, and barriers to and facilitators of evidence use. However, like Oliver et al.'s review, no attempt was made to synthesize data across studies to generate novel or higher-level conceptual understandings of the data. An update to the work of Orton et al. – using similar inclusion criteria and methods – was subsequently published (Masood et al., 2020; up to date as of January 2016).

Finally, Liverani et al., 2013 (up to date as of May 2012) systematically reviewed the literature examining the political and institutional influences on evidence use in public health policy. The authors did not restrict their review by study design or setting, and included any work that presented *some* data that shed light on political factors related to the evidence-policy relationship, even if tangential to the central question of the study (indeed, the authors note that most of the 56 studies included in their review made "only passing mention" of factors related to their research questions). No quality appraisal was conducted, and the results were presented narratively.

In general, these reviews engaged little with existing theories, either of knowledge utilization or of political decision-making and the policymaking process, and none applied interpretive methods of qualitative synthesis with the aim of generating novel theoretical

insights. Three focused either heavily or exclusively on identifying and cataloguing barriers to and facilitators of evidence use (Innvær et al., 2002; Lavis et al., 2005; Oliver et al., 2014a), while the reviews that covered the most broad range of issues related to evidence-to-policy processes only included studies from a very narrow range of settings (i.e., non-U.S. high-income countries) (Masood et al., 2020; Orton et al., 2011).

Moreover, over the years since these reviews were conducted it is almost certainly the case that much new relevant research has been published. At the time that this review was being prepared, the most recent comprehensive searches of the literature on evidence use in health policy were conducted in September 2012 (Oliver et al., 2014a). Roughly half of the 145 studies included in Oliver et al.'s review (spanning 2000-2012) were published in 2011 and 2012 alone, suggesting a rapidly expanding literature that has no doubt grown substantially during the years since their searches were conducted.

In summary, based on this 'scoping' of the systematic review literature on this topic, it was determined that an updated, global systematic review and thematic synthesis of the literature on evidence-to-policy processes in health was warranted. To fill some of gaps identified in previous syntheses, the thematic synthesis presented in **Chapter 4** was designed to include an assessment of the methodological quality of its included studies through application of a bespoke critical appraisal tool. This was also the first synthesis on this topic to apply a genuinely interpretive qualitative synthesis technique – Thomas and Harden's (2008) thematic synthesis – to synthesize data across studies to generate analytical findings, rather than simply narratively summarizing the aggregated results of included studies.

Previous realist or realist-inspired reviews on evidence use in policymaking

Compared to the systematic narrative and thematic reviews just discussed, the literature on evidence-to-policy processes in health has received comparatively little attention from realist-informed review perspectives. Still, two previously-conducted realist reviews were identified, and warrant discussion because of their relevance to the realist synthesis presented in **Chapter 5**. The research questions and basic design and methodological characteristics of these two reviews are summarized in **Table 6**.

Table 6: Previous realist syntheses on evidence use in health policymaking

Citation	Relevant review question(s)	Inclusion criteria	Data sources	*No. of included studies*
Punton (2016)	How and in what circumstances can capacity development interventions: - promote individual behaviour change within organisations? - promote organizational, network and institutional change? - increase demand for and use of evidence in policymaking?	- Primary studies - Published from 2000 on - Health-related - Describe an intervention - Focus on capacity building for evidence use or public sector decision-making	- Iterative bibliographic database searches - Hand searching of journals and websites - 'Snowball' sampling	*15 studies*
Haynes et al. (2018)	What causal mechanisms can best explain the observed outcomes of interventions that aim to increase policy-makers' capacity to use research in their work?	- Primary studies - Published from 1999-2016 - Evaluations of interventions to improve or increase research use by policymakers	- Bibliographic database searches - Three previous reviews - Iterative Google and Google Scholar searches	*22 studies*

First, Punton (2016) conducted a modified realist synthesis to inform the future evaluation of the BCURE (Building Capacity to Use Research Evidence) program, which evaluated capacity building interventions to improve decision-making across multiple countries and policy domains (Vogel & Punton, 2018). This review included 15 studies that described (though not necessarily evaluated) capacity development programs to strengthen evidence use or

to improve public sector decision-making – what Punton refers to as 'demand-side' interventions – in order to validate the preliminary BCURE theory of change, and to determine how, why and under what conditions capacity building interventions generate changes in individual and organizational behaviour, and demand for and use of research.

More recently a similar review, labelled by its authors a "realist-informed scoping review" (Haynes et al., 2018), sought primary studies focusing on capacity building interventions, but only included studies that had conducted some type of formal evaluation. The aim of their review was to identify causal mechanisms explaining the relationship between these interventions and five sets of outcomes: policymaker capacity to access and apply evidence, their capacity to work with researchers and intermediaries (e.g., knowledge brokers), the establishment of workforce infrastructure supports, policymaker intentions to use evidence, and actual evidence use.

Taken together, the findings of these reviews furnish some potentially useful, tentative hypotheses about the likely mechanisms of action governing the relationship between capacity building programs and individual- and organizational-level outcomes related to evidence use (Haynes et al., 2018; Punton, 2016). They may provide some hints, therefore, about whether and how various capacity building initiatives might play into evidence-to-policy processes, and the contextual features that condition this.

However, these reviews were designed to address rather different questions than I am interested in tackling with the realist synthesis in this thesis. Whereas Punton and Haynes et al. focused specifically on targeted capacity building interventions to alter evidence use, which were focused primarily on individuals and sometimes organizations, in the realist synthesis reported in **Chapter 5** I am more concerned with the institutionalization of evidence use in policymaking,

including within policymaking contexts that are not directly exposed to targeted capacity building interventions.

Moreover these reviews had very little to say about the role of political and institutional contexts, ideological and cultural factors, and the role of governance mechanisms and governing contexts in promoting, incentivizing or otherwise affecting the likelihood of research being used in policymaking (in either desirable or undesirable ways). While the findings of any synthesis are limited by the contents of their included studies, neither of these reviews cast their net beyond primary studies describing and evaluating particular interventions, thus limiting the types of empirical evidence on which they could draw and their explanatory potential.

The realist synthesis reported in **Chapter 5** takes a different approach to those discussed above, drawing on the much wider descriptive and interpretive literature on evidence use in health policymaking, and aiming to characterize the underlying causal processes that generate both desirable and undesirable outcomes related to efforts to institutionalize evidence-informed policymaking.

Systematic review results

Having summarized the design, scope and methodological approaches taken in previous reviews, I now turn to a discussion of the results of the first phase of a comprehensive systematic review of the published qualitative literature on evidence use by health policymakers. The methods for this review are described in detail in **Chapter 2**. In brief: in this review I sought to comprehensively identify and tabulate all peer-reviewed qualitative research on the use of evidence by health policymakers. The output of this review served two functions. First, it allowed for a systematic mapping of various descriptive features of this body of literature – its geographical, temporal, methodological and theoretical characteristics, for instance – to identify

gaps in this evidence base and inform future research. This mapping was recently published

elsewhere (Verboom & Baumann, 2020). The full details of this systematic mapping are beyond

the scope of this thesis, but a summary of the most relevant descriptive features is provided

below. Second, the inventory of qualitative studies identified through this systematic review

functioned as the sampling frame for the thematic synthesis and realist synthesis that constitute

two of the original contributions of this thesis. The remainder of this chapter describes the

process of searching and screening for studies in this review and the characteristics of the studies

that were included in the sampling frame.

Searching and screening results

   The flow diagram in **Figure 3** summarizes the process of identification, screening and

selection of studies for this review. Nine-hundred and forty-seven papers were identified through

consulting the included studies of previous reviews, hand-searching all issues of 11 relevant

journals published since 2010, scanning the reference lists of included studies, and by reviewing

an inventory of studies on evidence use of which I was already aware. Of these 947 articles, 725

were unique, and their full-text versions were retrieved and retained.

   Searches of nine electronic bibliographic databases yielded 23,499 records, 13,846 of

which remained after manual and software-supported de-duplication. After title and abstract

screening, 345 potentially relevant and unique articles were identified and retained, bringing the

total number of unique papers for full-text review to 1,070. Following full-text review, 319

articles were ultimately found to meet this review's inclusion criteria (see **Appendix E** for the

full list of included studies).

```
┌─────────────────────────────────┐        ┌─────────────────────────────────┐
│ Records identified through journal│        │ Records identified through database│
│ handsearching, previous reviews,  │        │           searching              │
│ reference lists of included studies,│       │        (n = 23,499)              │
│ and screening articles already    │        │                                 │
│ known to the review authors       │        │                                 │
│        (n = 947)                  │        │                                 │
└─────────────────────────────────┘        └─────────────────────────────────┘
              │                                          │
              ▼                                          ▼
┌─────────────────────────────────┐        ┌─────────────────────────────────┐
│ Records after duplicates removed │        │ Records after duplicates removed │
│        (n = 725)                 │        │        (n = 13,846)             │
└─────────────────────────────────┘        └─────────────────────────────────┘
                                                         │
                                                         ▼
                      ┌─────────────────────────┐    ┌─────────────────────────┐
                      │   Records screened      │───▶│   Records excluded      │
                      │    (n = 13,846)         │    │    (n = 13,501)         │
                      └─────────────────────────┘    └─────────────────────────┘
```

Full-text articles excluded (n = 751)

Reasons for exclusion:
Not a primary study in a peer-reviewed journal (n = 176)
Not a qualitative study (n = 179)
Not focused on policy processes and/or policymaking (n = 151)
No major health focus (n = 37)
No significant focus on the use of research evidence (n = 208)

```
                      ┌─────────────────────────┐
                      │ Full-text articles assessed│
                      │     for eligibility      │────▶
                      │      (n = 1,070)         │
                      └─────────────────────────┘
                                │
                                ▼
                      ┌─────────────────────────┐
                      │ Studies included in sampling frame│
                      │       (n = 319)         │
                      └─────────────────────────┘
```

Studies included in sampling frame (n = 319)

Studies sampled for inclusion in thematic synthesis (n = 44)

Purposeful sampling phases:
Intensity Sampling (n = 18)
Maximum variation sampling (n = 16)
(Dis)confirming cases sampling (n = 10)

Studies sampled for inclusion in realist synthesis as 'main' or 'index' papers (n = 17)

Additional documents (including sibling papers) identified for realist synthesis through snowballing from sampled studies (n = 20)

Total documents included in realist synthesis (n = 37)

Figure 3: Diagram showing the flow of records, articles and studies through the search and screening process of the systematic review

Sampling frame characteristics

As described above, the 319 qualitative studies identified in this systematic review functioned as the sampling frame for the thematic synthesis and realist synthesis reported in this thesis. These studies, whose year of publication ranged from 1982 to 2019, were conducted in a diverse set of geographic and political settings, and focused on a variety of sub-topics related to evidence-to-policy processes (Verboom & Baumann, 2020). Some characteristics of the sampling frame warrant elaboration.

The vast majority of located studies (*n*=241; 76%) were published after 2009 – that is, during the roughly nine years leading up to the searches – confirming that the size of this literature has been growing exponentially. Indeed, as illustrated **Figure 4**, the five calendar years that produced the greatest number of included studies were 2014 through 2018, that is, the five most recent full calendar years captured by the review.
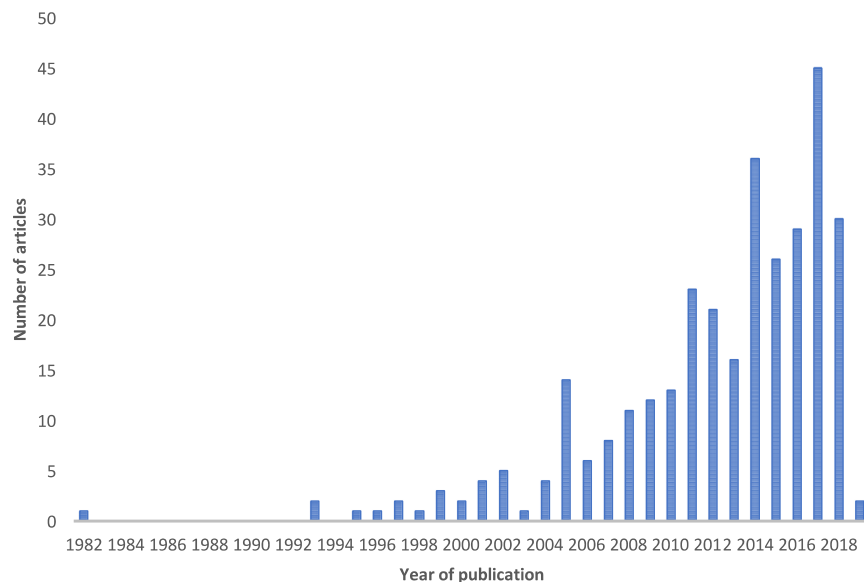
Figure 4: Number of studies identified for inclusion in systematic review by year of publication
Reproduced from Verboom & Baumann (2020)

The 319 studies were conducted in a variety of contexts. Seventy-two countries are represented in the sampling frame, with the United Kingdom (n=62, 19%), the United States (n=40, 13%), Australia (n=38, 12%), Canada (n=25, 8%) and Uganda (n=20, 6%) accounting for the largest number of studies. While Europe was (unsurprisingly) the continent that hosted the most studies (n=118, 37%), Africa was also well represented in the sampling frame (n=101, 32%). South America, however, was comparatively poorly represented (n=12, 4%). The included studies investigated policy decisions at all levels of governance – international (i.e., intergovernmental), national, provincial/state, and local – with many studies investigating multiple levels. Most looked at evidence use in national level policymaking (n=188, 59%), while a similar number investigated provincial/state (n=79, 25%) and local (n=75, 24%) policy.

Also of note are the methodological features of this literature. Echoing observations from previous systematic reviews (e.g., Oliver et al., 2014a) this review found that interviews (n=282, 88%) and documents (n=160, 50%) are by far the most common sources of data drawn upon by these studies. Methods of data collection that enable more in-depth, direct exposure to policymaking activities, such as (participant) observation (n=33, 10%) remain relatively uncommon in this area of research. Therefore, most of these studies depended on the elicitation of retrospective perceptions on the use of evidence from interviewees, sometimes combined with document analysis, rather than direct observation of policymaking activities in real time.

The validity and generalizability of the findings, interpretations and recommendations of a qualitative evidence synthesis are a direct function of the features of the evidence available to be synthesized. Both the strengths of this evidence base (e.g., its geographic diversity) and its weaknesses (e.g., the relative lack of direct, observational evidence) have implications for the

thematic and realist syntheses reported in this thesis. These issues are discussed alongside other strengths and limitations of these syntheses in **Chapters 4, 5 and 7**.

Conclusion

In this chapter I have provided a summary of previous systematic reviews and realist-informed syntheses on the use of evidence in health policymaking and, in doing so, have identified some of the key shortcomings of and gaps in this literature, several of which I address in this thesis. I also reported the results of a comprehensive systematic review of qualitative research on evidence use by health policymakers, and provided a description of the 319 studies it uncovered. This inventory of studies functioned as the sampling frame for two syntheses on evidence-informed policymaking – one a thematic synthesis on the factors affecting evidence use, and the second a realist synthesis on the institutionalization of evidence use in policymaking. The two chapters that follow report the findings of these syntheses.

Chapter 4: Factors affecting evidence use by health policymakers: A thematic synthesis

Introduction

Designing strategies to encourage the appropriate use of research evidence in health policymaking requires an understanding of the processes through which policymakers access, assess, and use evidence, including how various contextual factors affect evidence uptake. It also requires an appreciation for the ideological nature of policymaking in general (Lasswell, 1950), and (public) health policymaking in particular (Barnes & Parkhurst, 2014), and the processes through which political and institutional circumstances can influence whether and how evidence translates into policy (Liverani et al., 2013). Policymaking inevitably involves (often controversial) trade-offs between different values, priorities, and interests, including considerations related to public opinion, expected health outcomes, costs, perceived fairness and equity, and ethics (Bowen & Zwi, 2005). An understanding of how decision-makers weigh up research evidence against these competing priorities is a prerequisite to developing interventions to encourage these actors to use evidence more frequently and appropriately.

A growing body of primary qualitative literature has examined the role of research evidence in health policy decision-making (Verboom & Baumann, 2020). However, previous efforts to synthesize this work (e.g., Oliver et al., 2014a) have primarily taken an aggregative – rather than interpretive – approach. That is, reviewers have tended to pool and summarize data from existing primary studies without attempting to reinterpret reported findings 'across' studies and to generate novel conceptual or theoretical insights. The evolving family of qualitative review methods, sometimes collectively termed 'qualitative evidence synthesis' (Booth et al., 2016a) or 'qualitative metasynthesis' (Thorne, Jensen, Kearney, Noblit, & Sandelowski, 2004) is defined by efforts to 'go beyond' the aggregation of individual study findings to more critically

and interpretively synthesize evidence from qualitative research (Nye, Melendez-Torres, & Bonell, 2016). Unlike aggregative approaches, qualitative synthesis involves the integration of findings from multiple qualitative studies and, through consideration of the body of studies as a whole, is open (theoretically, at least) to producing inferences and interpretations that are not located in or derivable from any one included research report considered in isolation (Thorne et al., 2004).

The contributions and limitations of previous reviews on this topic are summarized in detail in **Chapter 3** of this thesis. The work presented in this chapter builds on these efforts by: 1) purposively sampling relevant qualitative studies to meet the review's objectives, 2) accounting for the methodological quality of included studies by applying an adapted version of two popular critical appraisal tools for qualitative studies, and 3) applying an interpretive synthesis technique (Thomas and Harden's Thematic Synthesis) rather than an aggregative approach to reviewing this literature. The overall contribution is a thematically synthesized narrative of the key factors influencing evidence-informed health policymaking, generated with a critical eye to uncovering patterns and contradictions, insights and limitations, both within and between included studies.

The next section describes the formal objectives of the review presented in this chapter.

Objectives

The primary objective of the thematic synthesis reported in this chapter was to identify, synthesize and classify evidence on the key factors affecting evidence-informed health policymaking – that is, the factors that influence whether and/or how policymakers make use of research evidence – by drawing on qualitative accounts of evidence use in health policymaking. The secondary objective – in tandem with the realist synthesis described in **Chapter 5** – was to

inform a methodological reflection comparing thematic reviews, on the one hand, and realist reviews, on the other, and their relative merits and shortcomings. This methodological reflection is presented in **Chapter 7**.

Brief summary of methods

Detailed methods for this thematic synthesis – its inclusion criteria, the procedures used to search for studies, screen records, and sample studies for inclusion, and the approaches applied to appraise study quality and synthesize the sampled studies – are provided in **Chapter 2**.

In brief, published studies were eligible for inclusion in this synthesis if they involved the application of qualitative methods to study the use of research evidence by public policymakers working on healthcare or public health policy. Eligible studies were identified through rigorous, exhaustive searching of nine electronic databases, hand-searching eleven journals, backward and forward citation tracking all identified eligible studies, and screening the lists of studies included in previous reviews in this topic area.

The titles and abstracts of identified records were screened in duplicate by two reviewers working independently, as were the full-text versions of all records that appeared potentially relevant. The population of relevant studies identified through this process functioned as the sampling frame, both for this thematic synthesis and for the realist synthesis reported in **Chapter 5**.

Three distinct phases of sampling were applied to select studies from the sampling frame for inclusion in the thematic synthesis. Through *intensity sampling*, thick studies that appeared to be of high quality and to contain rich data on factors affecting evidence use were selected. *Maximum variation sampling* was then used to diversify the sample by selecting studies with

characteristics not captured in the first phase. The final phase, *disconfirming case sampling*, involved intentionally reading studies that seemed to present surprising insights or interpretations that – when incorporated into the synthesis – would suggest of necessary modifications or qualifications to synthesis findings.

To aid interpretation of the findings of included studies, each was appraised on a number of domains of methodological quality using a bespoke quality appraisal instrument adapted from the CASP qualitative appraisal tool (Critical Appraisal Skills Programme, 2013) and the Joanna Briggs Institute Qualitative Assessment and Review Instrument (The Joanna Briggs Institute, 2014). All appraisals were conducted independently by two reviewers, with disagreements resolved through discussion. Each study was assigned an overall score of 'high,' 'moderate' or 'low' overall methodological quality.

Data extraction, management and analysis were aided by EPPI-Reviewer software. The contents of studies under headings labelled by study authors as results or findings, and discussion or conclusion(s) or interpretation(s), were treated as relevant data for this synthesis. Findings and themes, categories and concepts, diagrams and tables, and any other text that could be understood as study author interpretations, were treated as data for the purposes of the synthesis.

The thematic synthesis process itself closely followed procedures described by Thomas & Harden (2008). To identify descriptive themes, all data were coded line by line. All sections or fragments of text (e.g., sentences) were assigned at least a single code to describe their content and meaning. In many cases, multiple codes were assigned to individual fragments of text. As the descriptive codes began to accumulate, I organized them hierarchically into categories. Codes were periodically reconsidered and re-worked, and sub-divided or merged, to accommodate newly identified content. Analytical themes were subsequently developed by reading and

rereading all descriptively coded data and comparing and contrasting descriptive themes across studies. As the analysis process progressed, I eventually settled on a set of coherent analytical themes, which can be understood conceptually here as 'factors' that influence evidence use by health policymakers. Their constituent descriptive themes can be read as individual 'findings,' that is, empirical regularities about whether and how policymakers use evidence.

Findings

The searching and screening process uncovered a total of 319 published studies that met all inclusion criteria. The descriptive characteristics of these studies, which together constitute a comprehensive inventory of the qualitative research on the use of research evidence by health policymakers, are detailed elsewhere (Verboom & Baumann, 2020) and summarized in **Chapter 3**. The chart in **Figure 5** shows the flow of studies through the processes of screening, selection and sampling (with the boxes of greatest relevance to the thematic synthesis highlighted in bold). Of the 319 studies in the sampling frame, 44 in total were sampled for this thematic synthesis: 18 at the stage of intensity sampling, 16 through maximum variation sampling and 10 through disconfirming case sampling.

Records identified through journal handsearching, previous reviews, reference lists of included studies, and screening articles already known to the review authors
(*n* = 947)

Records identified through database searching
(*n* = 23,499)

Records after duplicates removed
(*n* = 725)

Records after duplicates removed
(*n* = 13,846)

Records screened
(*n* = 13,846)

Records excluded
(*n* = 13,501)

Full-text articles assessed for eligibility
(*n* = 1,070)

Full-text articles excluded (*n* = 751)

Reasons for exclusion:
Not a primary study in a peer-reviewed journal (*n* = 176)
Not a qualitative study (*n* = 179)
Not focused on policy processes and/or policymaking (*n* = 151)
No major health focus (*n* = 37)
No significant focus on the use of research evidence (*n* = 208)

Studies included in sampling frame
(*n* = 319)

Studies sampled for inclusion in thematic synthesis
(*n* = 44)

Purposeful sampling phases:
Intensity Sampling (*n* = 18)
Maximum variation sampling (*n* = 16)
(Dis)confirming case sampling (*n* = 10)

Studies sampled for inclusion in realist synthesis as 'main' or 'index' papers (*n* = 17)

Additional documents (including sibling papers) identified for realist synthesis through snowballing from sampled studies
(*n* = 20)

Total documents included in realist synthesis
(*n* = 37)

Figure 5: Diagram showing the flow of records and studies through the search and screening process of the systematic review, and the three stages of purposive sampling for the thematic synthesis

Characteristics of included studies

Forty-four qualitative studies were included in the thematic synthesis. A summary of the basic characteristics of each of the included studies is provided in **Table 7**. For reporting purposes, each included study is assigned a unique ID number (between 1 and 44). Over half of the sampled studies were published during the five-year period prior to the database searches for this review (conducted in January 2019). Twenty-nine sampled studies were published during or after 2010, 14 were published between 2000 and 2009, and one study was published before 2000. While the majority of studies focused on a single country setting, eight focused on two or more, often in comparative perspective. In all, 36 countries are represented in the sample. The countries with the greatest representation are: the United Kingdom (nine studies); Australia, India, and the United States (four studies each); Canada, Malawi and Uganda (three studies each); and Iran, New Zealand, Nigeria, South Africa, Tanzania, and Vietnam (two studies each). The remaining 23 countries were the subject of one study apiece. All but one of the sampled studies relied on individual interviews, almost always with policymakers and researchers, but often including other policy process stakeholders as well, such as officials from multilateral bodies and representatives from international non-governmental organizations (NGOs), civil society organizations and industry groups. Twenty-one studies drew on documents as a data source, almost always in combination with other methods. Three studies each used focus groups and observational methods, in all cases in combination with other methods. A single study drew on documents alone as a data source. The average number of participants (among studies in which this information was reported) was approximately 36. This synthesis includes studies representing the perspectives of at least 1567 total participants. With regard to methodological quality, eight studies were assessed to be of low quality, 17 medium quality and 19 high quality.

Table 7: Characteristics of studies included in thematic synthesis (listed in order of publication year)

ID	Citation	Country(ies)	Policy Level(s)	Data Sources	Participants	No. of Participants	Quality rating
1	Florin (1999)	United Kingdom	National	Interviews	Policymakers (Technical/Administrative) Researchers Medical professionals	Not reported	Medium
2	Elliott and Popay (2000)	United Kingdom	Local	Documents Interviews Observation	Policymakers (Technical/Administrative) Researchers Others (Community development workers)	28	High
3	Lavis et al. (2002)	Canada	Provincial	Documents Interviews	Policymakers (Technical/Administrative)	Not reported	Medium
4	Nutley, Walter, and Bland (2002)	United Kingdom	National	Documents Interviews	Policymakers (Technical/Administrative) Researchers (Government)	9	Medium
5	Schwartz and Rosen (2004)	Israel	National	Interviews	Policymakers (Technical/Administrative) Other stakeholders	18	Medium
6	Hennink and Stephenson (2005)	India Malawi Pakistan Tanzania	National Local	Interviews	Policymakers (Technical/Administrative) Researchers (Government and external) Other stakeholders	48	Medium
7	Albert, Fretheim, and Maïga (2007)	Mali	National	Documents Focus groups Interviews	Policymakers (Technical/Administrative) International policy actors (WHO and EU) Others (Manager)	23	High
8	Smith (2007)	United Kingdom	National	Documents Interviews	Policymakers (Technical/Administrative, Political) Researchers (Government and external) Other stakeholders	58	High
9	Daniels and Lewin (2008)	South Africa	National	Documents Interviews	Policymakers (Technical/Administrative) Researchers	15	High
10	Jewell and Bero (2008)	United States	State	Interviews	Policymakers (Technical/Administrative, Political)	28	High
11	Sumner and Harpham (2008)	India Vietnam	National State/ Provincial	Interviews	Policymakers (Technical/Administrative) Researchers (External to government) International policy actors (e.g., UN, World Bank)	55	Medium
12	Bowen, Zwi, Sainsbury, and Whitehead (2009)	Australia	State	Documents Interviews	Policymakers (Technical/Administrative, Political) Researchers Medical professionals Other stakeholders	23	Medium

ID	Citation	Country(ies)	Policy Level(s)	Data Sources	Participants	No. of Participants	Quality rating
13	Ensor, Clapham, and Prasai (2009)	Nepal	National	Interviews	Policymakers (Technical/Administrative, Political)	Not reported	Low
14	Lomas and Brown (2009)	Canada	Provincial	Interviews	Policymakers (Technical/Administrative)	18	Medium
15	Woelk et al. (2009)	Mozambique South Africa Zimbabwe	National	Documents Interviews	Policymakers (Technical/Administrative) Researchers Medical professionals International policy actors Others (NGOs, Industry)	96	High
16	Frey (2010)	Switzerland	National	Documents Interviews	Policymakers	9	Medium
17	Flitcroft, Gillespie, Carter, Trevena, and Salkeld (2011b)	New Zealand	National	Documents Interviews	Policymakers (Technical/Administrative) Researchers Others (Civil society)	14	High
18	Haynes et al. (2011)	Australia	State	Interviews	Policymakers (Technical/Administrative, Political) Researchers Others (Civil society)	32	High
19	Hyder et al. (2011)	Argentina Egypt Iran Malawi Oman Singapore	National	Interviews	Policymakers (Technical/Administrative, Political)	83	Low
20	Ettelt, Mays, and Nolte (2012)	United Kingdom	National	Interviews	Policymakers (Technical/Administrative)	11	Medium
21	Hunsmann (2012)	Tanzania	National	Interviews Observation	Policymakers (Technical/Administrative) Researchers International policy actors (Donors) Others (NGOs, Civil society)	92	High
22	Nabyonga-Orem et al. (2012)	Uganda	National	Interviews Other	Policymakers (Technical/Administrative) Researchers	17	Medium
23	Parkhurst (2012)	Uganda United States	National	Documents Interviews	Policymakers Researchers Others (Civil society)	26	High

ID	Citation	Country(ies)	Policy Level(s)	Data Sources	Participants	No. of Participants	Quality rating
24	**Mirzoev et al. (2013)**	China India Vietnam	National State/ Provincial	Documents Focus groups Interviews	Policymakers (Technical/Administrative, Political) Researchers International policy actors (Donors) Others (Civil society)	131	Medium
25	**Rosella et al. (2013)**	Canada	National Provincial Local	Documents Interviews	Policymakers (Technical/Administrative) External scientific/clinical experts	40	High
26	**Smith (2013b)**	United Kingdom	National	Interviews	Policymakers (Technical/Administrative, Political) Researchers (Government and external) Others (Funders, Communications professionals)	62	High
27	**Sosnowy, Weiss, Maylahn, Pirani, and Katagiri (2013)**	United States	Local	Focus groups Interviews	Policymakers (Technical/Administrative)	47	Medium
28	**Boswell (2014)**	Australia United Kingdom	National	Documents Interviews Other	Policymakers (Technical/Administrative, Political) External scientific/clinical experts Others (Civil society, Industry, Media, Others)	36	High
29	**Imani-Nasab, Seyedin, Majdzadeh, Yazdizadeh, and Salehi (2014)**	Iran	National	Interviews	Policymakers (Technical/Administrative)	23	Low
30	**Nabyonga-Orem, Ssengooba, Macq, and Criel (2014b)**	Uganda	National	Documents Interviews	Policymakers (Technical/Administrative) Researchers Others (Civil society, Health sector managers, Industry, Media)	31	High
31	**Burchett, Mayhew, Lavis, and Dobrow (2015)**	Ghana	National Local	Interviews	Policymakers (Technical/Administrative) Researchers	69	High
32	**Strehlenert, Richter-Sundberg, Nyström, and Hasson (2015)**	Sweden	National	Documents Interviews Observation	Not reported	22	Low
33	**Field, Gauld, and Lawrence (2016)**	New Zealand	No specific focus	Interviews	Policymakers Researchers Others (Civil society, Industry)	54	High
34	**Katikireddi, Hilton, and Bond (2016)**	United Kingdom	National	Documents Interviews	Policymakers (Technical/Administrative, Political) Researchers Others (Civil society, Industry)	36	High

ID	Citation	Country(ies)	Policy Level(s)	Data Sources	Participants	No. of Participants	Quality rating
35	Mbachu et al. (2016)	Nigeria	National	Interviews	Policymakers Researchers International policy actors (Donors) Others (Civil society, Health workers)	10	Low
36	Mwendera et al. (2016)	Malawi	National	Interviews	Policymakers (Technical/Administrative) Researchers International policy actors (WHO) Others (Health sector managers, Others)	39	Low
37	Apollonio and Bero (2017)	United States	State	Interviews	Policymakers (Technical/Administrative, Political)	24	Medium
38	Barnsley, Walters, and Wood-Baker (2017)	Australia	State	Documents	N/A	N/A	Medium
39	Ettelt (2017)	Germany	National	Documents Interviews	Policymakers (Technical/Administrative) Researchers	9	Medium
40	Hawkins and Alvarez Rosete (2019)	Colombia	National	Documents Interviews	Policymakers (Technical/Administrative) Others (Civil society, Industry)	26	High
41	Mirzoev et al. (2017)	India Nigeria	National	Documents Interviews	Policymakers Researchers Others (Civil society, Health workers)	72	Low
42	van de Goor et al. (2017)	Denmark Finland Italy Netherlands Romania United Kingdom	National Local/ Regional	Interviews	Policymakers Researchers Other stakeholders	86	Medium
43	Waqa, Bell, Snowdon, and Moodie (2017)	Fiji	National	Documents Interviews	Policymakers (Technical/Administrative)	31	Low
44	Liverani, Chheng, and Parkhurst (2018)	Cambodia	National	Documents Interviews	Policymakers (Technical/Administrative) International policy actors Others (Consultants, NGOs, Research managers)	16	High

Thematic Synthesis: Factors affecting evidence use in health policymaking

This synthesis uncovered factors that affect whether or not policymakers use evidence and how research evidence is used in policy processes. For simplicity of presentation, I have organized these themes into four categories: 1) Factors related to the evidence supply; 2) Factors related to the interface between research and policy; 3) Political and policy process factors; and 4) Organizational and institutional factors. In **Table 8**, each of the factors affecting evidence use identified in this synthesis is listed, with a brief definition of each and a summary of the studies that contributed to each factor.

In the four sections that follow, I present the detailed results of this thematic synthesis, discussing each of the four categories of factors. For each category, a table is provided which summarizes the themes and their constituent findings.

Table 8: Summary of analytical themes (factors affecting evidence-informed policymaking)

Analytical themes (factors)	Description	Contributing studies
CATEGORY 1: FACTORS RELATED TO THE EVIDENCE SUPPLY		
Availability of evidence	(Perceived) availability of research evidence, either in general or the specific category, type or quality desired	5, 9-11, 13, 14, 16, 18, 19, 25, 27, 30, 35-37, 41, 42, 44
Accessibility of evidence	Level of ease or difficulty with which policymakers can access research evidence	4, 6, 7, 10, 14, 20, 22, 27, 29, 36, 42, 43
Reputation of the source	Degree to which the source of evidence – e.g., the researcher(s), research organization, or publication venue – is considered either trustworthy and credible, or biased and agenda-driven	7, 8, 10-12, 15, 16, 20, 22, 25, 30, 33-37
Starkness	Extent to which research findings and their implications are concrete, unambiguous and striking	6, 10, 12, 13, 19, 24, 31, 34, 42
Simplicity	Straightforwardness of packaging and presentation of evidence	6-8, 10-14, 19, 30, 37
Practicality	The relevance of available research to "everyday" policy concerns, as opposed to arcane, theoretical or philosophical issues	6, 11, 13, 18, 19, 31, 34, 36, 37, 41, 42
Actionability	Extent to which available research can be readily acted upon	4-8, 10, 11, 13, 14, 19, 21, 22, 30, 31, 34-37, 42, 44
"Settledness" and scientific uncertainty	Level of confidence or certainty in the "truth" of a set of findings – the settledness of an evidence base	1, 5, 8, 9, 15-18, 21, 25, 28, 30, 36
Relatability and the power of stories	Degree to which evidence is presented in a relatable way, especially when accompanied by personal anecdotes or stories	10, 12, 37
CATEGORY 2: FACTORS RELATED TO THE INTERFACE BETWEEN RESEARCH AND POLICY		
Communication and interaction	Contact between researchers and policymakers	2-4, 6-11, 13-16, 18, 19, 30, 34, 36, 37, 42
Relationships	Existence and closeness of personal relationships between policymakers and researchers	2, 4, 9, 10, 13-15, 18, 30, 33, 37, 42
Partnerships	Existence and functioning of collaborative partnerships between researchers and policymakers, either at individual or organizational level	2, 6, 7, 10, 13-15, 18, 22, 30, 34-36, 42
Researcher skills and knowledge	Capacity of academic experts to engage knowledgeably in policy processes and communicate effectively with decision-makers	6, 7, 11, 13, 19, 25, 36
Researcher charisma and persuasiveness	How engaging and charismatic a researcher or expert is perceived to be by policymakers	2, 11-13, 18
Expert authority and credibility	Degree to which researchers, other experts, are respected and considered credible and authoritative	7, 8, 10-13, 15, 18, 22, 30, 33, 34

Analytical themes (factors)	Description	Contributing studies
CATEGORY 3: POLITICAL AND POLICY PROCESS FACTORS		
Policymaker beliefs and perceptions	Policymaker opinions about the value of evidence and its rightful role in policymaking in general or a specific policy decision	5-10, 22, 25-27, 32, 41, 42
Policymaker knowledge and skills	Research-related skills and knowledge of health policymakers	2, 4, 7, 10, 14, 19, 22, 27, 29, 30, 33, 36, 37, 40, 43, 44
Policymaker exposure to research skills training	Exposure of policymakers or policymaking organizations to training in research-related knowledge and skills	7, 10, 19, 27, 36, 37, 43
Politics, conflict and contentiousness	Extent to which decision or issue at hand, or portfolio of policy actors involved, are marked by politics, conflict and contention	1, 3-6, 8-10, 15, 16, 18, 21, 24-26, 29, 39, 42
Technical nature of issue and scale of decision	Scale of change of (or implied by) a policy decision; extent to which it is narrow, technical and procedural, or complex and multifaceted	1, 3, 5, 7, 11, 15, 16, 18, 21, 24, 30-32, 41
Multi-sectorality	Extent to which a policy process or decision involves participation of multiple actors across multiple sectors of policy (e.g., agencies of government)	5, 15, 21, 26, 43, 44
Tight policymaking timelines	Temporal pressure or constraints on policymakers	5, 7, 9, 10, 14, 20, 25, 26, 29, 35-37, 42, 43
(Mis)match between research and policy timelines	(Mis)alignment between policy timelines (e.g., political windows of opportunity) and research processes (e.g., publication of an article)	1, 2, 5, 9, 10, 12, 17, 19, 24, 25, 31, 36, 37, 41, 42
Political (in)stability, vulnerability and flux	Extent of political flux (in a system), control (of a group, e.g., a political party) or vulnerability (of a political actor) at a given point in time	1, 5, 9, 10, 12, 13, 15, 17, 19, 22, 26, 36-38, 41
Hierarchy and authority	Rigidity of political and bureaucratic hierarchies and degree of deference to authority in a policymaking context	10, 19, 26, 44
Leadership and championing of evidence use	Presence, absence, and influence of political or bureaucratic leaders who "champion" the cause of evidence use in their organizations (or beyond)	10, 13, 14, 22, 27, 29, 36, 41-43
CATEGORY 4: ORGANIZATIONAL AND INSTITUTIONAL FACTORS		
Organizational capacity	Organizational capacities and resources to generate, access, appraise and apply research evidence	4, 7, 10, 14, 16, 19, 22, 27, 30, 33, 36, 40, 42-44
Organizational culture	Value placed on evidence in an organizational context and degree to which evidence use is normalized	4, 6, 10, 11, 14, 15, 19, 22, 24, 25, 27, 30, 36, 42, 43
Codification	Existence and clarity of processes, procedures, protocols and guidance for using evidence	4, 5, 10, 14, 25, 27, 29, 33, 35-37, 44
Formal accountability	Allocation of formal responsibility – at the individual or unit level – for finding and applying evidence, or maintaining communication channels with researchers	1, 3, 4, 6, 7, 10, 14, 17, 19, 25, 27, 30, 33, 35, 36
Dedicated space for dialogue	Existence and influence of dedicated time and space for sharing, discussing and debating research findings and other evidence	1, 3, 4, 6, 10, 14, 15, 19, 22, 30, 33, 35, 36, 42, 44

Category 1: Factors related to the evidence supply

In this this synthesis, I developed nine analytical themes – factors affecting evidence use – in the "evidence supply" category. These include: the availability of evidence (supported by 18 included studies), accessibility of evidence (12 studies), and the reputation of the source of evidence (16 studies), as well as six themes related to characteristics associated with "usable" evidence – starkness (9 studies), simplicity (11 studies), practicality (11 studies), actionability (20 studies), settledness and scientific (un)certainty (13 studies), and relatability and the power of stories (3 studies). The nine factors related to the evidence supply, and their constituent descriptive findings, are summarized in **Table 9**.

Table 9: Factors and findings related to the available "evidence supply"

Factors	Findings	Contributing studies and their quality ratings
The evidence supply		
Availability of evidence	Low (perceived) availability of research can lead to evidence not being used	**18 studies** (6 High, 7 Medium, 5 Low)
Accessibility of evidence	Evidence that is readily available is more likely to be used than that which requires significant effort to access	**12 studies** (2 High, 7 Medium, 3 Low)
	Even if relevant evidence exists, it may be inaccessible to, or difficult to access by, policymakers seeking to use it	
	A mismatch between the language of publication and language of a policymaker or policymaking organization can prevent access to – and therefore use of – research findings	
Credibility of evidence generators and purveyors		
Reputation of the source of research	Research produced by a reputable source and/or credible research team or organization tends to be perceived as more trustworthy, and is therefore more readily used by policymakers	**16 studies** (8 High, 6 Medium, 2 Low)
	Sources of evidence perceived to be biased or agenda-driven are likely to be ignored or, at least, treated with heightened scrutiny	
	Publication venues that are respected and perceived as credible (e.g., élite journals) are considered more trustworthy than others; as a result, the research they publish is more likely to be used	
Characteristics of "usable" evidence		
Starkness	Stark visual presentations of findings can increase the persuasiveness of evidence, maintaining policymaker attention and increasing the likelihood of uptake and use	**9 studies** (3 High, 4 Medium, 2 Low)

	Research findings with clear implications (e.g., easily understood impacts and quantifiable benefits) are more likely to be used than findings whose implications are perceived as less "concrete"	
Simplicity	Research evidence presented in a simplified form and comprehensible format is more likely to be used by policymakers than that which is perceived as too complex	**11 studies** (4 High, 5 Medium, 2 Low)
Practicality	Evidence on practical everyday policy and program concerns is more likely to receive policy attention than arcane, "purely academic" research, which is more like to be perceived as irrelevant to policymaking	**11 studies** (3 High, 4 Medium, 4 Low)
Actionability	Research related to "immediate" policy concerns is more likely to be perceived as relevant than evidence on "potential" policy decisions or possible future reforms	**20 studies** (8 High, 8 Medium, 4 Low)
	Research findings are more smoothly taken up and are more likely to influence decisions when they relate to current issues and challenges faced by policymakers	
	When research findings are presented (e.g., in reports) as implications, recommendations, guidance or 'menus' of policy options, they tend to be perceived as more useful	
Settledness and scientific uncertainty	An evidence base that is "settled" is more likely to be used with confidence than one perceived to be (rapidly) evolving and/or still maturing	**13 studies** (9 High, 3 Medium, 1 Low)
	The presence of consistent findings across multiple studies increases the likelihood of a body of evidence being used	
	Scientific uncertainty can create conditions for deliberate distortion of evidence to support pre-existing policy agendas	
	Scientific uncertainty around a body of evidence can lead policymakers to misinterpret or to dismiss evidence	
Relatability and the power of stories	Research evidence accompanied by stories is more compelling, and more likely to be used by policymakers than findings presented in the abstract	**3 studies** (1 High, 2 Medium)
	Persuasive personal stories and anecdotes in policy debates are difficult to dispute or refute with scientific evidence	

Availability and accessibility of research evidence

Research availability – actual and perceived – is a prerequisite for evidence use, and was commonly reported in the included studies as a factor influencing whether evidence was used by policymakers. Policymakers were found to be more likely to use evidence when research was perceived as "readily available," that is, both available and easy to access. When research evidence in general – or, more commonly, evidence of a desired quality or character, or on the specific topic of interest – was perceived by policymakers to be unavailable, decisions were

found to either go forward on the basis of no research evidence, or on evidence of lower quality

or less relevance:

> *There are few relevant studies for many important health policy issues, much less systematic reviews of evidence. For example, there is limited research comparing drugs within therapeutic classes, durable medical equipment, health care systems, and non-drug behavioral health interventions. Often there is also little or no evidence regarding new or emergent technologies, which can present significant challenges for administrators feeling pressured by legislators, service providers, and consumers to expand coverage. Legislators' comments centered on the lack of information about the economic impact of various interventions, including chronic disease management and health care savings accounts. As a result, "it is easy to take the position you are emotionally drawn to because there is nothing more substantive to go on."*

<div align="right">STUDY #10 (UNITED STATES)</div>

Even where high-quality, relevant research was available, it was found that policymakers

were not always able to access it, or that they might have difficulty accessing it for a number of

reasons. Resource constraints, journal paywalls, lack of Internet access, and inequitable

dissemination were all described as contributing to research inaccessibility. A common

accessibility challenge, particularly in countries whose governments operate in a language other

than English, was the disparity between the language of research publication (usually English),

and the linguistic capacity of individual policymakers and/or their policymaking organizations:

> *Access to information was discussed in great depth, often accompanied by the statement "we do not have the means." […] Even at the local level it was perceived that the transfer of information from research institutions to policy-makers is poor. […] Limited capacity in accessing research findings was also stated as hindering its use. If a policy-maker has extra staff or is a supervisor of students who can search, gather, and compile the information, research findings are more likely to get used. […] Language was discussed as well. Mali's official language is French and while policy-makers agreed that "the scientific language is very readable," (participant 11, female), and could largely be understood even without a solid grasp of English, many also stated that this was a problem. […] Policy-makers depend greatly on information available to them in French, and this was felt to be limiting.*

<div align="right">STUDY #7 (MALI)</div>

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Therefore, even in cases when research was available and policymakers were motivated to use it, studies found that evidence-informed decision-making was not always possible because evidence was perceived to be inaccessible.

Credible source, trustworthy evidence

A number of studies found that policymakers assess the trustworthiness of a piece of evidence or body of research on the basis of the credibility of its sources – that is, the study authors, the organization that sponsored the research, and the venue in which the research was published. When policymakers perceived that research had been conducted or produced by a reputable researcher or research team, they were more likely to place trust in the findings, assume they were credible, and apply them in processes of decision-making. The converse was also the case: evidence generated by researchers or published by sources perceived to be biased or agenda-driven was less likely to be taken up by policymakers.

This factor also appeared to manifest at the level of the research organization. Research produced or funded by organizations (e.g., university departments, research institutes, or granting agencies) that were perceived to have a positive reputation was viewed as credible and trustworthy, was given more attention by policymakers, and was more readily incorporated into policy discussions, in addition to being more likely to be used in policy decisions:

> *One [...] factor that came out [of interviews] strongly was the 'brand' of research. By this we mean the reputation of researchers or funders of the research. Research conducted by multilateral development agencies was often perceived to be of high quality. In the case of health there are certain journals, such as the Lancet, and certain academic institutions, such as the London School of Hygiene and Tropical Medicine (LSHTM), that were identified as 'a stamp' of quality. In short, participants often argued reputations were built not on authors' names but on their institutional affiliation and/or funding source. One senior civil servant summarized this perception as follows, 'If something*

is produced in Geneva, Washington DC or London . . . it has more credibility
than local estimates on mortality, for example. It is brand value.

In particular, the World Health Organization (WHO) was repeatedly mentioned as a trusted source of information. Research sponsored, produced or compiled by WHO was found to be given special attention by policymakers, particularly in so-called "low- and middle-income countries." While WHO was considered highly credible and trustworthy, resulting in policymakers taking notice of and applying the evidence generated by the organization, some sources described the uncritical adoption or endorsement of policy options bearing the WHO "stamp of approval." This legitimizing function of WHO evidence may in one sense be positive, in that it saves valuable time and resources for policymakers. However, this phenomenon may have negative knock-on effects if it incentivizes a lack of critical interrogation of such evidence by policymakers.

"Usable" research evidence: Actionable, Simple, Stark and Settled

When policymakers encounter a piece of evidence they make (often quick) judgements about its quality, relevance and usefulness. Policymakers are more likely to use a piece of research evidence when they perceive it as "usable" (Lindblom & Cohen, 1979). A number of factors associated with pieces or bodies of evidence were found to influence their perceived usability. The degree to which research evidence is perceived as simple and punchy, practical and actionable, settled and unequivocal, and personal and relatable, appears to have bearing on whether and to what extent policymakers consider it usable.

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Starkness and simplicity

The way in which a research finding or body of evidence is presented – that is, communicated or 'framed' – was found to influence its level of appeal to policymakers. Findings that can be communicated in simple terms, and strategically so as to insight emotion, may be particularly successful in attracting policy attention. In one Australian study, investigators referred to such poignant pieces of evidence as "killer facts":

> *The emerging empirical science of brain development [...] afforded a powerful 'killer fact' that could be presented visually [...] in a slide showing the much smaller brain of a neglected infant alongside one who had been nurtured from birth. This observational research was considered [by policymakers] to be 'hard science', and was very clear in its description and illustration of the causal pathways to brain development. 'Killer facts' may also be all the more powerful when they relate to children, particularly babies, which stir a particular emotion in most for action.*

<div align="right">STUDY #12 (AUSTRALIA)</div>

Evidence that can be presented visually was more likely to be persuasive and attract policymaker attention when the visuals were "stark" and illustrated the problem or policy intervention in dramatic fashion.

Similarly, studies reported that research was more likely to be given policy attention when its implications could be understood in concrete terms. For example, research findings – and their implied policy interventions – may be made more attractive to political decision-makers when framed in terms of concrete costs and tangible benefits. An example from the same Australian study illustrated this well:

> *The Perry Preschool Study provided a particularly influential 'killer fact', namely a return of '$7.16 for every dollar invested'. This fact was reiterated and promoted by politicians, bureaucrats, researchers, practitioners, journalists and participants in parliamentary inquiries and was restated in a range of policy documents. Its influence resulted from its short and sharp*

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nature, with dollars at the core. It signalled a supposedly sensible use of public resources.

These basic, punchy economic framings may be especially attractive in the context of fiscal pressures, in which political actors are more likely to find evidence appealing when it is presented using logics of cost-effectiveness or return on investment.

Therefore, research findings that are highly compelling, and are simple and easy to understand – or are presented in simplified, punchy and tangible forms – may be more likely to attract policymaker attention and to influence their decision-making.

Practicality and Actionability

In general, studies found that policymakers seek out evidence that has apparent practical "policy relevance." Research that is perceived to focus on questions of primarily theoretical or academic interest, and is concerned with uncovering general (abstracted) findings or arcane "truths", was considered less relevant to policymakers than studies that, while more descriptive and (by conventional academic standards) less rigorous, directly addressed the specific dynamics of policies or programs in their context. Research that is perceived to have been conducted purely for reasons of academic interest, curiosity or whim, rather than to address practical policy issues, may be more likely to be dismissed by policymakers as of low relevance to their work.

Along similar lines, policymakers were found to be attracted to evidence that can be readily acted upon. Actionable evidence is both timely and relevant, in that it addresses issues of "immediate" concern – that is, relevant to micro-level decisions related to existing policies and programs already in the process of implementation – as opposed to evidence on "potential" concerns or bigger picture issues. For example, a study in Ghana found that effectiveness

evaluations evidencing the outcomes associated with policy interventions were perceived as less relevant than operations research, which was considered useful in guiding the implementation and 'tweaking' of programs that had already been adopted:

> *Evaluations of effectiveness were not perceived to be a high priority for public health decisions in Ghana. This may be because such evaluations tend to focus on assessing potential policy or programme options that could be adopted in future, whereas the decision makers interviewed were focused on the more immediate realities of identifying current problems and improving existing policies and programmes by addressing implementation challenges.*

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STUDY #31 (GHANA)

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Research findings that directly addressed the issues and challenges faced by policymakers were more likely to be considered relevant to policymakers, and to be taken up in decision-making. So too were findings presented in a form that can be read as a 'menu' of policy options: policymakers reported a preference for findings presented as recommendations (e.g., suggested interventions), implications, and/or guidance. Failure of researchers to present actionable findings was reported by policymakers as a barrier to their use of evidence.

Scientific uncertainty and Settledness

The themes of certainty and uncertainty appear repeatedly in this literature. Policymakers reported a preference for research findings that they can be reasonably certain are accurate reflections of reality. This is closely related to the degree of confidence that potential users of research feel they can have in the findings. A number of studies reported that, when a body of research, or set of research findings, is perceived by policymakers to be consistent – for example, when multiple research studies (or perspectives) show similar results – such evidence is more likely to be used because policymakers have confidence in the "truth" of the findings.

Likewise, scientific uncertainty was often reported as a reason for the non-use (and, sometimes, misuse) of research evidence. When a body of evidence is considered to be unsettled,

insufficient, or "immature" it may be less likely to be given credence and used, on the grounds that "more evidence is needed". In some cases, scientific uncertainty was seized upon by policymakers as licence to ignore evidence, to justify inaction on a policy issue, or to pursue their predetermined policy preferences:

> [U]ncertainty allowed different key players [in policy debates] to interpret evidence according to different agendas. [...] Furthermore the profusion of diverse voices and persistent uncertainty over effectiveness allowed policy makers to disregard or misinterpret evidence, sometimes deliberately because of political pressures and sometimes inadvertently because of the complexity of the evidence.

<div align="right">STUDY #1 (UNITED KINGDOM)</div>

Scientific uncertainty, therefore, can present opportunities for non-evidential considerations, notably arguments based on ideology and values, to be ascribed greater weight than evidence in policy processes or decisions. In other cases, uncertainty around the evidence – real or perceived – may delay action, or lead policymakers to act either ineffectively or not at all, simply because of genuine confusion over mixed evidence, rather than ill-intent or tactical maneuvering.

Personal relatability: stories and anecdotes

Finally, some studies reported that when evidence is perceived as relatable on a personal level it is more likely to attract policymaker attention. This factor sometimes manifested as a preference for 'soft' or qualitative evidence rather than 'impersonal' quantitative evidence. More common, however, was the finding that stories and anecdotes can function as powerful vehicles for evidence of all kinds.

Policymakers may be more receptive to evidence when it is communicated alongside stories that either personalize the policy issue or help to illustrate the importance of the research findings. Stories may make evidence seem more interesting to policymakers, or make it easier

for them to understand compared to technically-dense scientific explanations. Stories may also

be a vehicle for argumentation, facilitating the transfer of evidence into political rhetoric:

> *[Most respondents] called out the importance of stories in convincing policymakers to accept evidence as relevant to their decision making. One administrator reported that a legislator was dissuaded from creating a herpes registry in an effort to prevent the spread of sexually transmitted diseases after being told that there was no clinical difference between oral and genital herpes, and that people with oral herpes would also be listed in such a registry (the legislator in question had oral herpes and did not wish to be listed on a Sexually Transmitted Disease Registry.).*

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STUDY #37 (UNITED STATES)

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This factor was also illustrated by cases in which research evidence contradicted, or

otherwise conflicted with, persuasive stories and compelling personal anecdotes in policy

discourse. Such evidence was found to commonly be met with resistance. Research may,

therefore, be more closely scrutinized in policy debates when it is ushered in argument against

personal stories and anecdotes.

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Category 2: Factors related to the interface between research and policy

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Six analytical themes emerged that are related to the interface between the research and

policy worlds, that is, the interactions and connections between individual researchers and

research organizations, on the one hand, and individual policymakers, policy organizations and

policy processes, on the other. These factors are: communication and interaction (supported by

20 included studies), relationships (12 studies) and partnerships (14 studies) between researchers

and policymakers; researcher knowledge and skills (7 studies); researcher persuasiveness and

charisma (5 studies); and expert authority and credibility (12 studies). **Table 10** provides a

summary of the six factors in this category, and the descriptive findings to which they are linked.

Table 10: Factors and findings related to the research(er)-policy interface

Factors	Findings	Contributing studies and their quality ratings
Relationships, interaction and partnership between researchers and policymakers		
Communication and interaction	Direct communication between policymakers and researchers facilitates the use of evidence in policy	**20 studies** (9 High, 8 Medium, 3 Low)
	A lack of formal channels of communication can decrease the likelihood of evidence reaching policymakers' attention and being used in their decision-making processes	
	Meaningful interaction and engagement between policymakers and researchers can facilitate evidence use	
Relationships	Personal/close relationships between researchers and policymakers can make evidence use more likely	**12 studies** (7 High, 4 Medium, 1 Low)
	Overly close relationships between researchers and policymakers can lead to symbolic (legitimizing) uses of evidence	
Partnerships	Meaningful (as opposed to tokenistic) policymaker involvement in research projects can increase the likelihood of the resultant findings being used	**14 studies** (7 High, 4 Medium, 3 Low)
	Research partnerships between government agencies and research organizations (e.g., research institutes or think tanks) can facilitate evidence use	
Researchers as participants in the policy process		
Researcher skills and knowledge	Researchers with the capacity to effectively, clearly and concisely communicate evidence to policymakers are more likely to maintain their attention and ensure evidence is taken up	**7 studies** (2 High, 2 Medium, 3 Low)
	Poor researcher skills in research communication may be an impediment to consistent and systematic evidence use	
	Researchers who are knowledgeable about policy processes are more likely to get findings into policy than those lacking such knowledge	
Charisma and persuasiveness	Charismatic, engaging academic researchers are more likely to persuade policymakers to use (their preferred) research evidence	**5 studies** (2 High, 2 Medium, 1 Low)
Expert authority and credibility	Respected academics who are (perceived as) expert authorities are more likely than those without such a reputation to encourage the use of (their preferred) research evidence by policymakers	**12 studies** (8 High, 3 Medium, 1 Low)
	When research evidence is communicated or promoted by credible, expert authorities, it may face less critical scrutiny from policymakers and be more likely to influence policy decisions	
	The advice of respected expert authorities is not necessarily "evidence based" from an objective standpoint; experts legitimize their preferred evidence, sometimes leading to findings being used irrespective of their reliability	

Researcher-policymaker interaction and collaboration

One of the sets of factors most commonly reported as critical to getting evidence into policy includes a variety of forms of interaction and interchange between researchers and policymakers. Greater interaction and communication between researchers and policymakers was often reported as a key facilitator of evidence uptake and use by policymakers. Conversely, the absence of formal channels of communication and interaction are often found to decrease the likelihood of evidence reaching policymakers' attention and therefore being used.

Studies reported that when policymakers are given the opportunity to interact with researchers (for example, in formal venues such as conferences and structured 'deliberative dialogues', or by working together on committees) they are more likely to be exposed to evidence on which they can draw in their work:

> [K]nowledge transfer was often helped by personal contacts. Regular contact with national and international practitioners and experts, at conferences or in international organizations, provided opportunity to hear about as well as discuss different types of evidence, including systematic evidence on "what works."

<div align="right">STUDY #16 (SWITZERLAND)</div>

Many studies found that policymakers who have close personal relationships with researchers are more likely to draw on research in their policy decisions because they can access evidence through these contacts, and can easily seek out evidence-informed advice from them. However, while closer relationships are likely to increase the probability of evidence use, there is no guarantee that this will improve or alter the direction of policy; rather, in some studies, overly close relationships were found to lead to policymakers using researchers to legitimize their pre-existing policy positions:

> One manager described the contribution that research could make to policy makers as "an independent viewpoint on what we already knew," pointing to

the possibility of research fulfilling a merely legitimising role within an over-cosy relationship between researcher and policy maker.

<div align="right">STUDY #2 (UNITED KINGDOM)</div>

Meaningful policymaker involvement in evidence generation processes – collaborating with academics on designing the scope and methods of a study, for example – may increase their likelihood of using the resultant evidence because they have a vested interest in, feel a sense of ownership over, and trust, the findings. The research findings may also be more likely to be perceived as relevant:

> *The involvement of policymakers in the research process [can lead] to a more effective consideration of policy issues, political limitations, and practical realities in implementing the research findings.*

<div align="right">STUDY #6 (INDIA, MALAWI, PAKISTAN AND TANZANIA)</div>

This theme also manifested at the level of the organization. Partnerships between government agencies and research organizations were frequently reported to facilitate evidence-informed policymaking. Such partnerships, when nurtured and sustained, may increase the likelihood of research being relevant to policymaker priorities and being generated at points in time that align with policymakers' needs.

Researchers as participants in policy processes: Communication, charisma, credibility

While frequent, close communication and partnership between individual researchers and policymakers, as well as between research organizations and policymaking bodies, were found to be critical factors influencing evidence use, the success of these interactions at facilitating evidence-informed policymaking depends, in part, on researchers having the right combination of knowledge, skills and disposition. Several included studies found that academic experts are

often highly influential in policy processes and, under the right conditions, can persuade policymakers to take more evidence-informed decisions.

A particularly important factor appears to be the capacity of researchers to successfully engage with policy systems and processes, which itself depends on their knowledge of policy processes and skills in research communication. Researchers were more likely to influence policymakers and their decisions when they were experienced working within policy processes, and had knowledge of how policy decisions are made. Furthermore, a lack of researcher communication skills and capacities to promote the use of evidence – for example, skills in dissemination, communication, and even the use of social media – often prevented policy-relevant evidence from being brought to the attention of policymakers. Whether policymakers perceived researchers as trustworthy was often intimately tied to researchers' capacity for clear communication:

> *[T]o be perceived as credible amongst policymakers, interviewees suggested that researchers need to be able to communicate clear, policy-relevant messages, provide solutions to identifiable problems (rather than solely identifying problems), avoid too much hesitancy in conclusions, and gain (visible) credibility from actors beyond academia.*

STUDY #8 (UNITED KINGDOM)

Evidence uptake was also facilitated by engaging communication: charismatic academic experts appear especially able to command policymaker attention, and the evidence that they promote therefore stands a chance of informing policy development.

The perceived authority of the academic researcher who is communicating the evidence in question was also critical. Therefore, academics who command respect, and who policymakers perceive to be "experts" or "specialists", are probably more likely to get a hearing – and therefore to have their preferred evidence taken up – than those who lack such reputations:

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> *The more prestigious a researcher's academic credentials were, the more authoritative and, therefore, persuasive they could be. This might be demonstrated by the researcher's institutional affiliation and title. [...] Alternatively, the researcher's authority might derive from the level of expertise that stakeholders assume an experienced field specialist would possess.*

<div align="right">STUDY #18 (AUSTRALIA)</div>

However, while researchers who are perceived as authoritative may garner more attention from policymakers, leading to greater use of their evidence, sometimes this was found to produce situations where policymakers are incentivized to use a piece of evidence less critically than they otherwise might, placing trust in the "stamp of approval" it has received from an authoritative expert. Respected experts confer legitimacy on the evidence that they promote. Like all actors in policy processes, researchers have their own agendas and biases, and they sometimes trade on their expert reputations to promote their preferred research findings and ideas (irrespective of their quality or reliability). Therefore, charismatic and credible academics (or, indeed, others perceived by policymakers to be "experts") may be more likely to "get a hearing", and to have their recommendations taken up than those without these markers of credibility. However, this does not guarantee that such recommendations are grounded in a systematic and dispassionate reading of "the evidence."

Category 3: Political and policy process factors

This synthesis uncovered 11 political and policy process factors that influence whether and how research evidence informs health policymaking. Individual policymaker factors include: their beliefs and perceptions about evidence (supported by 13 included studies), their knowledge and skills (16 studies) and their exposure to training in research (7 studies). Factors related to the nature of the policy issues and decisions at hand include: politics, contentiousness and conflict (18 studies), technical scale and complexity (14 studies), and multi-sectorality (6 studies). Other

factors in this category include: tight policymaking timelines (14 studies) and the degree of (in)congruity between research and policymaking timelines (15 studies); the political context, namely the level of political flux and uncertainty (15 studies) and the degree to which a policy context is characterized by hierarchy and authority (4 studies); and leadership and championing of evidence (9 studies). The analytical themes in this category are summarized in **Table 11**, alongside the descriptive findings with which they are associated.

Individual policymakers: Beliefs and preferences, knowledge and skills

At the individual level, several factors related to characteristics and behaviours of policymakers were found to affect whether and how they use evidence in their work.

First, policymaker beliefs and perceptions about research in general and the use of research evidence in particular appear to be influential. The degree to which a policymaker considers evidence use important may directly influence the extent to which they use research in their work. Studies reported that, when policymakers do not have an appreciation for the usefulness of research, or the possible contribution it can make to policymaking, they are less likely to seek out, access and use evidence. That is, where policymakers did not perceive some meaningful "added value," they were not willing to invest the time and energy required to access and incorporate research evidence into their decision-making:

> *The extent to which policy-makers value research findings in the policy process will influence how much it is utilized. […] [In] [t]his study […] the lack of value policy-makers placed on research findings was inhibiting its uptake. […] [I]f research is considered important in the policy process it may also act as a facilitator to its utilization.*

<div align="right">STUDY #7 (MALI)</div>

Table 11: Political and policy process factors and findings

Factors	Findings	Contributing studies and their quality ratings
Individual policymaker factors		
Beliefs and perceptions about evidence and evidence use	The value placed on evidence and evidence-informed policymaking by policymakers influences the extent to which they use research	**13 studies** (6 High, 5 Medium, 2 Low)
	Policymaker appreciation for potential contribution, usefulness and/or added value of research evidence influences whether they use it in their work	
	The perception that evidence is not needed, or would not be useful, for a specific policy decision can explain the non-use of evidence by policymakers in some cases	
Policymaker knowledge and skills	Research-related skills and knowledge is associated with greater and more appropriate evidence use by policymakers	**16 studies** (7 High, 5 Medium, 4 Low)
	Policymaker knowledge of research processes can increase evidence use, often by improving their trust and confidence in research	
	Lack of research-related knowledge can lead to the acceptance of shoddy "evidence" from political opponents and interest groups	
Exposure to research skills training	Training can lead to (perceived) improvements in research knowledge and skills and evidence use	**7 studies** (2 High, 2 Medium, 3 Low)
	Research training can generate appreciation for the value of evidence in decision-making and the benefits of investing in using evidence	
	Training in individual research skills may lead to improvements in organizational evidence use practices	
Policy issues, decisions and processes		
Politics, conflict and contentiousness	Political policy actors (e.g., elected officials) have less scope in their work for evidence use than more technical or administrative policymakers	**18 studies** (8 High, 9 Medium, 1 Low)
	Researchers are often reluctant to disseminate politically contentious evidence and/or research findings with political implications than evidence that is more politically innocuous	
	Policymakers are more likely to fail to seek out evidence when issues are highly politically sensitive because they perceive the policy trajectory to be a foregone conclusion	
	Evidence on highly political issues may not generated or sought by policymakers to avoid political inconvenience	
	Political polarization and conflict around an issue make instrumental evidence use relatively unlikely compared to legitimizing and conceptual uses of evidence	
Technical nature of issue and scale of decision	Narrow, technical and/or procedural policy decisions are more likely to be informed by evidence than those that entail broad, sweeping and/or structural change	**14 studies** (6 High, 6 Medium, 2 Low)

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Factors	Findings	Contributing studies and their quality ratings
Multi-sectorality	Multi-sectoral policy processes are less receptive to evidence because of multiple, conflicting agendas of different interest groups, stakeholder coalitions and/or government agencies	**6 studies** (4 High, 1 Medium, 1 Low)
	Evidence use in multi-sectoral policy processes may be frustrated by multiple (sometimes conflicting) inputs from competing academic perspectives	

Timelines of public policymaking

Factors	Findings	Contributing studies and their quality ratings
Tight policymaking timelines	Lack of adequate time to consider research can lead to policymakers failing to use research	**14 studies** (5 High, 5 Medium, 4 Low)
	Policymaking under time pressure can generate a bias toward evidence that is readily available and easy to access	
	Under time constraints, new evidence (e.g., better data) is often not sought by policymakers	
(Mis)match between research timelines and policymaking timelines	The (perceived) slow speed of research generation results in evidence not being available when conditions are conducive to policy action	**15 studies** (6 High, 6 Medium, 3 Low)
	When publication of a relevant piece of research happens to align with the timing of a policy decision such evidence is more likely to be influential	
	Policy imperatives (e.g., the political need to be seen to be taking immediate action) takes precedence over research timelines; policymakers may not wait for the research to be "in" when there is pressure to act	

Political environments and circumstances

Factors	Findings	Contributing studies and their quality ratings
Political (in)stability, vulnerability and flux	Stability in political control (e.g., safe single-party control of an arm of government) can create relatively favourable conditions for the use of evidence	**15 studies** (5 High, 6 Medium, 4 Low)
	Political invulnerability provides scope for thoughtful, instrumental uses of evidence in policymaking	
	Periods of political vulnerability, competition, and volatility may be less favourable to instrumental uses of research, and more favourable to symbolic (tactical and political) uses	
Hierarchy and authority	Rigid hierarchies and cultures of deference to (political) authority can stifle evidence-informed policymaking	**4 studies** (3 High, 1 Low)

Leadership

Factors	Findings	Contributing studies and their quality ratings
Leadership and championing of evidence use	Influential individual political or bureaucratic leaders who "champion" evidence can help to ensure that research is given special attention in policy processes or decisions	**10 studies** (1 High, 4 Medium, 5 Low)
	Influential leaders in policy organizations who champion evidence can foster conditions in which research use by more junior decision-makers is incentivized and rewarded	
	Senior leaders who champion evidence are essential to policy organizations successfully institutionalizing cultures in which systematic evidence use is routine practice	

In the case of specific decisions faced by policymakers, research evidence was sometimes not sought and/or used because of the belief that evidence was not needed, or would not be useful for the particular decision being made. For instance, policymakers sometimes reported that the issue or proposal was sufficiently well understood, and that additional evidence would be unlikely to add anything to their existing knowledge. Alternatively, they sometimes took the position that a decision was (rightly or wrongly) destined to be made primarily on the basis of values, politics or other considerations, and so would not be swayed by empirical evidence or data. A study on Israeli health system reform illustrates this well:

> *Regarding 'setting the cost of the benefits package' for example, a number of respondents noted the futility of investing effort in collecting data on system performance as final decisions about the cost of the benefits package are, in the end, based on overall budget considerations. A former Israeli Ministry of Finance official noted that, short of disastrous declines, data on service levels would not have affected the Israeli Treasury's position on funding levels, because the Treasury believes that funding for the health system as a whole should be primarily a function of macro-economic considerations rather than issues specific to the health care system. Similarly, most respondents indicated that the co-payment decision was not data driven because policy-makers were concerned primarily with increasing sick fund revenues.*

<div align="right">STUDY #5 (ISRAEL)</div>

Second, (appropriately) using research requires a certain degree of research-related knowledge and evidence appraisal skills. When policymakers had general knowledge of research generation processes – basic principles related to the conduct of research – they were more likely to trust research findings and to be willing to apply them in decision-making. On the other hand, policymakers who lacked these skills were found to be less likely to use evidence appropriately and effectively:

> *Staff with appropriate knowledge and skills was another important factor associated with EBDM [evidence-based decision-making]. Recently hired staff seemed to be more receptive to EBDM. However, several participants commented that many current [local health department] staff members do not*

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have the appropriate skills for identifying and assessing evidence. Participants also reported having difficulty obtaining desired information, including peer-reviewed journal articles and comprehensive data from multiple sources, because of the limited availability and inadequate knowledge of sources as well as time constraints.

<div align="right">STUDY #27 (UNITED STATES)</div>

Moreover, some studies found that a lack of basic skills in critical appraisal on the part of policymakers can create opportunities for interest groups, lobbyists and political opponents to distort policymaking processes with unreliable or misleading "evidence" because policymakers lack the capacity to critique and resist the arguments proffered by these actors.

It is not surprising, then, that policymakers in many studies who had been exposed to training in evidence-based decision-making and research skills reported improvements in their knowledge of research evidence and capacity to access, appraise and use evidence. Such training was found to be associated not only with improved competence and knowledge, but also with an increased appreciation for the importance of evidence and the role it can play in policy processes. Training may also lead to downstream improvements in informal organizational practices and formal procedures related to evidence use, and improvements in the extent to which organizations value contributions from research evidence.

Policy issues, decisions and processes: Contentiousness, technicality and multi-sectorality

The nature of the policy issue at hand, the policy process underway, and/or the policy decision being considered were found to be important indicators of the role evidence is likely to play in policymaking. Some of the more important features of policy issues, processes and decisions can be thought of as a spectrum, ranging from the highly procedural, administrative technical and uncontroversial, to the highly contentious, political and normative.

The degree to which issues, decisions and policy processes are perceived as more political than technical, administrative or bureaucratic was found to influence how receptive policymakers are to evidence, and whether they are likely to seek out scientific advice. At its most basic, this theme manifested in the (perhaps predictable) finding that political decision-makers (e.g., elected politicians) use research evidence less often in general, and in particular less often in instrumental ways – for instance, to solve problems or inform the design of programs – than do non-political actors, like administrators and other civil servants. Rather, included studies found that political actors more often used evidence for rhetorical or tactical purposes – to legitimize their political positions and persuade others that their policies are grounded in evidence:

> [P]oliticians tended to use researchers more politically than civil servants did, to "prosecute a case" and "sell ideas" to a wide range of stakeholders. For these purposes, a researcher's independence was valued particularly for its rhetorical efficacy in asserting that policy was guided by "objective" science rather than expediency.

STUDY #18 (AUSTRALIA)

The extent to which decision-making around a policy issue was considered amenable to evidence was often found to vary with the degree to which the issue was marked by conflict and political polarization. Decision-making processes characterized by limited political conflict and controversy were more likely to allow for instrumental uses of evidence, in which research findings were used to inform policy development and learning. In policy processes characterized by a high degree of conflict, controversy and political sensitivity (e.g., when a proposed policy is intrusive, affecting people's personal lives) evidence may be unlikely to play a significant instrumental role, and if evidence is used it may be more likely to serve either a legitimizing function or an indirect, gradual enlightenment (i.e., conceptual) function, as evidenced by a study of UK drugs misuse policy:

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Evidence is more likely to have a long term conceptual rather than direct
impact in areas where policy issues kindle popular or official passions. It is
clear that research and other evidence has impacted on drugs policy over the
period 1998-2002, despite the high profile and contentious nature of the issues
involved. The gradual move away from prevention to harm reduction,
particularly in relation to problematic drug users, is an example of this.

STUDY #4 (UNITED KINGDOM)

Conversely, relatively low levels of contention and political sensitivity around policy issues or

decisions were found to be associated with research evidence playing a more significant and,

sometimes, a direct instrumental role.

In some contexts, it was found that findings with politically contentious implications, or

that are in conflict with what is politically acceptable or popular, were less likely to be promoted

by researchers:

It was recognized that even well-developed research findings may not be acted
upon if the political climate was not conducive to change. Some researchers
were reluctant to disseminate research findings that have political implications
and felt that it would be inappropriate to disseminate findings that were in
conflict with current national politics.

STUDY #6 (INDIA, MALAWI, PAKISTAN AND TANZANIA)

For their part, policymakers in some studies responded to highly political issues by failing to

seek out existing evidence and neglecting to commission new research, either because they

perceived that the policy trajectory was a foregone conclusion (and, therefore, that evidence

would likely make no difference), or to avoid the possibility (and attendant inconvenience) of

generating findings that run counter to their political or professional objectives:

When data is not readily available and highly political decisions need to be
made, potential data generators tend to be discouraged by the perception that
in the face of political interests, the policy-making process stands little chance
of being influenced by data.

STUDY #5 (ISRAEL)

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Decisions that are of a more technical nature were more likely to be perceived as amenable to the influence of scientific evidence. One study author hypothesized that evidence would be relatively influential in "policy field[s] that ha[ve] a high affinity to technology", adding that:

> *[i]f a change is only marginal, mainly affecting technical or procedural aspects, the role of systematic evidence is expected to be significant. If a policy measure is highly intrusive and inclusive [...] affects both the private and the social life of a large group—then the personal experiences of the politicians and their own values may play a more important role than the use of evidence.*

<div align="right">STUDY #16 (SWITZERLAND)</div>

Multi-sectorality is also a key characteristic of policy processes and decisions that has implications for evidence use. Health policy issues that are of relevance beyond the health sector, that require action by multiple agencies of government, and/or (and especially) that have major implications for the government treasury, are always complex. The use of evidence was reported to be more complicated and less straightforward in multi-sectoral policy processes than those that can be addressed by, for example, a Ministry of Health or a Health Department more or less in the absence of inputs and pressures from other sectors of government:

> *The use of evidence to inform decisions that require multisectoral coordination was seen as particularly problematic, especially for health policy decisions which have significant implications for the national budget, impinge on different agendas and require agreement across the political board.*

<div align="right">STUDY #44 (CAMBODIA)</div>

Policy processes or decisions that require coordination across policy sectors may be less amenable to, and more difficult to influence with, evidence because of the multiple, usually competing agendas of different units of government. To be influential in these cases, evidence has to appeal to a critical mass of these diverse actors whose interests may be in conflict. In multi-sectoral policy processes, the practice of "evidence-informed" decision-making may be

further complicated by pressure on policymakers to entertain evidential claims from the multiple academic perspectives with which each participating sector is associated.

Timelines of policymaking and research generation

Numerous studies found that the time constraints of policymaking influence whether and how evidence is used by policymakers. Policymakers commonly understand evidence-informed policymaking to be a time-consuming process, while policy decisions often have to be made quickly, leaving little time for thoughtful consideration of the research. In its most basic form, this factor is frequently reported in individual studies as a 'barrier' to evidence use – that is, as a reason that evidence does not influence policy. Policymakers often reported the perception that evidence use is time-consuming as a core reason they fail to use research in their decision-making:

> *Most of the participants reported that developing EBPDs [evidence-based policy documents] is a time-consuming process. They believed that this may result in losing the chance to swiftly respond to problems.*

<div align="right">

STUDY #29 (IRAN)

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More commonly, however, tight timelines were not found to prevent evidence use outright. Rather, under time pressure, policymakers may "cherry-pick" research, which results in a bias toward evidence that is readily available, easily accessible and rapidly digestible. Along similar lines, under time pressure, any engagement with researchers (if time even allows for such consultations) may be superficial and rushed, limiting the meaningful input that academic experts can provide.

A mismatch between typical timelines characterizing policymaking processes, on the one hand, and the time required to generate research evidence, on the other, is frequently reported. Policymakers often attribute evidence non-use, at least in part, to research not being available in

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a timely fashion; they comment that research takes too long to complete, and by the time the evidence is ready, political 'windows of opportunity' have closed:

> *In the late 1980's two important [randomized controlled] trials (Oxcheck and Bfhs) were set up. [...] It is notable that both the 1990 and the 1993 contracts were formulated without waiting for their results, although it is clear from numerous sources that there is absolutely no doubt that civil servants were aware of Oxcheck and Bfhs. [...] Indeed one of the trials, the Bfhs, was actually part funded by the [UK Department of Health]. However, in 1990 the political imperative to reform general practice took precedence over the wait for research findings and in 1993 the financial pressures did not allow a delay in policy making.*
>
> STUDY #1 (UK)

A piece of research evidence is, therefore, more likely to be taken up when its publication (or dissemination or communication) comes at a time when a relevant policy need exists or a decision is imminent. In the same vein, research that takes relatively little time to complete, and can quickly yield findings and recommendations, may be more likely to be perceived as useful than evidence that takes longer to materialize. When under great pressure to act (political or otherwise), policymakers sometimes prefer to move forward with a policy decision in the absence of evidence, or with imperfect, incomplete and/or anecdotal evidence, if necessary, than to delay a policy decision until the "research is in."

Political settings and circumstances

Political circumstances and features of political settings were found to be crucial factors affecting evidence use. Of particular note were the degree of political stability and flux in a political system, and the extent to which hierarchy and deference to political authority predominates in an institutional context.

In broad terms, political stability was sometimes found to be more conducive to systematic processes of evidence use than states of political flux or uncertainty. Secure, political

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control of an arm of government – for instance, single-party control of a legislature – may create

conditions conducive to evidence-informed policy (instrumental uses of evidence) to address

policy challenges. The relative political safety that comes with periods of electoral

invulnerability may provide greater scope for thoughtful, instrumental use of evidence to inform

policy development. Conversely, political flux – for example, during the period leading up to

competitive elections – may be less conducive to the thoughtful consideration of evidence.

The openness of institutional settings to substantive discussion and debate was also found

to be important. In institutional contexts in which hierarchies are strictly observed and deference

to authority predominates, the inability or unwillingness of policy advisors and others to question

or critically engage with political leaders and senior bureaucrats may interfere with systematic

and consistent evidence use:

> *[T]he lack of clear procedures, combined with power imbalances and the*
> *pressure of hierarchies, may constrain the ability of technical officers to act*
> *on, or even communicate, policy-relevant knowledge and information; one*
> *manager in the MoH explained, "we present evidence, but if a politician says,*
> *'I don't believe it', we cannot argue (…) we can present new evidence or*
> *clarify only if they request us to do so".*

<div align="right">STUDY #44 (CAMBODIA)</div>

Such excessive formality may stifle research-driven advice, limit meaningful deliberation over

evidence, and ultimately prevent evidence from influencing policy decisions.

Leadership and championing of evidence

The role of leadership in evidence-to-policy processes is a recurring theme in this

literature. Strong leadership may be critical to fostering the conditions for evidence-informed

policymaking and encouraging cultures within policy organizations and broader political settings

in which research evidence is valued. Influential individual leaders who champion research can

be pivotal in a policymaking organization or the broader policy context.

Visionary leaders who champion research use and an evidence-based ethos were found to be able to create the conditions in decision-making processes or policymaking deliberations for research to play core, driving role. An example from India illustrates this:

> [I]n India, the [National AIDS Control Programme] policy development [process] witnessed the leadership of two consecutive Director Generals (DGs). [...] [T]he DG who initiated the [policy] process was perceived by most respondents to be a visionary and a dynamic person, who laid strong emphasis on consultation, community participation and evidence-informed policy development. [...] Both these individuals, referred to by the respondents as policy champions, drove the policy development process at different stages and had complementary personal characteristics, which together ensured the wide utilisation of evidence.
>
> STUDY #41 (INDIA AND NIGERIA)

For a policy organization to become more evidence-informed – to institutionalize systematic processes of evidence use – championing of research evidence from senior leadership was reported to be of critical importance:

> Our interviews [revealed] general lessons from a policy organization seriously committed to becoming more evidence informed. Primary among these is the central importance of having champions at a senior level able to sustain the journey. Direction came from the most senior civil servant, the deputy minister, and cascaded downward. The interviewees consistently noted how important it was to have this leadership "from the top."
>
> STUDY #14 (CANADA)

Several studies characterized this process as one of instilling organizational cultures within policy organizations that value creative thinking, critical reflection and learning. High-level political leadership combined with a consistent rhetorical commitment to using evidence was important to the achievement of such organizational cultures:

> [T]he most important internal factor facilitating the use of EBDM [evidence-based decision-making] in [Local Health Departments] was strong support from their leadership (i.e., a health director or commissioner who was knowledgeable about EBDM, who actively promoted it, and who followed up to make sure it was being implemented) [...] [S]trong leadership can facilitate an organizational culture that is more supportive of change and more willing

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to challenge entrenched attitudes. Several key informants who described their department as actively using EBDM said it had become the standard of practice primarily because it was encouraged and supported by leadership.

<div align="right">STUDY #27 (UNITED STATES)</div>

The importance of organizational cultures that place value on evidence is a prominent theme discussed under the umbrella of organizational and institutional factors affecting evidence use, to which I turn in the section that follows.

Category 4: Organizational and institutional factors

Features of policymaking organizations – for example, ministries of health or their constituent offices and departments – can influence the degree to which research shapes policy decisions and activities, and how evidence is used in these institutional settings. The factors identified in this category are: organizational capacity (supported by 15 included studies), organizational culture (15 studies), codification of organizational procedures (12 studies), formalization of accountability and responsibility (15 studies), and the availability of time and space for deliberation (15 studies). These analytical themes, and the descriptive findings contributing to them, are summarized in **Table 12**.

Table 12: Factors and findings related to organizational and institutional contexts

Factors	Findings	Contributing studies and their quality ratings
The policymaking organization: Cultures and capacities		
Organizational capacity to generate, access and use evidence	Inadequate organizational capacities (e.g., skills and resources) can interfere with systematic evidence use	**15 studies** (6 High, 6 Medium, 3 Low)
	Strong policy analysis units within policymaking organizations can facilitate evidence use by making relevant research findings available in accessible formats	
	Insufficient human resources (i.e., staff) to support evidence use can frustrate the achievement of consistent evidence-informed policymaking	
Organizational cultures	Cultures in policymaking organizations that place a high degree of value on research evidence present favourable conditions for the consistent use of evidence in decisions	**15 studies** (4 High, 8 Medium, 3 Low)

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Factors	Findings	Contributing studies and their quality ratings
Formal institutional structures and processes for evidence use		
Codification of organizational evidence use procedures	Codified requirements for evidence use (e.g., within organizational guidance for updating policy documents) can facilitate use of evidence	**12 studies** (4 High, 5 Medium, 3 Low)
	Lack of clear procedures, protocols and guidelines for using evidence in policy organizations can lead to inconsistent, patchy and unsystematic use of evidence	
	A lack of formal procedures for using research can be read by policymakers as a licence to ignore or selectively use or interpret evidence	
	Formal evidence use procedures may increase the ability of policy organizations to fend off non-evidence-based demands and arguments from interest groups and other stakeholders	
Formal accountability for evidence use tasks	Allocation of formal responsibility for accessing and compiling evidence and maintaining contacts with researchers creates accountability and increases the likelihood of consistent, systematic evidence use	**15 studies** (6 High, 6 Medium, 3 Low)
	The absence of formal institutional channels for researchers to communicate evidence to policymakers can make evidence use more difficult	
Time and space for dialogue and deliberation	The existence of dedicated forums for evidence sharing, discussion and deliberation can facilitate systematic use of evidence	**15 studies** (5 High, 7 Medium, 3 Low)
	Formal spaces for evidence deliberation, including quality standards for admissible evidence, can function as a mechanism for resisting industry and special interests	

Organizational capacity

Systematic evidence use depends on competently accessing, compiling, and appraising research evidence and applying it to policy questions. These tasks themselves require specialized skills and sufficient organizational resources to be carried out consistently. Evidence use was found to be hampered, therefore, by insufficient organizational competencies and capacities, notably skills for accessing and appraising research:

> *[T]here often was a clear mismatch between organizational characteristics and the requirements of evidence-based decision making. [...] [M]any health officials had had little experience assessing research design and only a limited understanding of the function and location of systematic reviews. Although agency staff (such as doctors, nurses, pharmacists, and social workers) often had had medical or public health education, few were trained to appraise*

evidence critically. [...] They therefore made decisions based on "common sense," "gut level," "standards of practice," and comparative convenience and awareness of available data, rather than based on systematic reviews of research.

<div align="right">STUDY #10 (UNITED STATES)</div>

In the included studies, such capacity took multiple forms, including strong and well-functioning policy analysis units or research offices within ministries of health, or other government policymaking units.

A lack of adequate human resource capacity in an organization was commonly reported as a reason that research evidence was not accessed, compiled, appraised and used in policy decisions. Policy organizations without sufficient staffing may struggle to consistently use evidence in policymaking.

Organizational culture

Even policy organizations with satisfactory evidence use capacity are unlikely to consistently engage in evidence-informed decision-making in the absence of an appreciation for the value that research evidence can add. Organizational culture – for instance, the extent to which norms of evidence use are widely endorsed in an agency – was found to be an important factor affecting organizational evidence use practices. Policymaking organizations with cultures that have evidence use as a core value are much more likely to consistently and systematically draw on research evidence. Indicators of a strong culture of evidence in a ministry of health or other policy organization might include politically-supported and regularly functioning dialogical structures in which evidence can be discussed among policymakers.

The reverse is, of course, also the case: policy bodies with weak cultures of evidence – that do not place a high degree of value on research evidence – are less likely to consistently and systematically draw on it in decision-making processes:

Researchers reported that the lack of a strong evidence-based culture in policy development was a significant barrier to the uptake of research by policymakers. Researchers perceived that research is given low priority by policymakers and that research findings are not valued in policy formation. As a result research often is seen to have little contribution to the policy development process, and policymakers are seen as not fully appreciating the potential contribution of research in enhancing policy formation.

<div align="right">STUDY # 6 (INDIA, MALAWI, PAKISTAN AND TANZANIA)</div>

Formalization of evidence use processes: codification and accountability

The extent to which systematic research-to-policy processes are formalized within an institutional environment can have important influences on whether and how evidence is used by policymakers in that setting. For example, the existence of explicit, codified rules or procedures that mandate the use of evidence in policy activities was reported to increase the likelihood that evidence will be drawn upon in those activities.

Policymaking organizations have a range of procedures in place to direct or guide the use of research in policymaking activities; while some have detailed guidelines, others have no specific guidance on evidence use. The lack of clear guidelines was often identified as an explanation for patchy, inconsistent evidence use:

> *[O]ur investigation found gaps in the local context that make direct or widespread applications of evidence in line with best-practice expectations less likely. [For example] there are no clear guidelines about the way in which evidence should be appraised and used in policy processes. As a result, evidential practices were reported to be highly variable across different sectors and health issues, depending on the initiative and skills of individual managers and political will.*

<div align="right">STUDY #44 (CAMBODIA)</div>

There is some evidence that the institutionalization and faithful implementation of systematic evidence use processes can help to insulate policy decisions from distortion by corporate lobbying and other interest group pressure, providing policymakers with tools to

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defend against and reject proposals that lack a strong evidentiary basis, and helping to ensure that

evidence takes precedence over interest group demands:

> *In one case, the implementation of data-based decision-making helped deflect lobbying efforts by pharmaceutical companies and by [...] patient-interest groups. [...] In a system which has been in operation since 1999, ad hoc professional teams evaluate the safety, efficacy and effectiveness of new technologies and conduct needs assessments. An explicit set of criteria facilitates prioritization of the assessed technologies. A public committee reviews the professional analyses and recommends changes to the Minister of Health. Interviewees noted that there had been a significant decline in the exertion and influence of pressure by interest groups since the establishment of the new system.*

<div align="right">STUDY #5 (ISRAEL)</div>

The absence of formal systems (e.g., expert committees) for appraising and providing

research evidence or evidence-informed advice, on the other hand, may give policymakers

"cover" to deliberately misinterpret or ignore evidence, or to pursue policy directions that, while

not grounded in evidence, may be preferable for other reasons.

One of the most influential, if simple, forms that such formalization can take involves the

clear delineation of roles and responsibilities within a policy organization for key tasks related to

accessing, appraising and applying research findings. If it is clear whose role it is to search for

and compile research, and establish and maintain contacts with researchers – and how they are

supposed to do this – evidence is more likely to feed into policy processes.

Formal role assignments were found to remove doubt and alleviate confusion about

which policy staff are responsible for compiling evidence:

> *There was some confusion over whose role it is to look up information. [...] Having a specific person or group of persons delegated to search and compile relevant research findings for the policy question at hand was perceived to be extremely helpful.*

<div align="right">STUDY #7 (MALI)</div>

A Canadian study, channeling the work of Jonathan Lomas, referred to the formalization of the responsibilities for, and processes through which, a policy organization interacts with academics as the agency's research "receptor" function:

> *[C]ontact [between policy and research actors] took place through what could be called a "receptor" for research created by the health department. By this we mean that specific functions were established with explicit responsibility for establishing and maintaining linkages with researchers.*

<div align="right">STUDY #3 (CANADA)</div>

Formalization of roles creates clear accountability for the administrative and relational tasks needed to implement evidence-informed decision-making, and increases the likelihood of systematic evidence use processes being maintained over the long term.

Convening and deliberating

Policy organizations that have instituted dedicated "research-focused" or "evidence-focused" venues for deliberation and discussion may be more likely to use evidence consistently and nurture organizational cultures in which the consideration of evidence is a routine part of decision-making. Organizational structures, such as Technical Working Groups, were reported to facilitate systematic evidence use by providing dedicated space and time for sharing and discussing policy-relevant evidence. When researchers are involved, these forums can also function as a space where researchers can learn about policymaker evidence needs, after which these can be fed back into decision-making about research priority-setting:

> *The availability of structures within the [Ministry of Health] to enable systematic dialogue was highlighted as a factor that improved the uptake of evidence [...] Platforms to enable inclusive participation were also in place for evidence to be discussed, which facilitated consensus building.*

<div align="right">STUDY #30 (UGANDA)</div>

Deliberative structures were sometimes valued for their *lack* of formal structure, "enabl[ing] informal evidence sharing and debate." (STUDY #36, MALAWI). Indeed, if evidence advisory forums are excessively formal they may risk failing to serve their intended function as venues of critical debate, discussion and deliberation. This risk may be particularly high in hierarchical settings when senior bureaucrats and political actors are presented evidence by more junior staff, who may be required by custom to be overly deferential and insufficiently critical.

The presence within policy agencies of regular, well-functioning venues for discussing and debating evidence may – over time – contribute to building cultures of "rational," evidence-informed decision-making within such organizations. Formal structures, as opposed to more informal, ad hoc processes of linking research to policy, may shift a policy organization toward a culture of deliberate, accountable evidence use. Finally, formal evidence deliberation venues were sometimes reported to provide a mechanism to resist non-evidence-based arguments, of either internal or external (e.g., industry and interest group) provenance, provided they institute rules about the standards of evidence that is admissible:

> *Instituting research-focused venues [...] for example, advisory committees provided a setting in which the evidence regarding drug policy issues could be more readily deliberated than typically through the legislative process directly. [...] Although pharmaceutical representatives were not excluded from such processes, they were forced to argue in scientific terms.*

> STUDY #10 (UNITED STATES)

Formalizing functions of deliberation and dialogue within policymaking structures may help to generate evidence of relevance to policy decisions and, perhaps more importantly, provide a venue in which such evidence can be discussed critically.

Discussion

In this chapter I have reported the findings from a thematic synthesis of a purposive sample of the qualitative literature on evidence-to-policy processes in health. This synthesis uncovered four categories of factors that appear to be important influences on whether and how research evidence is used by health policymakers.

First, perhaps most obviously, features of the supply of research evidence available for consideration by policy actors influence whether evidence-informed policymaking is even possible. If satisfactory research has not been conducted on the policy issues and proposals under consideration – if there is no relevant evidence base on which to draw – evidence use is obviously impossible. Furthermore, it is not enough that evidence is available, it must also be accessible to policymakers. That is, research has to be available in forms and formats that researchers can understand, and published in venues where they or their representatives can access it.

This synthesis revealed that policymakers make a number of judgements when they come across a piece of evidence or body of findings that influence the degree to which they perceive evidence as "usable" knowledge (Lindblom & Cohen, 1979). These judgements – which resemble the 'truth tests and utility tests' reported in Carol Weiss's work (Weiss & Bucuvalas, 1980) – are made based on their perceptions of the quality and substance of the research itself, but also on how the evidence is packaged and presented. Research that is perceived as practical, actionable, and relatable is particularly likely to receive policy attention, as is research communicated in simplified, concrete terms, or as lists or 'menus' of policy options or recommendations. Conversely, research perceived to be arcane and complex, overly theoretical

and abstract, and conducted mainly to satisfy academic curiosity, is commonly reported as less attractive.

Trust in the source of the evidence and confidence in the reliability of research findings appear to be important mediators of evidence use. In particular, policymakers place a great deal of importance on the credibility of the source of research: the reputation of the authors, the prestige of the publication venue, and that of the sponsors of the research. Notably, research evidence generated from studies that were conducted, financed, or otherwise sponsored by the World Health Organization was found to be particularly influential, especially in low- and middle-income countries.

Second, several factors were categorized as relating to the interface between research and researchers, on the one hand, and policymakers and policymaking bodies, on the other. Like previous reviews of this literature, this synthesis showed that the existence of close connections between researchers and policymakers increase the chances of evidence playing a prominent role in policy processes. Such connections can take the form both of informal, personal relationships, as well as more formal partnerships on the scale of policy agencies and research organizations. Such relationships may facilitate evidence use both through researcher-to-policymaker channels of communication, which allow for new research to be brought to the attention of decision-makers, but also through policymaker-to-researcher communication channels, which bring policymaker perspectives, preferences and needs to the attention of researchers, who can then feed these views into the design and conduct of research, resulting in an increase in its policy relevance.

Third, political circumstances and characteristics of policy processes were found to be important factors. This synthesis shed light on the characteristics of policy issues, decisions and

processes that denote likely amenability to evidence. In general, the extent to which decisions, processes and issues are either of a technical or a political nature was found to be indicative of likely evidential influence. Ultimately, much of this comes down to power. What scale of change does the evidence imply? And can such change be achieved without upsetting existing political and social hierarchies and balances of power, the challenging of which would be controversial and politically sensitive? In the presence of relevant research and the motivation and capacity to use it, it appears to be relatively straightforward for policymakers to make evidence-based decisions when those decisions are highly technical and do not involve taking on the interests of powerful constituencies. However, when policy processes are characterized by conflict and contention, and when powerful political interests are at stake, the role of evidence is more likely to be minor, or relegated to a legitimizing or rhetorical function, rather than serving as the lodestar that sets the direction for, and drives the content of, health policy.

Finally, a series of factors related to the organizational and institutional contexts in which health policymaking takes place emerged as important influences on evidence use. This synthesis identified some of the potential benefits of formalizing evidence use functions within policy organizations in the form of dedicated institutional structures and codified or mandated practices. It has shown that, at least in some cases, institutionalizing evidence use processes appears to lead to more rational, deliberate and consistent evidence use. It also showed that the establishment of formal systematic evidence use processes can allow for the deflection of interest group influence – via the insulation of policy processes from agenda-driven, poor quality evidence – because of the explicit scientific criteria required. However, it may be that this effect is only possible for highly technical decisions, such as the prioritization of health technologies, for which such rigid technical standards can be uniformly applied.

However, this thematic synthesis has not successfully uncovered rich findings about *how* and *why* such institutional measures might lead to better evidence-informed decision-making, nor, crucially, the conditions under which these efforts are more or less likely to be effective. In the adapted realist synthesis – presented in the next chapter of this thesis – I take this challenge forward. By approaching this literature through the lens of scientific realism, rather than the thematic approach taken here, I aim in the next chapter to present more granular, contextually-sensitive, and above all explanatory findings about the effects of institutionalizing evidence use processes. In doing so, I also provide the makings of a critical methodological comparison between the thematic approach demonstrated in the present chapter and the realist approach in the one that follows. This methodological discussion is provided in **Chapter 7** of this thesis.

Strengths and limitations of this synthesis

This thematic synthesis has many important methodological strengths. Relevant studies were identified, screened and appraised using the highest standards of rigor for systematic reviews. All tasks related to title and abstract screening, the review of eligible full-text articles, extraction of study data, and appraisal of study quality were conducted in duplicate with the support of co-authors. This thematic synthesis included some methodological innovations that had hitherto not been applied in reviews of evidence use in health policy. For instance, most previous syntheses have not made use of a formal quality appraisal instrument to facilitate a critical reading of included papers. Moreover, the use of three methods of purposive sampling in this synthesis allowed for the inclusion both of several data-rich and highly relevant qualitative case studies investigating the factors affecting evidence use, as well as studies from a diversity of policymaking settings (i.e., sub-national and national levels) and geographic locations. It also facilitated a process through which the evolving findings of the synthesis were actively subjected

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to critical interrogation through the deliberate seeking out of potentially disconfirming cases in the literature. This latter stage of sampling helps to ensure the robustness of the factors identified above (Booth, Carroll, Ilott, Low, & Cooper, 2013).

Still, the strength of the findings presented here is limited by some of the weaknesses common to qualitative research in general, and those associated with this body of literature in particular. Qualitative research is not equipped to yield estimates of either the prevalence or relative importance of each of the factors affecting the use of evidence by policymakers. This synthesis is an interpretive product, not a statistical one. It is difficult in an analysis like the one presented in this chapter to indicate with confidence which factors are most or least influential. These challenges are compounded by deficiencies in this specific body of evidence. The qualitative evidence-to-policy literature is dominated by studies that depend either on participant accounts of evidence use – almost always either retrospective or hypothetical – rather than prospective studies of decision-making or the direct observation of policy processes (Verboom & Baumann, 2020). While most studies included in this synthesis triangulated across multiple sources of data, and included the perspectives of actors outside of policy and political systems, nearly all are subject to social desirability and recall biases.

The strengths and weaknesses of the specific approach to qualitative synthesis used in this chapter is a major subject of **Chapter 7** of this thesis, in which I provide a critical side-by-side comparison of the process of conducting a thematic synthesis and a realist synthesis of complex qualitative literature on two closely related topics.

Conclusion

Claims of and calls for evidence-informed policymaking pervade public health journals and the literature of governments and global health agencies, yet our knowledge of the

conditions and arrangements most conducive to the appropriate use of evidence is incomplete and fragmented. The thematic synthesis reported in this chapter was motivated by the observation that, while much qualitative primary research has been conducted to examine the factors affecting evidence use by health policymakers (Verboom & Baumann, 2020), this literature remained largely unsynthesized. This synthesis of the qualitative literature was the first on the subject of evidence use by health policymakers to apply a formal method of qualitative synthesis to this body of evidence. The factors identified here may inform future interventions and strategies to improve the use of research by policymakers.

However, not all research synthesis experts agree that this is the most appropriate methodological approach to synthesizing qualitative evidence to inform decision-making (Brennan, Greenhalgh, & Pawson, 2018). In the chapter that follows, I present an alternative approach to understanding this literature: a realist synthesis examining the interactions between the social mechanisms and contextual conditions underlying efforts to institutionalize evidence use in health policymaking organizations.

Chapter 5: Institutionalizing the use of evidence in health policymaking: A realist synthesis

Introduction

In the preceding chapter I presented the findings of a thematic synthesis on the factors influencing evidence use by health policymakers, the first of two evidence syntheses included in this thesis. In the present chapter I present the second of these syntheses, a realist synthesis on a closely related, but more specific, topic: the institutionalization of evidence use in health policymaking.

Since the advent of the 'movements' for evidence-based – and, later, evidence-informed – policymaking, a wide array of initiatives have been designed and implemented to increase the generation of policy-relevant research evidence, to facilitate the translation and transfer of such evidence to policymakers, and to improve the capacity of policymakers to apply research findings effectively. However, these interventions, which have primarily been targeted at individual policymakers and researchers and, occasionally, policymaking organizations, have generated outcomes that are, at best, moderate, mixed and ephemeral (Bunn & Sworn, 2011; LaRocca, Yost, Dobbins, Ciliska, & Butt, 2012; Mitton et al., 2007; Murthy et al., 2012). For instance, while providing skills training to individual policymakers on research appraisal, or convening knowledge sharing dialogues that facilitate interaction between researchers and policymakers, may produce modest salutary effects on decision-making, such effects tend to dissipate with time for a number of reasons, not least because of the regular turnover of both policymakers and researchers and the attendant loss of institutional memory (Parkhurst, 2016). As a result, there appears to be increasing enthusiasm for designing knowledge transfer interventions and evidence use promotion strategies to target capacity strengthening at what is

sometimes called the "institutional" level (Hawkes et al., 2015; Schleiff, Kuan, & Ghaffar, 2020).

The institutionalization of evidence in policymaking is relatively poorly studied in the health sector, though there is evidence that it is an increasingly popular line of inquiry in low- and middle-income countries (Koon et al., 2020). The study of institutions to support evidence use in health policy has tended to focus on formal organizational *structures* or institutional *arrangements* designed to link evidence with policy, or researchers with policymakers (Ettelt, Hawkins, & Alvarez-Roset, 2013). In health policy and systems research, this has manifested most prominently in the proliferation of (studies of) so-called knowledge transfer platforms, multi-faceted capacity building initiatives, often embedded in government organizations, that are designed to support evidence uptake in policy decisions (Partridge et al., 2020). More general efforts to 'embed' research units within policymaking organizations and institutions (Ghaffar et al., 2017; Koon, Rao, Tran, & Ghaffar, 2013; Swaminathan et al., 2020) also exemplify this dominant conceptualization of institutionalization as the creation of concrete, tangible structures and arrangements.

Institutionalization implies the achievement of a degree of durability, stability and/or sustainability of the desired practice – in this case, evidence use for policymaking – and the activities and capacities to support it (Koon et al., 2020). However, the concept of institutionalization is arguably more nuanced than the idea of sustainability, involving not just the maintenance of practices following their adoption, but also their capacity to endure in the absence of external support (e.g., funding) and in the face of external shocks (Novotná, Dobbins, & Henderson, 2012). Novotná et al. (2012) argue that "it is when new practices become highly institutionalized that their integration into daily activities and routines maintains their impact on

organizational functioning without the need for additional external interventions" (p. 2).

Similarly, researchers of health sector priority setting, including the authors of a rapid literature

review for the International Decision Support Initiative (Lloyd, Newbatt, & Jackson, 2018),

defined the institutionalization of evidence-informed priority setting as a process of "developing

accepted norms and rules, and sustaining effective working relationships between relevant

policymakers and research institutions" (Li et al., 2017, p. 3).

The emphasis in these conceptualizations on rules, norms and processes – as opposed to

the "bricks-and-mortar arenas within which decisions are made" (Cairney, 2011, p. 91) – is

consistent with classic definitions of the institution, for instance, in the disciplines of political

science (March & Olsen, 1984), international relations (Keohane, 1988) and organizational

sociology (Scott, 2013). Indeed, in one of the most popular definitions, March and Olsen (2006)

characterize an institution as "a relatively enduring collection of rules and organized practices,

embedded in structures of meaning and resources that are relatively invariant in the face of

turnover of individuals and relatively resilient to the idiosyncratic preferences and expectations

of individuals and changing external circumstance" (p. 3).

In this synthesis I assume that the institutionalization of evidence use in health

policymaking can manifest both as institutional structures and arrangements, on the one hand, as

well as rules, norms and processes, on the other.

Through the descriptive content analysis of academic commentary and opinion articles

that was conducted to inform the initial theorizing for this realist synthesis, the

institutionalization of evidence use for health policymaking was understood to work through four

functional domains: the *embedding* and *formalization* of institutional arrangements, structures

and procedures, the *normalization* of standards, activities and processes, and the *mandating* of

behaviour. These four domains form the basis for the initial program theory for this realist synthesis, which is described in the section that follows.

Initial program theory

The initial theory generation process for this realist synthesis, which involved a content analysis of academic commentary articles on evidence-to-policy processes, yielded a large number of claims, assumptions and hypotheses about the processes through which evidence-informed policy is most likely to be achieved, and the contextual conditions under which such processes are more or less likely to be successful. Through a gradual narrowing of the scope of the synthesis – a process known as 'focussing the review' (Wong et al., 2013) that is typical in realist syntheses – I arrived at a small number of propositions focused on the institutionalization of evidence use in health policymaking. It is neither feasible nor necessary to detail here all of the ideas explored, considered, rejected and refined en route to developing these propositions (the procedures followed are described in detail in **Chapter 2** of this thesis); instead, before turning to the findings of this synthesis, I briefly summarize the key propositions embedded in the initial program theory.

Claims, conjectures, assumptions and hypotheses in this commentary literature that spoke to the functions of efforts to institutionalize evidence uptake clustered around four themes: *embeddedness*, *formalization*, *normalization*, and *mandating*. The initial propositions for this realist synthesis, which together constitute the initial program theory, are summarized under these four headings.

Proposition 1 – Embeddedness
Embedding key functions on the pathway from evidence to policy – including research planning and priority setting, evidence generation, deliberation and discussion of evidence, and the translation of evidence into recommendations and policy advice – within the infrastructure of government increases the likelihood of evidence uptake and use. Embeddedness leads to

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evidence use through mechanisms related to availability and accessibility of evidence and the perceived policy relevance of evidence generated and disseminated by embedded institutions.

Proposition 2 – Formalization
The formalization of key functions, roles and relationships in evidence-to-policy processes can increase the likelihood of sustained and consistent evidence use. Within policy organizations, the assignment of formal responsibility to individuals or groups makes evidence use more likely. Formal venues for researcher-policymaker interaction are more effective than informal relationships, and formal structures for the generation of evidence-informed policy recommendations are more effective than informal channels of advice. Formalization leads to more consistent evidence-informed policymaking processes through the mechanisms related to explicit accountability and sustained functioning that it activates.

Proposition 3 – Normalization
In a given policy context, the extent to which evidence informs policymaking is directly related to the degree to which norms of evidence use have taken hold – that is, the degree to which evidence has become an accepted, routine part of everyday decision-making. In contexts in which evidence is more normalized, consistent evidence use is more easily sustained over protracted policy processes, and research-based arguments are less likely to be ignored or defeated in hotly contested debates, because of the political currency evidence holds in such policymaking environments.

Proposition 4 – Mandating
Mandating evidence use through the use of top-down rules, decrees or policies can increase evidence use within policymaking processes by altering the incentives of the actors involved. Policymakers understand that either evidence use will be rewarded, or non-use punished (or both), and a combination of the fear of sanction and the drive to be rewarded motivates changes in their behaviour.

Collectively, these propositions can be summarized as follows:

Initial program theory
The institutionalization of the uptake and application of research evidence in health policymaking takes place through a combination of embedding, formalizing, normalizing and mandating. Embedding key structures and processes within government decision-making bodies increases the availability and accessibility of policy-relevant evidence, while formalizing researcher-policymaker relationships, evidence review processes, and evidence use procedures, increases accountability and sustainability by bestowing such functions with 'official' status. The normalization of evidence as a routine aspect of policy processes, and as something that is valued within organizational cultures, helps to sustain evidence use over time. When all else fails, decrees and dictates that mandate evidence use alter the incentives faced by policymakers, ensuring that 'the evidence' gets a hearing.

In the concluding section of this chapter, the initial theory, and each of its four constituent propositions, are revisited and refined in light of the empirical evidence from this synthesis.

Brief summary of synthesis methods

The methodological procedures for this realist synthesis – including the process of focusing the review objectives, sampling studies, appraising included studies, and managing and analyzing data – are described in detail in **Chapter 2**.

This synthesis is organized into separate cases, each selected purposively from the inventory of studies identified in the systematic review summarized in **Chapter 3**. While that review was principally designed to exhaustively identify and map the qualitative literature on evidence use by health policymakers (Verboom & Baumann, 2020), its 319 included studies also functioned as the sampling frame for the present synthesis. Those articles were scanned and, through a three-stage procedure (described in **Chapter 2**), I sampled studies examining health policymaking in the context of deliberate efforts to institutionalize evidence use norms or structures, or to systematize evidence use processes. Forward and backward citation tracking were used to identify 'sibling' publications (Booth, 2016) and other supporting documents (e.g., working papers, book chapters), which were added to the synthesis and analyzed alongside the core papers.

The materials for each purposively sampled case were read and reread through a 'realist lens' – i.e., with the understanding that observed empirical regularities can be explained using principles of generative causation – and with the initial propositions described above always top of mind. For each case, a first round of reading involved roughly coding evidence fragments that appeared potentially interesting or useful in light of the initial theory, sometimes (though not always) noting possible contexts, mechanisms and outcomes in these passages. The second round

of reading involved more formal coding of text fragments, using the context-mechanism-outcome analytical heuristic (Pawson & Tilley, 1997). Specifically, I annotated passages that appeared to provide relevant data to test parts of the program theory, labelling relevant pieces of text as 'context,' 'mechanism' and/or 'outcome.' For each coded passage I wrote a memo describing my interpretations of the causal process(es) at play. Critical appraisal of the explanatory power of evidence fragments was conducted concurrently with the coding process, and annotations and memos were used to document these assessments. Finally, a third reading of the extracted, coded and appraised evidence fragments was performed and, using analytical operations described by Pawson (2006b) as "juxtaposing, adjudicating, reconciling, consolidating and situating the evidence" (p. 76) an assessment was made of the general lessons of the synthesis and their degree of concordance with the initial theory's constituent propositions. As a result of these procedures, each of the propositions were refined, and the summary of these and the overall theory itself (provided above) was rewritten in light of the refinements.

There are several ways in which a realist synthesis can be reported. In this chapter I follow the approach modelled in reviews by Pawson (and colleagues) on demand management in healthcare (Pawson et al., 2016), mentoring relationships (Pawson, 2004) and sex-offender registration (Pawson, 2002a), and outlined in Pawson's book-length treatment of realist review methodology (Pawson, 2006b). One by one, the sampled cases are discussed, critically appraised, and my analysis of them reported using the realist context-mechanism-outcome (CMO) heuristic, and tentative conclusions are drawn about their contribution to assessing the four initial synthesis propositions. The findings then are brought together and presented as refinements to the program theory. Following my presentation, appraisal and analysis of each of the included cases, I return to the initial theory, and provide an assessment of how each of its

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four propositions has held up, having been confronted with the evidence. Again, the CMO notation is used to illustrate the structure of the synthesized explanatory claims arising from the analysis. I conclude by presenting a refined version of the program theory, as well as a (rather more conjectural) 'rival' theory that emerged from the synthesis.

Case studies and analysis

Consistent with the theory and propositions described above, the focus of this synthesis is less on the *form* taken by an institutional arrangement or intervention than on its *function.* I sought examples from the sampling frame of purposive efforts to institutionalize or systematize evidentiary practices within policymaking organizations and/or broader policy contexts (e.g., networks of policymaking organizations). In practical terms, these efforts could take the form of official policies or decrees mandating the use evidence; official procedures, guidelines and instructions for how and when to use evidence; bureaucratic arrangements and institutional structures designed to feed evidence into decision-making (e.g., monitoring mechanisms, or research and evaluation units embedded in government agencies); formal venues (dedicated space and time) for sharing and using evidence (e.g., technical advisory committees); and evidence tools designed to summarize, translate and/or transfer evidence into the policy process (e.g., syntheses, policy briefs, etc.). With regards to the latter two categories, for inclusion, these efforts would have to be formal (i.e., organized) and official (i.e., sponsored, endorsed and/or commissioned by the relevant policymaking authority for the purposes of use in decision-making).

The flow of records and studies through the screening and sampling process is summarized in **Figure 6**, with stages of direct relevance to the realist synthesis shown in bold. Seventeen cases were identified from the sampling frame, each represented by at least one

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'main' or 'index' paper. Snowball searches for sibling papers and other supporting documents brought the total number of included documents to 37. While there is significant overlap between the studies included in **Chapter 4**'s thematic synthesis and those included in the present realist synthesis, many studies synthesized here were not sampled in the former. A descriptive summary of the 17 cases is provided in **Table 13**.

In each of the sub-sections that follow, my interpretation of each case is summarized and key methodological issues are raised and discussed. Relevant evidence is presented and CMO configurations highlighted in the body of text by using "C" (context), "M" (mechanism) and "O" (outcome) in parentheses to identify each component of the causal explanations identified.
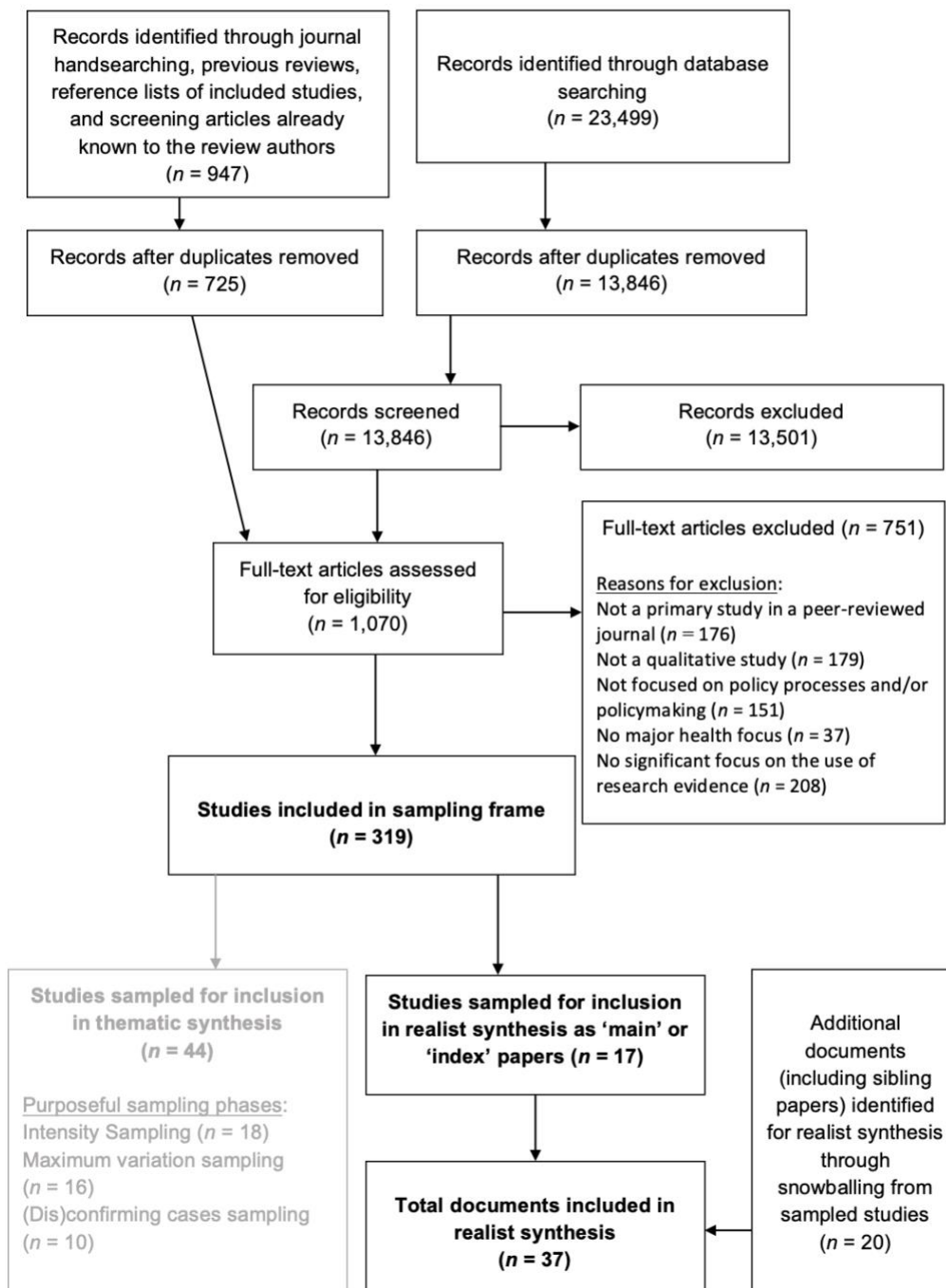
Figure 6: Diagram showing the flow of records and studies through the search and screening process of the systematic review, and the sampling process for the realist synthesis

Table 13: Characteristics of cases included in realist synthesis

Case ID	Citations		Setting(s)	Topical area of policy	Data sources	No. of participants
	Main paper(s)	Sibling papers				
1	**Nutley et al. (2002)**	N/A	United Kingdom (England and Scotland)	Drug misuse policy	Documents Interviews	9
2	**Nabyonga-Orem et al. (2014c) Nabyonga-Orem et al. (2014b)**	Nabyonga-Orem et al. (2012) Nabyonga-Orem et al. (2013) Nabyonga-Orem, Nanyunja, Marchal, Criel, and Ssengooba (2014a)	Uganda	Malaria treatment policy change Elimination of user fees for health services	Documents Interviews	>30 per case (possible overlap between the 2 cases)
3	**Lomas and Brown (2009)**	N/A	Canada (Ontario)	Not focused on specific policy or topical area	Interviews	18
4	**Flitcroft, Gillespie, Carter, Salkeld, and Trevena (2014)**	Flitcroft et al. (2011b) Flitcroft, Salkeld, Gillespie, Trevena, and Irwig (2010) Flitcroft et al. (2011c) Flitcroft, Gillespie, Salkeld, Carter, and Trevena (2011a)	Australia New Zealand United Kingdom	Bowel cancer screening policy	Documents Interviews	Not reported
5	**Shroff et al. (2015)**	Kasonde and Campbell (2012) El-Jardali, Lavis, Moat, Pantoja, and Ataya (2014) Moat, Lavis, Clancy, El-Jardali, and Pantoja (2013) Uneke, Aulakh, Ezeoha, Ndukwe, and Onwe (2012)	Argentina Bangladesh Cameroon Nigeria Zambia	Not focused on specific policy or topical area	Documents	Not reported
6	**Mbachu et al. (2016)**	N/A	Nigeria	Maternal, newborn and child health	Interviews	10
7	**Florin (1999)**	N/A	United Kingdom	Health promotion (coronary heart disease prevention) by GPs	Interviews	Not reported
8	**Liverani et al. (2018)**	Walls, Liverani, Chheng, and Parkhurst (2017)	Cambodia	Not focused on specific policy or topical area	Documents Interviews	16

Case ID	Citations		Setting(s)	Topical area of policy	Data sources	No. of participants
	Main paper(s)	Sibling papers				
9	Jewell and Bero (2008)	N/A	United States (State level)	Not focused on specific policy or topical area	Interviews	28
10	Hawkes et al. (2015)	N/A	Bangladesh The Gambia India Nigeria	Not focused on specific policy or topical area	Documents Interviews Questionnaire	Not reported
11	Huckel Schneider, Campbell, Milat, Haynes, and Quinn (2014)	N/A	Australia	Not focused on specific policy or topical area	Interviews	9
12	Ongolo-Zogo, Lavis, Tomson, and Sewankambo (2018)	Ongolo-Zogo, Lavis, Tomson, and Sewankambo (2015) Ongolo-Zogo, Lavis, Tomson, and Sewankambo (2014)	Cameroon Uganda	Four policy cases: Skilled birth attendance Malaria control Task shifting Health governance	Documents Interviews	54
13	Lavis et al. (2002)	N/A	Canada (Ontario and Saskatchewan)	Diversity of policy cases sampled in 4 categories: Governance Financial arrangements Delivery arrangements Program content	Documents Interviews	Not reported
14	Uneke, Ndukwe, Ezeoha, Uro-Chukwu, and Ezeonu (2015)	Uneke et al. (2012) Uneke et al. (2010)	Nigeria (Ebonyi State)	Not focused on specific policy or topical area	Interviews	Not reported
15	Schwartz and Rosen (2004)	N/A	Israel	Several healthcare reforms, including healthcare financing	Interviews	18
16	Vecchione and Parkhurst (2015)	Vecchione and Parkhurst (2016) Vecchione and Parkhurst (2018)	Ghana	Not focused on specific policy or topical area	Documents Interviews	24
17	Weiss, Murphy-Graham, and Birkeland (2005)	Birkeland, Murphy-Graham, and Weiss (2005) Petrosino, Birkeland, Hacsi, Murphy-Graham, and Weiss (2006)	United States (District level)	School-based illicit drug use prevention	Interviews	128

Case 1: Nutley and colleagues (2002 – England and Scotland)

The natural place to start a theory-driven synthesis on the institutionalization of evidence use is with a theory-driven primary study on institutional structures for evidence use. A study by Nutley et al. (2002) examined the influence of what the authors refer to as "micro-institutional arrangements" – defined as "the formal organisations established to connect evidence and policy" – on evidence use and, using the case of drug misuse in England and Scotland, set out to explore the arrangements that are most conducive to evidence use by policymakers, "particularly focusing on their roles, structures and modes of operation."

Methodologically, the study appears reasonably sound. Much like the present synthesis, the authors began their study with a small set of theoretically-derived propositions about the kinds of institutional arrangements that are likely to encourage evidence use. Using data from key informant interviews and policy documents, they then attempted to subject these hypotheses to empirical scrutiny. Only nine policymakers were interviewed for this study; while this number is small, this is not necessarily a weakness if the data obtained were rich and of high quality, and the informants appropriately selected. It is not immediately clear what proportion of informants work in each case country, which somewhat complicates the process of assessing the thoroughness of the data. For example, it is unclear whether adequate effort was made within each case to seek out data disconfirming the researchers' developing narrative.

A reasonable rationale is provided for the choice of topic for the case study: drug misuse is described as "one of the key social policy areas [in the UK] where there has been an attempt to use evidence to inform policy development and service delivery." In other words, this is a case in which one can expect to find a relatively large amount of evidence use or, at least, attempts to link research to policy. The latter is certainly the case, as the authors identified a variety of

relevant institutional arrangements in England and Scotland. Whether this policy area can be characterized as largely evidence-informed is, however, a more complicated matter:

> *In practice, the majority of interviewees were sceptical about the extent to which policy is currently evidence-based. Many cited occasions when official passions, rather than evidence, appeared to hold sway. […] Nonetheless, the consensus was that research evidence on drug misuse now has a greater influence than ever before.*

Several organizational structures were identified as playing a role in linking evidence and policy. Two in particular – one in each country – are worth focusing on in detail. In England, the National Treatment Agency (NTA), jointly administered by England's Department of Health and the Home Office, "aims to increase [the] availability and quality […] [of] drug treatment programmes in England." Research is at the core of NTA's mandate:

> *Its main role is to review the evidence base relating to the effective treatment of drug misuse and to produce summaries and briefings, which feed into commissioning standards, provider standards, training and development programmes, and local accountability systems for the Drug Action Teams [DATs].*

In Scotland, an office called the Effective Interventions Unit (EIU), housed within the Substance Misuse Division of the Scottish Executive's Health Department, "is responsible for the identification and dissemination of effective and cost-effective practice in tackling drug problems." The unit:

> *is a multi-disciplinary team comprising a mixture of mainstream civil servants, research specialists and seconded practitioners. […] The Unit identifies effective practice in the prevention, treatment, rehabilitation and availability of drugs, through an agreed programme of work. It then proactively disseminates its findings to policy makers, DATs and practitioners by providing information about evaluated good practice, evaluation tools, and the key principles of effective practice to underpin the design and delivery of services.*

At the start of the study, the authors established six initial propositions about the institutional arrangements and political factors likely to be conducive to evidence use, and

compared these against existing institutions active in English and Scottish drug policy. Some of the propositions are particularly relevant to this synthesis.

First, the authors hypothesized that "[e]vidence use is facilitated by institutions that bridge the academia-government gap," emphasizing in particular "policy fora that bring together analysts and officials on a regular basis." The study concluded that there is general support for this proposition, finding several "formal advisory bodies to bring academics and policy makers together" in both countries, but further emphasized that:

> [s]uch fora need to focus not only on sharing the results of existing research but also on establishing priorities and programmes for future research. The institutional arrangements that led to the establishment of the Scottish Drug Misuse Research Programme appear to be a good example of this. [...] [A]rrangements for bridging the academia-government gap need to go beyond establishing fora to bring academics and policy makers together. The use of secondments, changes to funding regimes and the redesign of incentive systems all have a part to play.

Therefore, the authors speculate that evidence advisory forums may be more effective at stimulating environments of evidence-informed decision-making when their remit is expanded beyond the communication of research results, to include a variety of evidence-to-policy functions, for instance research planning and priority setting.

Second, and relatedly, the study revealed that in the UK "the institutional mechanisms for integrating evidence and policy making centre around the location of research staff and other evidence providers and the roles that they perform." Participants expressed mixed views about the "co-location" of research staff and policymakers. A researcher is quoted expressing concern about the implications of co-location for the quality and integrity of the in-house research they produce:

> The argument for not moving the whole unit en masse down there and just sitting alongside [policy staff] is partly a professional one. It's about giving them [research staff] a wider opportunity to move around research and also to talk to other researchers. It's also preserving some degree of independence -

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that's actually quite important in terms of ensuring the quality of research output.

The policymakers interviewed "were more in favour of [co-location] than researchers," with one policymaker expressing this as a means of ensuring that in-house research is of practical relevance rather than overly academic and arcane:

> *One risk of being [separate] in a slightly more research focused environment is that you are very preoccupied by what you might describe as a more academic end of the spectrum ... holding onto principles that aren't necessarily fit for our particular purpose. You are better starting off with what you are trying to do, which in our case is build a drugs strategy, than have a research strength.*

We are left with competing hypotheses about the merits of close day-to-day working arrangements between policymakers and in-house research staff. On the one hand, co-location may support the development (O) and use (O) of practical, policy-relevant analysis by exposing in-house researchers to the policy development environment, allowing policy priorities (rather than academic curiosity) to drive evidence generation (M). On the other hand, if the quality of the evidence generated by researchers suffers (O) as a result of the loss of freedom and independence from policy processes that might accompany co-location (C) and the attendant pressure to produce easy-to-use evidence (M) – for example, findings that are in line with pre-existing policy priorities – then in-house research may be more prone to legitimating, rather than informing, policy development (O).

On the whole, their findings on co-location prompted the authors to add a theoretical proposition not anticipated in their initial list of hypotheses:

> *Evidence use is facilitated by mechanisms for bringing together government analytical staff with their policy counterparts. It is not enough to allocate analysts and policy staff to work on a policy issue. Institutional arrangements need to be put in place in order to get the benefits of 'sustained interactivity' (Huberman, 1987). Co-location is one option but does not seem to be a*

> *necessary condition for achieving a good working relationship, and is certainly not a panacea.*

In other words, co-location is just one way to activate mechanisms related to 'sustained interactivity.' This concept, in its original formulation by Huberman (1987), refers to 'intensive' links between evidence producers and target users throughout the research generation process. Institutional arrangements that can generate this sustained interactivity may lead to greater evidence uptake (O) by improving researchers' ability to communicate evidence in a way that policymakers will find meaningful (M), and by sparking greater investment in and engagement with the evidence on the part of policymakers (M).

Third, the authors initially hypothesized that "[e]vidence use may be facilitated when the makers of policy are specialised experts in the substance of the policy domain." This proposition was revised in light of their analysis to read:

> *Evidence use is facilitated by the establishment of quasi-policy bodies that are specialists in the substance of the policy domain. Mainstream policy staff within the civil service continue to be generalists by nature and we are not suggesting that this needs to change. The establishment of bodies such as the NTA seems likely to facilitate the development of an appropriate specialist/ generalist balance. Investment in a substantial body of specialist evidence providers, as is the case in the Drugs and Alcohol Research Unit and the Effective Interventions Unit, appears to offer similar advantages.*

This supports the general notion that institutionalizing expertise within a policy organization is likely preferable to a reliance on individual-level expertise. In the parlance of my initial propositions, 'embedding' specialist expertise in the infrastructure of government may bode well for evidence-informed decision-making.

Fourth, the study began with a proposition suggesting that "[e]vidence use needs a thriving social science community to supply evidence for the policy process." This was amended in recognition of the need not just for an ample supply of *research* evidence, but also for ways to incorporate other types of information alongside research:

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Evidence use needs mechanisms to integrate research with other forms of evidence. While the need for integration is clear, particularly from a policymaker's viewpoint, the best mechanisms for achieving this are not as yet obvious.

Indeed, in relation to the Scotland case, the authors noted that "[i]nterviewees suggested that the fact that the EIU works with a broad definition of research and evidence seems to be helpful in making the connection with policy." The authors' interpretations suggest that evidence advisory structures are more likely to be given attention by policymakers (O) and the evidence they provide used (O) when such bodies operate with a broad conception of evidence or useful knowledge (C). The integration of research with other forms of evidence that are valued by, and of interest to, target policymakers may increase the "palatability" of the research – the degree to which it is perceived as useful (M).

This study has provided some useful – if highly tentative – findings to carry forward in this synthesis. However, there are some major limitations here. The authors included both the Scotland and England cases "in order to compare their differing institutional arrangements." The paper's strength is its detailed description of the salient features of the institutional arrangements in the two countries. However, the scope for comparison was not optimally capitalized upon. Nor did the study generate sufficient data on the performance of these institutions, for instance by looking at specific cases of policy development or change across the two case jurisdictions, to make strong claims about their effectiveness at facilitating evidence use. While some hypotheses about the key mechanisms underlying institutional structures could be extracted, there is not as much to glean here about contextual features that are essential to the operation of these mechanisms. The result is evidence that is highly partial and qualified, but is nonetheless helpful in refining Propositions 1 and 2.

Case 2: Nabyonga-Orem and colleagues (2014 – Uganda)

For the next case I examined a series of linked, theory-driven studies by Juliet Nabyonga-Orem and colleagues on the role of evidence in health policymaking in Uganda. The researchers began with a literature review and interview study on the barriers to and facilitators of evidence uptake, which they used to develop and refine a generic middle-range theory (MRT) on the role of evidence in Uganda's health sector policymaking (Nabyonga-Orem et al., 2012). This was complemented by an interview study examining the role of the myriad stakeholders in evidence-to-policy processes in Uganda (Nabyonga-Orem et al., 2013), and followed by two policy process case studies to test and refine the MRT, the first focusing on the removal of user fees for services at government health facilities (Nabyonga-Orem et al., 2014c), and the second examining changes to malaria treatment policy (Nabyonga-Orem et al., 2014a; Nabyonga-Orem et al., 2014b).

Recognizing the predominance in the knowledge translation literature of wealthy country perspectives, Nabyonga-Orem et al's objective in the first study was to generate a theoretical framework accounting for the unique facets of decision-making in low-income countries, notably "the chaotic nature of policy making that may not allow for evidence infusion, the exaggerated role of donors, the problem of research supply and the role of civil society." The researchers identified a number of factors of importance to evidence uptake in Uganda. Their initial interpretations of the literature showed, among other things, that:

> *[i]nstitutionalized platforms for engagement between researchers and policymakers right from setting the research agenda to policy development and implementation need to be in place for effective and continuous dialogue. This enables policymakers to appreciate the research processes and ensure their involvement in evidence generation. On the other hand, it enables researchers*

> *to appreciate the policy process, implementation challenges and to develop relevant research questions.*

Formal, institutionalized dialogic platforms are therefore more likely than informal relationships between policymakers and researchers to generate improvements in consistent and systematic evidence use (O) because, through long-term engagement, they can allow researchers and policymakers to develop mutual trust (M) and to understand the work of the other professional group (M). This, in turn, can lead to improvements in the relevance of research evidence (O).

The researchers identified "institutional strengthening for [knowledge translation]" as one of the most important facilitating factors, arguing that:

> *[a]dequate capacity for knowledge management and institutionalized mechanisms for researcher-policymaker interaction contribute to higher ownership and consequently, better application of evidence.*

Therefore, a sense of ownership over evidence (M) was understood to mediate the observed relationship between the formalization of evidence use procedures and researcher-policymaker relationships within government bodies and improvements in evidence use by decision-makers (O).

The policymaker interviews that followed the initial review of the literature pointed to the prominent role of civil society actors in Uganda's policy processes, prompting a modification to the initial theory:

> *Concerning institutional strengthening, this study shows that policymakers favor broadening the institutional platforms for KT in the health sector beyond researchers and policymakers to include civil society. This is contrary to several of available KT frameworks. […] This may be because of the increasing role currently played by civil society in research, priority setting and KT in low income countries and, in that case their inclusion becomes important.*

Finally, the idea of embedding institutional evidence use structures within existing government decision-making bodies was met with endorsement on the part of the Ugandan policymakers

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who were interviewed, who suggested that it could improve evidence use (O) through mechanisms related to greater access to decision-makers (M) and their institutional knowledge and expertise (M):

> *Policymakers expressed preference for stronger structures within MoH to undertake overall coordination of research processes and KT. [...] Such structures are more likely to improve access to relevant [policy] audiences, [who] have insights in topical policy issues and broader health sector concerns enabling them to engage more effectively in KT.*

Acknowledging that their generic MRT had been developed "without a specific reference to a given research project and policy outcome" the researchers recognized that "the extent to which [the identified factors] are valid in other settings needs to be tested in specific policy case studies." Therefore, following the development of their initial theory, Nabyonga-Orem et al. conducted two separate case studies in order to subject the theory to empirical scrutiny.

The first case study examined the abolition of health care user fees at Uganda's public health facilities, which was announced by Ugandan President Yuweri Museveni during the 2001 presidential election campaign, amidst renewed commitments to poverty eradication in the wake of the neoliberal "structural adjustment" reforms of the 1980s and 90s. The policy process itself played out in the context of a high degree of issue polarization, that is, significant divisions between the key actors involved – politicians, technical policymakers, donors, and civil society – about how to move forward on the issue of user fees.

While different forms of evidence featured in the policy process in various ways, with different actors using evidence instrumentally, conceptually or symbolically to suit their various interests, the ultimate decision to pursue the elimination of user fees appears to have been driven by political considerations, rather than a clear-eyed examination of "the evidence." If anything – argues Nabyonga-Orem et al. – President Museveni's decision is an example of the "[s]ymbolic use of evidence [in which] the president used evidence to make a politically attractive decision."

Some study informants suggested that "evidence was not used in an objective manner" in the user fees policy process. Rather, according to one MoH official:

> *Political experience overtook this process and the decision to abolish user fees was not a health sector decision; it was a pronouncement from the head of state. We had not gone to him and given him evidence directly, but communities had complained to him.*

Said one elected politician:

> *Abolition of user fees was a political decision, it was not based on systematic evidence but [was rather a result of] fury from the public that user fees had become politically unsustainable.*

In the second case study, on the other hand, research evidence appears to have played a much more direct and instrumental role in the policy process in question. The study examined changes to, and the implementation of, malaria treatment policy in Uganda in the mid-2000s. Due to concerns about increasing resistance to the long-used drug Chloroquine, the front-line malaria treatment was changed twice, first to a Chloroquine-sulphadoxine/pyrimethamine combination, and then to the now standard artemisinin-based combination therapy. The case study focused on decision-making related to the latter change in front-line treatment, finding that – in contrast to the user fees policy process that had played out a few years prior – "evidence *guided* decision-making" (my emphasis).

While Nabyonga-Orem and colleagues presented the two case studies as standalone contributions – as opposed to conducting a formal comparative analysis – I examined the two cases side-by-side to extract some comparative insights of use to this review.

The first lesson has to do with the issue of embeddedness. This case supports the hypothesis that the anchoring of research-to-decision functions within government bodies, like ministries of health, improves the likelihood of evidence playing a prominent role in a given policy process.

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In the user fees case, the authors observed that "mainstreamed mechanisms (within the MoH) to coordinate evidence generation, synthesis and dissemination were absent." The ministry of health was not the focal point for evidence-to-policy processes in this case, with external actors (notably, donors) taking the lead in this domain:

> *The MoH's institutional leadership of the KT processes was weak; the process of evidence generation and dissemination was mainly donor driven with the MoH playing primarily a recipient role. We noted a lack of coordinated efforts [by the MoH] to synthesize and disseminate evidence, which could have served to resolve the seeming contradictions in the available evidence.*

Therefore, the engine of evidence dissemination and overall coordination was situated outside of, rather than embedded within, the machinery of government. The authors reasoned that "[t]he dissemination of available evidence suffered shortcomings due to a lack of mainstream mechanisms from the MoH to coordinate the process."

In the malaria case a few years later, the key evidence review and dissemination functions were led by and embedded within the health ministry:

> *The MoH took leadership of the knowledge synthesis and application process through participation in, and chairing, the working group charged with synthesising all available evidence and making recommendations to the steering committee, which consisted of the decision-makers.*

Through commissioning key studies, managing processes of data collection and review, and institutionalizing deliberative stakeholder dialogues, the ministry of health took a "leadership role in coordinating the generation, synthesis, and application of evidence," functioning as the principal institutional evidence-to-policy actor in the malaria case. This confirmed one of the researcher's initial hypotheses, namely that "[m]ainstreamed mechanisms within [the] MoH to coordinate evidence generation, synthesis and dissemination [leads to] higher ownership and better application of evidence."

This case also supports the notion that *formal* dialogic platforms for interaction between research producers (i.e., academic experts) and users (i.e., policymakers) are more likely to be facilitative of systematic and instrumental evidence uptake than *informal* relationships. Formal platforms institutionalize relationships between these two groups of actors, increasing the likelihood that they will be sustained over time. In the malaria policy change case, "[t]he availability of structures within the MoH to enable systematic dialogue was highlighted as a factor that improved the uptake of evidence." In contrast, the authors observed that, in the user fees case, "although platforms for engagement were in place, they were short lived, weak and of limited involvement." These informal and ad-hoc platforms appear to have had little effect on evidence use. Such deliberative forums appear, then, to be less likely to be given political attention (O) and their policy recommendations heeded (O) when they are ad-hoc, temporary and informal (C), presumably because such recommendations are easy to ignore without political or professional penalty (M).

In their initial MRT, the researchers posited that dialogic platforms for researcher-policymaker interaction would be further enriched by the perspectives of other stakeholders, notably prominent civil society actors. The implicit hypothesis is that the inclusiveness of these platforms is an important contextual factor. The malaria case provides some support for this notion:

> *Platforms to enable inclusive participation were [...] in place for evidence to be discussed, which facilitated consensus building, as highlighted in the following quote [from a donor respondent]: "The way the policy process worked is that the malaria programme in the ministry called together all its technical stakeholders - all its partners - everyone, government, academia, NGOs, etc. Everyone sat in one room and debated what they thought the best policy option should be. I thought this was an excellent process".*

Formal platforms for stakeholder dialogue may be more effective at linking evidence to policy (O) when they are inclusive (C), that is, when they are open to other important stakeholders,

including civil society actors. Policy change is likely to stall in the absence of the endorsement – or, at minimum, acquiescence – of key constituencies and interest groups. It may be that the inclusion of these stakeholders in evidence deliberation forums creates fertile ground for the achievement of policy consensus (M).

These findings provide general support for the overarching thesis that embedding evidence use functions within government decision-making bodies increases the likelihood of consistent evidence uptake. From a methodological standpoint, the interviews appear to have been conducted rigorously, and the coding and analysis procedures used were reported in a highly (almost unusually) transparent manner. The volume of data reviewed was impressive, and it seems reasonable to conclude that the most important aspects and issues related to each case study were covered. Confidence in the reliability of the findings is strengthened by the researchers' repeated testing of their theory across multiple policy cases, though the applicability beyond Uganda of these insights is, of course, not a given. The preliminary findings from both of the case studies were presented to informants for feedback prior to finalization of the results – a process known as member checking – which also lends credibility to the studies' conclusions. Some caution in interpreting the findings from the key informant interviews is warranted because of the familiar risks of recall bias and social desirability bias, but the authors' use of multiple and diverse sources of data goes some way toward allaying these concerns.

Case 3: Lomas and Brown (2009 – Ontario, Canada)

Setting out to identify "the best models and tools to encourage more evidence-informed decision making [and] more research-based dialogue in the policy world," Lomas and Brown (2009) conducted a case study of Ontario's Ministry of Health and Long-Term Care. Interviews were conducted with relatively senior civil servants – whose jobs involve, among other things,

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the preparation and provision of policy advice to politicians – in order to shed light on "the specific tools [the Ministry] has implemented in its quest to better equip them for evidence-informed policy advice." The authors explained their selection of these informants, as opposed to, for instance, politicians or more junior actors like policy analysts:

> *[W]e interviewed the assistant deputy ministers and directors in the three divisions of interest plus the senior medical, scientific, and health technology adviser. We chose this level for our interviews because it best represented the balance between active involvement in policy advice and active involvement in the information gathering that contributes to that advice.*

The study appears to have been conducted in a methodologically rigorous fashion, though (like some other studies in this review) there seems to have been an overreliance on interviews to the exclusion of other possible sources of data (e.g., documents and observation). However, the authors had intimate knowledge of the study context and a high degree of familiarity with the informants. Indeed, the second author was himself a senior civil servant within the ministry. While this implies a great depth of contextual understanding, 'insider-conducted' qualitative research always raises the possibility of less-than-critical assessments of organizational practices, and the risk of overly friendly interviewer-interviewee dynamics. The latter concern was allayed somewhat in this study by the first author, rather than the 'insider' author, conducting all interviews.

The overarching contribution of the paper to this review is the insight that, in order to be optimally effective, institutional structures for supporting evidence use – what the authors call "tools" – need to be tailored to address the specific challenges and needs associated with different types of policy decision. Put another way, different policymaking activities – different stages of the policy process – call for different evidence tools. The authors explain this by distinguishing between three categories of policy activity – agenda setting, policy development,

and the monitoring and modification of policies – each characterized by different relationships with research evidence:

> *For setting agendas, the evidence is* pushed *at civil servants by interest groups (including researchers) claiming priority for their issue/s. That is, the evidence is not fulfilling any immediate policy development need. Civil servants are not brandishing a demand for research but instead are in a defensive stance to limit the entry of research and other inputs being pushed at the system. [...] In contrast, civil servants demand research evidence when they are developing new policies. Relevant evidence is being* pulled *from its sources by civil servants to inform or buttress specific recommendations, usually prepared under deadline. [...] Finally, the function of evidence for monitoring and modifying policy [...] is characterized by the need of civil servants to create an ongoing relationship with evidence, using it to check in and determine whether to revise a policy or adjust a continuing program implementation. Civil servants are in a more protracted* linkage and exchange *relationship with researchers and their products (emphasis in original).*

The authors' understanding of policymakers' evidence-related needs during these three stages, combined with their informants' descriptions of the ministry's tools for linking evidence with policy, yield some provisional insights about the mechanisms through which organizational and institutional structures may support evidence use during each policymaking stage.

The authors suggest that for setting agendas and anticipating issues on the horizon (C), tools that serve screening and filtering and prioritization functions are needed:

> *The most useful tools are those that manage th[e] shower of claims [from researchers and others], helping distinguish the more important from the less important. In this area, research is often considered as just another element clamoring for attention; it is seen as useful only if it can help screen out all but the most pressing issues through the rebuttal of claims, a task most often performed by civil servants themselves rather than external researchers.*

For example, the ministry's *Health System Trends Report*, which is updated regularly through a Delphi process by an external expert panel, "help[s] screen claims from the various interest groups trying to get their issues on the ministry's policy agenda." The most useful pieces or bodies of evidence cannot be used to inform decision-making (O) if they do not reach the attention of decision-makers; this can be cognitively demanding and time-consuming if support

is not available (e.g., from "tools" or institutional structures) to filter through the morass of competing evidential inputs and to facilitate the process of prioritizing the evidence that is most worthy of their attention (M).

Once an issue is on the agenda – that is, once it has been decided that some kind of policy action is in order – policymakers' informational needs are different. During policy formulation processes (C), institutional tools that save policymakers time and energy as they race to meet deadlines (M), and that translate and simplify evidence into more comprehensible and usable formats (M), are most likely to be effective at facilitating evidence-informed decision-making (O):

> *The most useful tools are those that provide one-off summaries and syntheses of evidence for the relevant theme and deliver them on short notice through readily accessible technologies and in user-friendly formats. In this case, civil servants are in a motivated and information-seeking open stance with regard to specific and relevant research, now seen as a way to speed the path to effective policy.*

As an example, "rapid response literature reviews with as little as a forty-eight hour turnaround" are generated by an in-house team of eight technical staff. While the researchers point out that "[t]he product's comprehensiveness obviously is related to the time available" this kind of embedded evidence review process can help to address "the more urgent needs of civil servants working on real-time policy advice" at the policy development stage.

Finally, after a policy has been adopted its implementation is monitored and modifications are considered. This overlaps with the 'policy evaluation' stage that often appears in conventional depictions of the "policy cycle" (e.g., Jones, 1984). Compared to the other two stages described by Lomas and Brown, in this stage "the function of evidence for monitoring and modifying policy is not nearly so time limited" and "the civil servant is in an ongoing rather than periodic relationship with evidence." The evidential needs associated with monitoring and

modifying policies (C) imply a need for institutional structures that facilitate the nurturing of sustained and ongoing (M), trusting relationships (M) with researchers and/or experts, and other sources of evaluative evidence:

> *The most useful tools [when monitoring and modifying policy] are those that facilitate [the linkage-and-exchange] relationship and feed it a steady stream of relevant data and results. In this case, civil servants are developing a trust relationship with the sources of evidence, helping researchers understand the context, and using the research as part of their own learning as well as in discharging their specific responsibilities.*

A final point by the authors hints at the potential long-term ripple effects, or positive feedback loops, that can be initiated by the development and nurturing of institutional evidence use structures. They reflected on:

> *the need to sustain activities long enough that a cultural tipping point is reached in the policy organization, that the culture of action is replaced with a culture that combines action with evidence-informed thinking. Clearly, the Ontario ministry has not yet reached this point. But as it starts to gain a reputation for its emerging competence and government-wide leadership on thoughtful agenda setting and policy development and modification, its growing self-image should become a powerful perpetuating and sustaining factor.*

If nurtured over time (C) – for instance, championed by successive senior leaders (C) – organizational evidence use structures or procedures may evolve into routine, institutionalized practices (O), through a shifting in the prevailing organizational culture wherein systematic evidence use becomes the norm (M).

It is worth noting that Lomas and Brown's arguments hinge heavily on an understanding that the defining feature of agenda setting stage is an excess of external pressure and the "defensive stance" that accompanies this. Likewise, on their theory, policy formulation is characterized by an evidence-seeking stance as policymakers are motivated to locate evidence to reduce uncertainty and bolster their confidence in their policy recommendations. These are

obviously oversimplifications, though they serve as useful heuristics for our purposes in this review.

Case 4: Flitcroft and colleagues (2014 – Australia, New Zealand and United Kingdom)

One of the principal motivators of research into evidence-to-policy processes in health is the observation that, even when strong and consistent evidence of (cost-)effectiveness is available, health policy interventions are often differentially adopted and implemented across jurisdictions. In the face of such observations, researchers sometimes set out to explain these variations by appealing to the institutional and political differences between jurisdictional contexts. This is the basic rationale provided by Flitcroft et al. (2014) for their three-country case study on bowel cancer screening policy:

> *There is solid evidence from meta-analysis of randomised controlled trials (RCTs) that screening for bowel cancer using faecal occult blood tests (FOBTs) can reduce the relative risk of dying from bowel cancer by up to 25% (Hewitson et al, 2007). Australia, the UK and NZ [New Zealand] examined this same RCT evidence for the benefits and potential harms of population screening for bowel cancer using FOBTs. The UK and Australian governments subsequently piloted bowel cancer screening in 2000 and 2002 respectively, and began implementing national screening programmes in 2006. In contrast, NZ, with the highest age standardised mortality rates of bowel cancer in the world (IARC and WHO, 2010c) decided against bowel cancer screening and has only recently announced a pilot programme to commence in 2011.*

Very few methodological details are provided in the comparative paper, but for more information we are referred to published versions of each of the individual case studies in New Zealand (Flitcroft et al., 2011b), where, at the time of writing, a bowel cancer screening program had yet to be implemented, but was being piloted, and Australia (Flitcroft et al., 2011c; Flitcroft et al., 2010) and the United Kingdom (Flitcroft et al., 2011c), both of which had adopted bowel cancer screening programs, but had implemented them with considerable differences. Each of the three case studies involved a comprehensive analysis of relevant policy documents and academic

publications, and interviews with the key actors involved in the relevant policy process. The case studies are all retrospective, and the threat of recall bias is very real here. As the authors themselves note in one of their papers, "respondents were asked about events that for some of them, occurred up to 13 years previously."

Differential adoption and implementation across Australia, the UK, and New Zealand allows us to draw some inferences about the evidence review processes used by each government in the process of designing and implementing their screening programs. The interesting question for the purposes of this review is: what aspects of the context help to explain the differential engagement by policymakers with evidence from the relevant evidence advisory structures in place when considering whether and how to adopt bowel cancer screening policies?

Four key lessons are worth carrying forward in this synthesis: the value of the *independence* of formal evidence advisory structures, the importance of *transparency*, the implications of having multiple, parallel evidence advisory processes, particularly when they produce *conflicting recommendations*, and the treatment of formal evidence-based advice by policymakers under *political and time pressure*.

In the Australian case, Flitcroft et al. describe a policy process that began with the direct transfer of research knowledge into politically-endorsed, evidence-based policy recommendations, but that "became lost in a welter of well meaning bureaucratic and political decision making" resulting in "a less than ideal policy outcome." Over the course of the policy process an initial strong emphasis on research eroded: "the prior focus on evidence fell away" and only some components of the recommended screening regime were selectively taken up. The result of this process was a "programme [that] in its current form is not evidence-based." The

authors identified a multitude of institutional factors that militated against the policy process and diluted the role of evidence as time went on. These included, among others:

> *the Australian Department of Health and Ageing's close control over the supposedly independent expert evidence review process [and] the role of non-elected ministerial advisors, employed by the governing political party, who lacked the content expertise of the independent experts, but who had substantial influence over election campaigns.*

According to some study informants, the experts who were tasked with reviewing the evidence and providing evidence-based recommendations to government had to work under rigidly controlled conditions, unrealistically tight timelines, and with only partial freedom and independence:

> *The Department [of Health and Ageing (DoHA)] set the terms of reference and invited "medical and other experts" (such as gastroenterologists, oncologists, epidemiologists, a general practitioner and a health economist) to sit on the [committee]. DoHA provided the secretariat, setting the agendas, timetabling the meetings, and stipulating response times. [...] [S]ome respondents expressed concerns that independent experts were marginalised in the Pilot process. Some of the consultants' reports commissioned by DoHA were not subjected to routine peer-review by members of the [committee]. In one instance, experts had to insist on seeing the full report rather than a consultant-prepared summary of it. One clinician respondent stated that DoHA "doesn't consult enough with the experts who know how to do stuff. And it doesn't use them enough to help them drive processes" [...] For those reports where expert opinion was sought, several respondents commented on the institutionalised responses to the incorporation of expert opinion such as short turn-around time for revisions to the draft report, resulting in unrealistic deadlines set by DoHA, the cumbersome approach of seeking feedback through electronic tracking of changes, and the partial incorporation of some comments but not others. [...] So although a range of evidentiary sources were considered by DoHA, there were procedural limitations on how thorough the processes of evidence-gathering and review actually were.*

Even when sophisticated and formalized processes of evidence review are put in place, the quality of the recommendations they can present generate for policymakers (O), and therefore the likelihood of them serving a useful evidence advisory function (O), depends on them having adequate time (C), independence (C) and control over the process (C), all of which are necessary

for the relevant evidence to be carefully appraised and thoughtfully compiled (M) into contextually-sensitive and actionable recommendations. For the same reason, under conditions of excessive bureaucratic interference (C) the product of the evidence review process is less likely to be useful (O).

The independence of evidence advisory structures is intimately related to the transparency with which they are allowed to operate. Both independence and transparency appear to be important facilitators of their effective functioning. The policy process in Australia was characterized by a lack of transparency in the generation and communication of evidence-informed advice:

> *The government supervised evidence review took place within a culture of minimal transparency: the experts advising the government were prevented from discussing publicly the issues raised at these meetings by confidentiality clauses; committee minutes were not made publicly available; and many of the research reports that were commissioned by the government (and paid for by the taxpayers) were never published. When research reports were published, bureaucratic delays resulted in them not being made available until after decisions they were meant to inform had already been made.*

In the United Kingdom case, on the other hand, transparent and independent review of evidence was facilitated by the country's National Screening Committee (NSC), "a standing advisory committee which invites public consultation and publishes all stages of its review process and the committee minutes on its website." The authors describe the value of evidence advisory structures designed in the mould of the NSC:

> *Although lacking the legislative backing for their recommendations, these bodies use deliberative processes to maximise the impact of evidence and their consultative and transparent approach makes it much more difficult for a government to reject those recommendations without justification. Transparent review of the evidence for screening programmes [may] reduce the potential*

> *for evidence to be filtered by government departments prior to policy*
> *proposals being made and enable the proper costing of election proposals.*

The transparency of an evidence advisory structure's processes (C) improves the likelihood of its recommendations being given attention (O) and being taken up (O) by policymakers, because it facilitates the subjection of government decision-making processes to scrutiny by both expert and lay publics (M). If policymakers are inclined to reject such evidence or to dismiss the recommendations (O), such transparency (C) makes it difficult politically for them to do so (M) without also providing a convincing explanation of their reasoning. Transparency of institutional evidential structures and processes is therefore intimately linked with the concept of democratic accountability.

Third, the study shed light on the confusion that can arise when multiple sources of advice are in competition for the attention of policymakers, even if such advice is based on systematic processes of evidence review. This problem was most pronounced in the New Zealand case, contributing to the failures of the government to act on the best available evidence. As the issue of bowel cancer screening was being considered by the New Zealand government:

> *[p]olicy makers faced conflicting advice from a multitude of advisory bodies,*
> *representing a mix of professional, bureaucratic and patient advocates, about*
> *how best to implement a bowel cancer screening programme.*

Two of these bodies – the National Screening Unit (NSU) and the Colorectal Cancer Screening Advisory Group (CRCSAG) – differed in particular on one seemingly minor, but critical point:

> *[T]he [CRCSAG] implied that nothing needed to be done until the results of*
> *the feasibility study were available as that would determine whether NZ should*
> *proceed with a bowel cancer screening programme. The [NSU] suggested that*
> *NZ should proceed with a bowel cancer screening programme and the*
> *feasibility study would test some certain key questions about how it might be*
> *organised. The NSU position implied that more action was necessary and it*
> *made further recommendations to the Minister of Health about the need to*

> *build capacity within the Ministry [...] and prepare for the eventual roll-out of*
> *the programme.*

Ultimately, the decision-making process stalled, in part because the "conflicting sources of advice contributed to policy confusion, if not inertia." It can be inferred that, when evidence or interpretations of evidence by advisory structures are contradictory or otherwise in conflict (C), action on any of the competing sets of recommendations is likely to be stifled (O) due to (understandable) confusion on the part of policymakers (M) and the failure of formal evidential processes to achieve their implied objective of simplifying, rather than complicating, decision-making (M).

The Australian case also illustrates the problem of conflicting advice from parallel advisory systems, the source of which Flitcroft et al. locate in reforms undertaken three decades prior to the events of the case study, in 1972, when "the notion of contestability of advice offered by the Australian Public Service was formalised [through the creation of] separate ministerial advisory positions within Ministers' offices." As a result,

> *the Minister for Health and Ageing has their own office, and employs their*
> *own independent policy advisors who may offer alternate or even conflicting*
> *advice about a particular issue to that offered by bureaucrats working in*
> *DoHA. A senior policy advisor to Tony Abbott, the Minister for Health and*
> *Ageing at that time, stated that "you feel that your job is to provide alternative*
> *ideas and at least alternative commentary on the Department's*
> *recommendations on policy issues."*

When there are multiple, and sometimes competing, formalized processes for the provision of evidence-based advice (C), all recommendations are potentially easily dismissed (O), and political decision-makers are incentivized to "cherry-pick" the recommendations that are most convenient and consistent with their political preferences (O), because no source of evidential advice has an obvious claim to authority (M). This provides evidence (albeit, indirect) for the

value of having a single authoritative, formal evidence advisory body with official government endorsement.

Finally, political pressure and timelines were important in two of the three cases. Observations of the New Zealand and Australia processes shed light on the use of evidence advisory structures during periods of particularly tight political timelines (C) and heightened political pressure (C), namely, election periods. In both cases, the political and time pressure in the lead-up to an election campaign saw evidence either ignored (O) or relegated to a secondary role (O).

In the case of Australia, the country's 2004 federal election exacerbated the tensions that were discussed above, related to multiple competing sources of evidential advice:

> *The underlying tensions about who controls the selection of evidence that policy is based on (experts, bureaucrats or external advisors) are magnified during an election period. In the course of the 2004 election, the Health Minister's policy advisors developed a suite of cancer-related policy options, including plans for a full roll-out of a national bowel cancer screening programme by 2008. The framing of this commitment ignored much of the evidence gathered in earlier stages of policy-making. […] In the search for alternative ideas, especially in the heat of an election campaign, adherence to evidence may play a secondary role.*

In the New Zealand case, this set of processes is illustrated by the failure of a senior politician to heed the evidentiary advice that he himself had commissioned from an evidence advisory body. In advance of his re-election campaign, New Zealand's health minister made the surprise announcement (during a television interview, no less) of his government's plans to immediately introduce a screening program, this despite being advised that two years of preparatory work was required before even a pilot study could be produced, much less a full program:

> *The political context had revealed the limits on the use of evidence in policy making, particularly in an election period. After commissioning the scoping report to specifically consider the data necessary to inform an evidence-based*

> *bowel cancer screening programme, the same minister promptly ignored this expert advice in the face of growing political demands for immediate action. As one respondent commented: "because screening is so political and decisions always come down to politicians, really advisory groups can only have a very limited role because in the end it's a judgement call from a politician about whether they want to spend the money and whether it's going to get them votes"*

The interpretation of this turn of events by the study authors was that:

> *[t]he short three-year electoral cycle was poorly synchronised with calls for a slow, evidence-based approach to bowel cancer screening as advocated in the scoping report: pressure was mounting on the government to act without delay.*

Election periods – and, by extension, other time periods when political tension is high (C) and there is pressure to act (C) – may not be particularly conducive to systematic processes of evidence consideration and use (O), including giving due attention to recommendations from evidence advisory bodies (O). High quality evidence can take time to generate, and under pressure, political actors may reason that it is preferable to take an imperfect action – or one not supported by evidence – than none at all. These sorts of political calculations (M) are likely to be even more common when conditions allow for evidence-based advice to be easily dismissed without political repercussions (as discussed above).

Case 5: Shroff and colleagues (2015 – Argentina, Bangladesh, Cameroon, Nigeria and Zambia)

A study by Shroff et al. (2015) brought together lessons from five separate initiatives funded through a program of the WHO's Alliance for Health Policy and Systems Research (AHPSR). Through the 'Sponsoring National Processes for Evidence-Informed Policy Making in the Health Sector of Developing Countries' program, projects were funded in Argentina, Bangladesh, Cameroon, Nigeria and Zambia, with the aim of:

> *catalys[ing] the use of evidence generated through health policy and systems research in the policymaking process through (1) promoting researchers and*

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> *policy advocates to present their evidence in a manner that is easy for policymakers to understand and use, (2) creating mechanisms to spur the demand for and application of research evidence in policymaking, and (3) increased interaction between researchers, policy advocates and policymakers.*

The organizers of each of the five evidence-to-policy initiatives were free to operationalize these objectives through the creation of concrete interventions to suit their own country context. There is not sufficient space here to detail the five strategies, but each included combinations of:

> *the creation of platforms to produce and communicate research to policymakers in an accessible manner, training policymakers and establishing units within MOHs to strengthen MOH capacity to demand and use research evidence, developing policy briefs [...] and supporting fora including conferences and workshops to enable increased interaction between researchers and policymakers.*

Like other studies included in this synthesis, this study's strengths lie in its employment of a coherent theoretical framework on knowledge translation (Jacobson, Butterill, & Goering, 2003) to drive the analysis of data and organization of findings, and its comparative perspective, which facilitated the generation of explanations for project success on the basis of contextual factors:

> *[T]his paper seeks to explore the combination of factors that together explain why projects in some settings were perceived to have moved towards their stated objectives, whereas others were perceived to have not done so well. [...] [B]y comparing experiences across five countries, we seek to illustrate general learnings to inform future evidence-to-policy efforts in [low- and middle-income countries].*

To carry out the comparative analysis, the authors drew on the formal evaluation reports produced for each of the five projects, which themselves were conducted by researchers external to the projects who were appointed by AHPSR. This is an important methodological detail because it means that the study authors were not directly involved in on-the-ground fieldwork or data collection for the individual projects, but rather (much like the position of a reviewer) relied on the analysis and interpretations of other researchers to inform their cross-case analysis. The

individual project evaluations themselves drew on interviews and a series of surveys with project

leaders, and participating policymakers, researchers and civil society stakeholders.

On the basis of survey results and the final project evaluations, the authors concluded

that, in terms of the three objectives described above, the two projects from Cameroon and

Nigeria performed very well, the Argentina project more or less failed to achieve the objectives,

and Zambia and Bangladesh "provid[ed] examples of averagely performing projects." The

authors' qualitative interpretations based on their cross-case analysis reveal a few explanatory

lessons of relevance to this synthesis.

First, the establishment of trusting working relationships between policy actors and the

purveyors of evidence – that is, researchers and others experts, as well as the project leaders –

was an important observed mediator of project success. This is illustrated by looking closely at

the cases of Argentina and Bangladesh, both of which reported being plagued by frequent

policymaker turnover at their national MOHs (C), which made maintaining ongoing relationships

a challenge. In Argentina:

> *the project technical report explicitly mentioned the difficulty in getting*
> *together experts and policymakers to hold policy dialogues as an obstacle to*
> *the projects' functioning, suggesting a generally low level of policymaker*
> *enthusiasm on the topic. Additionally, the groups had never worked together*
> *before and there was a frequent turnover of MOH staff, which made the*
> *establishment of relationships between researchers and policymakers difficult.*
> *[…] [R]esearchers did not appear to engage with policymakers about the*
> *importance of evidence-informed policymaking on an ongoing basis.*

In Bangladesh, on the other hand:

> *policymakers were keen to increase their interactions with researchers. In*
> *addition to forming the basis of a trusted relationship, the pre-existing links*
> *between an established research institution International Centre for*
> *Diarrhoeal Disease Research, Bangladesh [ICDDR,B] and health*
> *policymakers in Bangladesh facilitated the latter's early involvement in the*
> *project and potentially played an important role in enabling the project to*
> *overcome the challenge posed by frequent staff changes in the MOH. It also*
> *helped enhance the perceived credibility of the research and the project itself*

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> *produced research that was perceived as clear and unambiguous by policymakers.*

Therefore, policymaker uptake of, and participation in, institutional structures for linking evidence to policy (O) is more likely when implemented in the context of existing policy-research connections (both at individual and institutional levels) (C), which make enthusiastic policymaker engagement (M) and the nurturing of trusting relationships between parties (M) more likely. An additional point relates to the perceived credibility of the initiative's host organization and/or leadership (ICDDR,B, in the Bangladesh case) (C), which appears to facilitate uptake and engagement (O), possibly through similar trust-related social mechanisms (M).

It can be inferred that these dynamics are particularly important in the context of institutional initiatives that are not mandated, that is, in which participation is not compulsory. If policymakers are not compelled or obliged to engage with an evidence use initiative (C), then their participation and, by extension, their consideration and uptake of the evidence on offer has to be achieved through their own initiative and enthusiasm.

The issue of policymaker enthusiasm is closely linked to the concept of "buy-in," the extent to which the target policymakers accept the premise of the initiative, and appreciate the importance of its mission (in this case, the value of evidence use in their work). Strong levels of policymaker buy-in (M) work to increase participation in and uptake of these initiatives (O), but only if deliberate efforts are made to make policymakers aware of the project early on (C). This causal process is illustrated by the case of Nigeria, in which:

> *[t]he project's [early] emphasis on sensitizing policymakers to the importance of evidence- informed policymaking through workshops and training programs*

> *appears to have had positively influenced the receptivity of this group to evidence-informed policymaking.*

By comparison, the Zambia team was less successful at mobilizing buy-in, possibly because of a failure to raise sufficient awareness of the initiative among the target population:

> *The project devised an institutional structure, the Research to Action Group, to bring together researchers and policymakers. The information available on researcher user relationships indicates that the project was not perceived to have performed nearly as well as that in Nigeria […] [T]he project did not fully meet the program objectives. The Research to Action groups […] were not institutionalized and ended functioning at the projects [sic] completion. […] [D]espite efforts to engage policymakers and other health systems stakeholders, the extent of dissemination achieved was limited and it appears that the [initiative]'s mission and mandate remained largely unknown to national policymakers*

Comparing the Zambia and Nigeria cases helps to shed light on the importance of investing time and effort in getting stakeholder attention and awareness – notably of the policymakers themselves – during the early phases of a new institutional initiative (C). Awareness of the initiative (C) is a prerequisite for achieving early and ongoing stakeholder buy-in (M), which is necessary for consistent project uptake (O) and, ultimately, the institutionalization of the initiative (O).

The authors also discuss the importance of individual leadership in sustaining evidence-to-policy efforts in low resource settings. Reflecting on the applicability of their theoretical framework – which was developed using data drawn from wealthy countries – to the "low- and middle-income country" context, the authors hypothesized that sustaining evidence-to-policy processes (O) depends disproportionately on individual leadership – so-called evidence "champions" – in contexts characterized by weak institutions (C):

> *The relative fragility of institutions and concomitantly more significant role of individual leaders points to the need to look at leadership as an additional [framework] domain influencing the evidence-to-policy process.*

For instance, effective project leadership was observed as critical to the success of the Cameroon initiative:

> *Other factors that were important included institutional leadership, which brought together the policy and research communities and provided credibility to the evidence-to-policy process, and the establishment of close links between the research institution and the MOH.*

In the absence of reliable government institutions, the influence of strong leaders who "champion" evidence-to-policy initiatives (C), who are perceived as visionary, credible and legitimate (M) can help to sustain initiatives (O) by building and nurturing the relationships required to keep them functioning.

The final lesson to take from this study is the value of embeddedness. Comparison across these five knowledge translation initiatives revealed that both their effectiveness (i.e., in terms of evidence uptake), and their *potential for* long term sustainability, seemed to depend on the extent to which they were embedded in government processes and infrastructure (i.e., usually ministries of health):

> *This analysis [...] suggests that the location of the group undertaking knowledge translation efforts and the strength and permanence of its links to various government organizations can have an important bearing on access to key policymakers. An examination of the projects shows that knowledge translation platforms with strong and long-term links to government entities (for example in Nigeria and Cameroon) tended to be more effective than those where links to the government appear to have not been as institutionalized.*

The extent to which institutional innovations are embedded within the existing infrastructure of government can determine the degree to which the evidence they generate and package, or communicate and promote, receives attention from policymakers (O), likely because of accessibility of the evidence products to policymakers (M), and perhaps the relative ease with

which policymakers are able to incorporate government-situated structures and processes into the day-to-day routine of decision-making (M). Embeddedness also bodes well for the sustainability of these institutional structures (O), since institutional memory in the face of policymaker turnover is relatively more easily maintained by embedded – as opposed to unembedded – initiatives (M).

Case 6: Mbachu and colleagues (2015 – Nigeria)

The next study presents a prime example of Pawson's notion that "bad" research (by conventional quality standards) can still yield "good" (or, at least, useful) evidence in the context of a research synthesis (Pawson, 2006a). Mbachu et al. (2016) conducted a retrospective case study, using a review of policy documents and ten key informant interviews, to examine the "factors that influenced the use of evidence in the development of the Nigerian Integrated Maternal Newborn and Child Health (IMNCH) strategy." While the methods described in the paper appear appropriate and adequate to address the stated research objectives, the analysis itself is presented in a muddled and confusing way. For instance, some arguments are presented alongside quotations that do not appear to support them. An assessment using a conventional critical appraisal instrument would likely find this study lacking.

Despite these overall methodological failings, the study provides one interesting insight for this synthesis when discussing the function of an institutional evidence advisory structure – a technical working group – in the development of the IMNCH strategy. The authors summarized the group's role as follows:

> *[A] technical working group was formed which held a series of meetings to*
> *scope for and identify what evidence was in existence in relation to maternal*

and child health. With financial assistance from development partners, the evidences gathered were disseminated to policymakers.

The authors describe the group as having "driven the process of identifying and synthesizing relevant information," with one of their informants commenting that "[i]t is the core working group that scopes for evidence and then synthesizes them [...] and identifies the ones to be selected."

The single usable "nugget" of evidence that can be drawn from this study relates to the membership of formal evidence advisory structures and the logics of evidence that predominate within these groups as a result of their make-up. The authors comment that:

> *[t]his group of experts is comprised of academics and representatives of professional groups who provide technical advice to policy elites on policy direction and content. Their* bias for scientific rigor *contributes significantly to what types of evidence get used in decision making, as typified by the IMNCH strategy, where rigorous research articles (systematic reviews) were used (my emphasis).*

If an evidence advisory committee has particularly strict criteria for what constitutes useful evidence (C) – and assuming that body is trusted and relied upon by policymakers as one of their main sources of evidence and policy advice (C) – then certain methodological categories of evidence (for instance, systematic reviews, randomized trials etc.) may have an outsized influence in policy decisions (O). The structure and make-up of formal advisory mechanisms, and the extent to which policymakers trust and rely on these structures to access lessons from research, may have profound effects on the categories of evidence that end up being influential in policy.

Case 7: Florin (1999 – United Kingdom)

In this study, Florin (1999) assessed the influence of evidence under conditions of scientific uncertainty. Taking as a case study the issue of the payment of general practitioners

(GPs) for coronary heart disease (CHD) prevention, Florin investigated deliberations over GP

contracts in 1990 and 1993, looking specifically at areas of these contracts concerning health

promotion. The author conducted "oral history interviews" with a range of informants, including

"GPs, public health doctors, civil servants and academics," but very little additional information

is provided on the methods used. For instance, it is not clear how data were managed and

analyzed. However, the arguments are lucidly presented, and all assertions and interpretations of

significance are buttressed by direct quotations from the interviews.

This case differs from most of the others in this synthesis because, rather than focusing

on the functioning of institutionalized evidence use structures, the key findings in which I am

primarily interested relate to when, how and why such institutions might be avoided, resisted or

ignored by policymakers. The authors reported that, in this case, "[t]here was no independent

systematic formal system to assess and disseminate scientific advice to policy makers." The

headline finding that, in the absence of official, independent structures for evidence review and

the provision of recommendations, policymakers were free "to ignore or misinterpret scientific

evidence according to other policy imperatives" (M) is effectively indirect support for the

hypothesis embedded in Proposition 2 that formalization of evidential advice increases the

likelihood of evidence-informed policymaking (O).

Beyond this, however, we might ask why policymakers are sometimes unwilling to seek

out formal evidence-informed advice, and what implications this can have for policy

development. Florin argued that the failure of policymakers – in this case, the Department of

Health (DH) – to establish formal institutional structures to review and report on the evidence

was motivated in part by "the fear of unwelcome independent advice":

> *It is most notable that during the development of the policy for the 1990 and*
> *1993 contracts, there were no formal official departmental advisory structures*

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giving scientific advice specifically on the GP contracts or on CHD prevention in general practice. The resistance of the DH to setting up formal advisory structures seems in part to have been due to a fear of being held hostage to fortune, by advice which did not meet its political aims.

The political priorities of the government and the perception on the part of policymakers that formal scientific advice was likely to conflict with their agenda led to heavy resistance to seeking scientific advice in the form of a formal advisory committee. It did not help that this was a politicized issue, with firmly entrenched interests on either side of the debate:

[F]or a policy such as the 1990 GP contract, which was highly politically motivated (and in any case not primarily about health promotion), it was extremely unlikely that the DH would allow an advisory committee to put it in an position where scientific advice was contrary to political aims.

Therefore, when issues under consideration are highly politicized (C), and the prevailing evidence is (or appears to be) in conflict with their political preferences (C), policymakers may be more likely to avoid (when possible), discredit or ignore official evidence-based advice (O) because of either the expectation of political inconvenience or the anticipation of challenges implementing their agenda (M).

Citing Barker and Peters (1993), Florin speculates that policymakers' preference for scientific advice from *informal* contacts – rather than formal evidence advisory bodies – when issues are politically sensitive might be explained by the desire for evidence that is easily dismissed with minimal political cost. This is because "informal networks allow advice to be given in the guise of a 'private chat' which may make it easier to give unpopular advice but also easier to ignore." This is illustrated by a quotation from one of Florin's informants, a civil servant:

A department would never set up a formal advisory structure because then you would have to act on it. … [Y]ou don't set up an advisory committee with people who might speak to the press on something that is as political as this... No you don't set up a committee unless you have control over it....An advisory committee is a formal mechanism, you can have a working lunch or a working

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group. A working group has only got to make recommendations. An advisory committee sounds as if it is making more firm recommendations. And then what do you do if you don't like what they have written, what do you do with the report, do you suppress it or do you publish it?

When political priorities, circumstances or pressure incentivizes action in a certain direction (C), evidence from formal advisory bodies is not likely to be sought out (O) or is liable to being ignored or suppressed (O) because politicians – or other policymakers under political pressure – fear "tying their hands" by being made aware of inconvenient evidence and/or having it publicized (M). This is effectively a risk-avoidance mechanism.

While the lack of formal, official publicly available evidence-based advice may save decision-makers the political headache of either having to take inconvenient decisions, or pay the political price of ignoring scientific advice, the lack of an official institutionalized source of evidence may frustrate the process of achieving any clear policy direction at all. As Florin describes, "the absence of any formal structure for scientific advice combined with the complexity of the scientific evidence […] led to a profusion of voices but no consensus." It is possible, therefore, that an officially-endorsed, formal evidence review structure may have helped overcome challenges related to the achievement of consensus (O) in the context of a politically-heated policy debate (C) that was complicated by a high degree of scientific uncertainty (C). These conjectures are explored in greater depth in additional studies in this synthesis.

Case 8: Liverani and colleagues (2018 – Cambodia)

Drawing on key informant interviews with Cambodian health policy actors and a thorough document review, Liverani et al. (2018) "examine[d] challenges to, and opportunities for, the promotion of evidence-informed approaches to health policy-making in Cambodia," focusing special attention on: "institutional arrangements which may affect when, how or in

which ways […] evidence can inform decisions." The main paper (for the purposes of this review) presents an in-depth case study of a single country context, but it is complemented by insights from a comparative case study on the role of evidence in three health policy processes in Cambodia (Walls et al., 2017). Single-country case studies always present challenges for external validity, and this must be borne in mind when drawing conclusions for this synthesis. The study's methods were well described, and appear sound and rigorous. Confidence in the validity of the findings is bolstered by triangulation across multiple data sources, and the authors' deliberate efforts to confirm the accuracy of their interpretations by sharing preliminary findings with, and soliciting feedback from, Cambodian research and policy stakeholders.

The main contribution of the study is a detailed mapping of the formal institutional structures in place to support evidence-informed policymaking in Cambodia, and reflections and interpretations on the strengths and weaknesses of these. The principal institutional forum for health policy actors to share and discuss evidence is known as the Technical Working Group for Health (TWG-H). The study authors describe the TWG-H as:

> *a forum for policy dialogue and information sharing across a wide range of stakeholders, which was established in 2004 by the government of Cambodia to improve aid effectiveness, harmonisation and alignment with development partners. The TWG-H has a broad and inclusive membership, with subnational and civil society representation, and is based on monthly meetings.*

The study found general support for the notion that the formal institutional structures for evidence input in Cambodian health policymaking – of which the TWG-H is the centrepiece – "have created a well-functioning space for debate and coordination, contributing to the circulation of health information and knowledge among a wide range of stakeholders." Dialogic structures like these may work best at linking evidence with policy (O) when their membership is broad, and is inclusive of most of the key health sector stakeholders (C). Such inclusiveness may be conducive both to the achievement of consensus and alignment of stakeholder priorities (M),

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and – on a more basic level – may optimize the volume of evidence (and other relevant

information) that is brought to the attention of those in a position to act on it (M).

One of the informants hinted that formal, rules-based dialogical forums like the TWG-H

may help to contribute to building an "evidence culture" (O) in a policy organization (similar to

that discussed above in Case 3) because, over time, policy actors grow accustomed to the idea

that "rational" discussion – defending one's arguments with evidence – is an institutional norm

(M):

> *It is good to have forums such as the [technical working group] to avoid*
> *duplication of efforts and find synergies between partners. Also, those*
> *meetings are crucial to promote an evidence-based culture because people*
> *meet and when they discuss they must support their arguments in a rational*
> *way, presenting evidence.*

However, the study also identified some conditions prominent in the Cambodian context

that may interfere with systematic evidence use processes in general, and the optimal functioning

of institutional structures in particular. Power dynamics between senior policymakers and other

actors play a role, as does the absence of agreed rules for the functioning of deliberative

platforms:

> *High-ranking bureaucrats or politicians may require technical departments of*
> *the MoH or international organisations to provide evidence in support of*
> *policy-making and parliamentary debates. Yet, the lack of clear procedures,*
> *combined with power imbalances and the pressure of hierarchies, may*
> *constrain the ability of technical officers to act on, or even communicate,*
> *policy-relevant knowledge and information. […] [M]echanisms such as the*
> *TWG-H may serve well as a platform to share data and expertise. However,*
> *some informants noted that meetings tend to be very formal, especially when*
> *high-ranking politicians are present, and therefore their value as a forum to*
> *appraise and discuss evidence critically is limited.*

A measure of informality may be desirable for the smooth functioning of evidence advisory

platforms. When they are overly formal (C), especially in cultures that subscribe to rigid

hierarchies and that value deference to authority (C), forums for sharing and discussing evidence

may not produce the desired outputs (e.g., useful, evidence-based recommendations) for policymaking (O) because they do not provide space for open discussion and critical appraisal of the available evidence (M). One of the policymakers interviewed drove home this point, describing a context where technical decision-makers do not feel free to be open and critical in the presence of high-ranking officials: "we present evidence, but if a politician says, 'I don't believe it', we cannot argue (...) we can present new evidence or clarify only if they request us to do so."

More generally, the study suggested that consistent and systematic research use is less likely (O) in the absence of clear, official guidance on how to access, appraise and apply evidence (C):

> *[O]ur investigation found gaps in the local context that make direct or widespread applications of evidence in line with best-practice expectations less likely. As informants pointed out, there are no clear guidelines about the way in which evidence should be appraised and used in policy processes. As a result, evidential practices were reported to be highly variable across different sectors and health issues, depending on the initiative and skills of individual managers and political will.*

Relatedly, the authors lamented "the lack of a national policy to support and guide the production and use of evidence for health policy." These interpretations – which provide indirect support for Proposition 3, as well as for the importance of the concept of *systematization* – imply that the achievement of consistent evidence-informed policymaking is facilitated by structures that ease the process of evidence use (M), for instance, through provision of step-by-step guidance that reduce confusion about what is practically expected (M), and that incentivize (M) and normalize (M) evidence use processes by codifying them as part of the everyday, routine practice of policy development.

While these insights are useful for this synthesis, this study was exploratory and relatively small-scale in comparison to its wide-ranging objectives. The authors themselves note

that "[g]iven the exploratory nature and broad scope" they were able to "generate hypotheses and identify emerging issues and potential solutions, but further research is needed to verify or explore them in-depth." The study looked at a single case, and it goes without saying that the generalizability of these findings to other contexts is not guaranteed. However, these lessons will be taken forward to refine the evolving program theory in this synthesis, and may prove valuable when juxtaposed against and combined with findings from other included studies.

Case 9: Jewell and Bero (2008 – United States)

Like many studies in the evidence-to-policy genre, Jewell and Bero (2008) set out to identify barriers to and facilitators of the use of evidence by health policymakers. Using interviews with 28 state-level legislators and administrators from public health agencies across the United States, the researchers applied an inductive coding procedure, "us[ing] the officials' policy experiences to identify factors that facilitated or hindered the use of evidence in legislative and administrative settings." All participants were sampled from a population of state policymakers who had participated in a capacity building workshop on evidence-based healthcare. The participants were, therefore, almost certainly more interested and skilled in using research in their work than the average health policymaker in the United States. The nature and focus of the study makes it difficult to draw strong inferences about configurations of context, mechanism and outcome, but some tentative insights of use to this review can be extracted.

The study identified several facilitating factors, but of particular note for this synthesis is their finding that "instituting research-focused venues" within governmental bodies portends well for evidence uptake. Formal, high-level recognition was understood to be instrumental to the successful functioning of these structures:

> [One] example of efforts to create technical capacity in the legislative process
> was the creation of policy working groups or commissions. These provided

> officially recognized *settings for research gathering, and their* official status
> *enabled their findings to be more easily incorporated into the political debate.*
> *For example, one state's health care commission was responsible for reporting*
> *on the medical malpractice system [...] Other policy working groups*
> *mentioned designed a health reform plan and developed a new child care*
> *initiative (my emphasis).*

When evidence generation structures are given high-level endorsement, for example from senior political leaders (C), their capacity to facilitate evidence-informed policy processes is greater (O) because, having been bestowed with official status, they are given greater attention by decision-makers (M). Their findings may also be more smoothly incorporated into the policy process because they are set up with the intention of informing policymaking, meaning they are driven from the start by the imperative to generate usable evidence (M).

In this study the authors frame formalized evidential standards and evidence use procedures as tools that can be drawn upon to "fend off" policy proposals and demands that are considered by policymakers to be inconsistent with the evidence (O). Commenting on how the participants applied their lessons from the evidence use workshop, the authors noted that:

> *administrative officials used evidence-based skills training to alter how work*
> *was done in their agencies [by] (1) building up in-house staffing capacity*
> *based on the official's acquired understanding of the necessary skill set for*
> *evaluating research; (2) instituting a standard response asking applicants to*
> *the agency to produce a randomized controlled trial of their product; (3)*
> *introducing formal procedural changes that require evidence in the decision-*
> *making process; and (4) conducting their own studies. Such changes had*
> *facilitated administrators' abilities to fend off coverage demands that were not*
> *supported by research evidence, including hyperbaric treatment and bariatric*
> *surgery for children.*

This framing implies that institutional initiatives like formal evidence use requirements, and standard procedures incorporating methodological benchmarks, may function as filters, formally recognized tools that empower policymakers (M) to demand a minimum standard for policy proposals and evidence submissions (O).

The study also helps to corroborate findings from other cases in this review, providing

some evidence that formal venues for deliberation and dialogue can sometimes facilitate

evidence-informed decision-making (O) by helping to insulate decision-makers from the

pressure (and potential distortionary influence) of external commercial interests (M):

> *Another major facilitator of using evidence was officials establishing decision-making processes whose core tasks were data collection and evaluation. For example, advisory committees provided a setting in which the evidence regarding drug policy issues could be more readily deliberated than typically through the legislative process directly.*

The example of the development of state drug formularies – the introduction of which is

commonly met with resistance from the pharmaceutical industry – was discussed by two study

informants, both of whom saw the use of formal scientific advisory committees as instrumental

to the success of these policies:

> *I had heard from ... colleagues of the difficulties they had had politically getting a [state formulary] done, because the drug industry doesn't like them. ... The drug companies brought in a presenter [who was] talking about things like excessive utilization and conflicting ones ... as an alternative to a preferred drug list. ... And so what we did was put a footnote on the budget saying we wanted the Medicaid program to look into ways that you could save money in the prescription drug area ... like we were talking about their guy. And then afterward we told the health department this means a preferred drug list ... they put together a committee of local experts and ... that's the basis for our list.*
>
> *[The Advisory Committee] don't allow anecdotal stories. They don't allow any research projects that have not been reviewed. And it has raised [the discussion] to a different level. ... The first few meetings the manufacturers brought their salespeople. ... Now they bring their science officers.*

In other words, "[a]lthough pharmaceutical representatives were not excluded from such

processes, they were forced to argue in scientific terms." Formalized venues for stakeholder

dialogue and deliberation over evidence, when open and transparent (C), governed by explicit

evidential standards (C), and staffed with sufficiently skilled and knowledgeable experts (C),

may facilitate evidence-informed policy processes (O) by holding powerful external stakeholders

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accountable (M) and by setting the "rules of the debate" in rigorous, "evidence-based" terms (M).

Case 10: Hawkes and colleagues (2015 – Bangladesh, The Gambia, India and Nigeria)

The focus of the next study, by Hawkes et al. (2015), is not specifically on the institutionalization of structures and processes for evidence use in policymaking, but is rather on capacity building to support evidence uptake. However, the study still provides some useful nuggets of evidence for this synthesis, especially related to the insufficiency of individual and organizational evidence use capacity, and the consequent need for "institutional capacity" development to fully unlock the benefits of, for instance, individual skills training and organizational networking initiatives.

The study is a cross-case analysis of five research projects across four countries – Bangladesh, the Gambia, India and Nigeria – each of which involved the collaborative development and evaluation of evidence use capacity building initiatives by teams comprised of both researchers and decision-makers. Each team conducted pre-intervention situation analyses to assess the needs and challenges of their context, and designed bespoke packages of capacity building activities, which typically included various forms of individual and organizational skills training, the development of organizational tools for evidence use, initiatives to build relationships and improve communication between researchers and decision-makers, and, much less commonly, the establishment of institutional structures. Each research team produced an evaluation of the initiatives in their locale, and Hawkes et al. (2015) conducted a critical reading of all five cases, looking for common lessons and themes.

Training workshops to improve individual skills to acquire, adapt and apply research evidence to decision-making were at the core of all five projects, while organizational initiatives

ranging from seminars and policy dialogues to improvements to IT infrastructure were also

implemented. Institutional interventions were, however, more rare, possibly due to the perceived

barriers to implementing these:

> *There was less appetite to address the need to strengthen institutional*
> *capacity—although this was acknowledged to be fundamental to promoting*
> *sustainable use of evidence, it was also recognized as requiring resources,*
> *legitimacy and regulatory support from policy makers.*

The exception to this was the establishment by the Bangladesh team of the Research Policy

Communication Cell (RPCC), a unit embedded within the national government's Ministry of

Health, which "was set up within the government to act as a platform for providing synthesized

information on reproductive health issues to policy makers." The RPCC's effects seem to have

extended well beyond the provision of synthesized evidence:

> *This acted not only as a 'go to' hub for up-to-date evidence in particular*
> *health thematic areas, but was also valued as an opportunity for increasing*
> *interactions between researchers and policy makers at a more personal level.*
> *At the end of project-based funding, the Ministry of Health and an external*
> *donor committed funds to the further activities of the RPCC.*

While praising Bangladesh's RPCC – and similar initiatives in other countries – the authors

expressed reservations about the likely impact of such institutional structures in the absence of

further institutional reform:

> *The RPCC (this programme), HPAC and CNHR (previous examples from*
> *elsewhere), represent attempts to institutionalize the use of evidence, but are*
> *not backed up by regulatory frameworks which necessitate the use of evidence*
> *in policy making. This is the domain of developing institutional capacity and it*
> *requires government support and ongoing resource commitments and*
> *incentives.*

This is a general argument in support of the (common sense) notion that evidence use mandates

make evidence use by policymakers more likely. It can also be read as the more specific

argument that institutional platforms that increase evidence availability and accessibility, for

instance through the provision of simplified evidence syntheses or summaries, are unlikely to

produce desirable improvements in evidence uptake (O) in the absence of a regulatory context that requires the use of evidence in policy decisions (C), or institutional norms that incentivize or reward evidence use (C). This is (presumably) because the influence of available evidence (as well as skills and tools), while necessary for consistent systematic evidence use, is not usually sufficient to persuade policymakers that it is in their interest to put in the additional time and effort to access and apply relevant research to a given decision (M). A culture that rewards evidence use (C) or a mandate that alters the incentive structure and punishes non-compliance (C) can alter this value proposition.

The overarching interpretation by the authors is worth quoting, as its basic claim – that institutional structures and norms are essential for unlocking the potential benefits of individual skills and organizational tools – echoes throughout the studies in this synthesis:

> *Although identifying successful methods for enhancing individual and organizational capacity may be a vital first step for seeing improvements in the use of evidence, sustainable changes can only happen through developing the capacity of the institutions that can provide the incentives for individuals and organization [sic] to adopt more evidence-informed decision making.*

Case 11: Huckel Schneider and colleagues (2014 – Australia)

The next case is an interview study conducted in Australia with the aim of shedding light on the most important "organisational attributes and capabilities that have the potential to facilitate research use." Using a review of recent literature, Huckel Schneider et al. (2014) compiled a preliminary list of the most commonly cited organizational factors that facilitate evidence use, and then used interviews to assess their relevance and practicality from the perspective of Australian health policymakers at the state and federal levels.

One of the organizational attributes identified in the literature review – labelled "policies" by the authors – was referred to as:

an institutional feature that promotes evidence uptake by mandating or otherwise incentivising the examination of research evidence at various stages of policy development.

Analysis of the interview responses found that informants endorsed the importance of formal rules or injunctions related to evidence use in policymaking organizations:

Formal organisational policies and guidelines for encouraging or mandating research use were thought to contribute to the ethos of 'evidence-based policy', reduce obstacles to research use and ensure that policy positions cannot be advanced without some consideration of research.

One study informant explained that:

[t]he [policymaking] organisation ... needs to have an explicit policy which in a sense mandates the consideration or includes the consideration of evidence in decision making.

Such mandates were therefore understood to support evidence use (O) not just through the implied sanctions that might accompany lack of compliance on the part of individual policymakers (M), but also through creating cultures in which an evidence-based philosophy predominates (M). Although not spelled out in detail, the findings also implied that, when organizational policies take the form of guidelines or decision-making aids, they can reduce "obstacles" to evidence use (M), for instance, reducing the time and effort required to draw on research evidence.

A quotation from one of the interview respondents – from a discussion of one of the other identified organizational capabilities – hints at an important, if perhaps obvious, proviso, namely that individual capacities for using evidence are required for evidence use mandates (and other structural interventions) to achieve their intended aims:

If the [policymaking] staff don't have an understanding or an interest, then I guess you could have all the systems and methods and policies in the world,

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but how well that will be implemented or how well that will come together could be questionable.

In the absence of adequate technical skills and know-how (C) related to retrieving, appraising and appropriately applying evidence, and sufficient motivation (C), organizational policies and procedures – including mandates – are unlikely to meaningfully influence organizational evidence use practice (O).

While this study was relatively small – involving only nine interviewees – and did not assess the use of evidence in relation to a specific case of policy development or change, its findings provide prima facie evidence in support of Proposition 4 in this review.

Case 12: Ongolo-Zolo and colleagues (2018 – Cameroon and Uganda)

Through a comparative case study in Cameroon and Uganda, Ongolo-Zogo et al. (2018) investigated the effects on evidence use in health systems policy decisions of two Knowledge Transfer Platforms (KTPs) – Evidence Informed Policy Network (EVIPNet) Cameroon and Regional East African Community Health Policy Initiative (REACH-PI) – as well as their longer-term influence on the general in-country "climate" for evidence-informed policymaking. A KTP is a complex type of institutional structure "that brings together policymakers, researchers and other stakeholders including civil society for evidence informed deliberations on health priorities" (Ongolo-Zogo et al., 2014). These "knowledge brokering enterprises" (Ongolo-Zogo et al., 2015) are housed in government-affiliated institutions and are involved in a number of activities designed to link evidence and policy, notably, the development and publication of evidence-informed policy briefs and the organization of deliberative dialogues among policymakers, researchers and other stakeholders.

In a multiple case study of four separate policy processes, the authors investigated the perceived effects of the Cameroon and Uganda KTPs in comparative perspective. The four

policy processes – two in each country – were selected purposively to capture processes in which the two KTPs had been actively involved through the generation and provision of evidence-informed policy briefs and through the organization of stakeholder deliberative dialogues.

The approach was theory-driven and, according to the authors, "critical realist" in orientation (though little elaboration is provided regarding how this lens influenced their analysis). A bespoke "logical framework for KTP influence" drove data collection and analysis processes and gave the study structure and coherence. From a methodological standpoint, there is little fault to be found in the study's conduct. Rigor was maintained through transparent and detailed reporting, and confidence in the reliability of the findings is bolstered through the use of multiple data sources. The authors triangulated across interviews with multiple stakeholders and analysis of documents. Documentary review was used to:

> *interpret the political context and provide a narrative historical account of each policy process by identifying the actors, describing the key steps in each policy process, and analysing the content of decisions or policies in relation to evidence briefs and stakeholder dialogues.*

Fifty-four key informant interviews – with KTP staff themselves as well as senior policymakers, advisors and external stakeholders involved with the four policy process case studies – complemented the document analysis, helping to:

> *describe the context in which [health systems policy-making] and decisions to achieve health [Millennium Development Goals] occurred and to identify the intersection of KTP activities with contextual factors and, to determine the perceived influence of KTP activities on [policy] and country general climate for EIHSP [evidence-informed health system policymaking].*

The effects of complex policy interventions, especially institutional structures and reforms, can take years to materialize. An additional strength of this study is its relatively long duration, at least compared to some of the short-term, "parachute research" that is emblematic of much of academic global health:

Mindful of the duration of the legislative electoral cycle in both countries (5 years) and of the typical HSP [health system policy-making] cycles (1-4 years), we set a minimum 3-year timeframe for observation after the stakeholder dialogue was organized.

The greatest strength of the study, however, is its comparative design and use of multiple embedded cases, which allowed for the influence of KTPs on policymaking to be "compared within countries and contrasted across cases and countries." The comparative approach allows for inferences to be drawn about variation in the effects of KTPs on the basis of several contextual dimensions.

The authors attribute the evidence-based policy change observed in some of their case studies to the confluence of clearly communicated and feasible policy options (C) (from the KTP-generated policy briefs) and the achievement of stakeholder consensus on how to move forward (C) (emerging from KTP-convened dialogues):

Decisions were reached only when a policy entrepreneur (e.g. program manager, senior health official and health minister) seized the opportunity to align a priority health problem with stakeholder consensus palpable during the dialogues and affordable policy options and related implementation considerations suggested in evidence briefs.

The authors use the term "inclusive safe harbour" to characterize the venues of deliberation convened by the KTP, which followed Chatham House Rules (C). Progress in these policy deliberations, especially the consideration and uptake of evidence (O), was achieved through the free and open debate fostered by these conditions, which "were perceived to […] legitimate the voice of all interested parties" (M).

The comparative perspective allowed for investigation of the differential influence of institutional structures according to the nature of the policy issue or decision being considered. The two sampled policy decisions that were related to discrete technical interventions appeared

to be more directly influenced by inputs from the KTPs than the two that entailed more complex

systemic implications:

> *The two cases (e.g. malaria control, access to skilled birth attendance) with* "straightforward go decisions" *pertained to delivery arrangements and implementation strategies to scale up access to proven effective interventions. The evidence briefs provided new compelling frames of the system problems and sets of evidence-based policy options (from systematic reviews) embodying an equity lens as well as being attentive to relevant contextual implementation challenges. [...] In both cases, decision-making was incremental; options and implementation strategies suggested in the evidence briefs were adopted and implemented through a multi-stage approach. The evidence briefs enhanced the legitimacy and the voice of interest groups in both countries and furthered evidence-based practice (italics in original).*

A key lesson to draw from this study is that, when the policy issue under consideration is

relatively discrete, straightforward and amenable to technical intervention (C), conditions are

ripe for the instrumental use of evidence (O), provided the available and/or recommended policy

directions (i.e., contained in the policy briefs) are framed in a way that is attractive and

accessible to key policy actors, who see their priorities – equity, feasibility and affordability, for

example – addressed therein (M).

On the other hand, more technically complex, systemic decisions (C) in which political

contestation is more likely to predominate (C), evidence-based recommendations are less likely

to be ratified (O) because disagreements among stakeholders stemming from divergent values

and deep-seated interests make consensus much more difficult to achieve (M), even with the

deliberative space provided by stakeholder forums:

> *[T]he cases on health district governance and task shifting were more complex and value-laden thus bolstering the intricate nature of politics. In the case of Cameroon, the evidence briefs and the dialogue led to a* "mixed decision" *on strategies to improve governance for district development. The [policy under consideration] was delayed because it appeared politically complex and 'risky' due to dispersed interest-driven behaviours and power struggles. [...] [I]n Uganda, a* "no go decision" *for a written policy on task shifting was made. The emergence during and after the dialogue of vehement actors*

> *defending legacies in terms of 'rule of the game' […] and anchored ideas on 'what ought to be' […] influenced the course of events (italics in original).*

The converse is also true: in the absence of heated political conflict (C) and of fundamental disagreements on basic interests and values (C), the deliberative space and evidential resources provided by these institutional forums are conducive to the generation of consensus (or at least compromise) among stakeholders (M), leading to evidence-informed policy change being more likely (O).

The venues of evidence-informed deliberation created by the KTPs effectively led to collaboration and coalition-building between stakeholders (O) because of the conditions they fostered: inclusive, safe spaces (C) that flattened hierarchies and diffused power, allowing a greater diversity of interested parties to have a say (M). This translated into what the authors' argued was an enhanced "democratic culture":

> *[T]he inclusive approach to stakeholder dialogues embodying transparency and fairness changed the meaning and understanding of democratic deliberations on health priorities. KTPs were perceived as change agents enhancing the democratic culture in HSP through the redistribution of power resources and the alteration of interest groups interaction. Because people were talking altogether and reacting to the same evidence synthesis, stakeholder dialogues were perceived as drastically different from traditional consultative processes.*

It must be noted, however, that these conditions do not necessarily translate into "more evidence-based policy." Indeed, sometimes more empowered stakeholders means *less* scope for policy change. In the case of Uganda:

> *Th[e] policy issue network with its broad membership was instrumental countering a written policy. […] Interviewees noted that the safe-harbour deliberations enabled health professionals and CSOs to voice their interests and gain new allies among media representatives and female politicians to criticize [the proposed] task shifting [policy] at times of sky-rocketing*

> *unemployment rates among trained professionals and 'miserable' wages*
> *served to civil servants in the health sector.*

A critical contextual factor that enabled this process to unfold in Uganda was that the relevant interest groups had some pre-existing capacity and organization (C), a factor that was not present in the Cameroon case:

> *The prominence of interests groups differ across countries. The pharmacist*
> *union in Cameroon couldn't mobilize further support to oppose community*
> *management of malaria while health professionals bodies succeeded to rally*
> *CSOs, parliamentarians and media to counter a written policy on task shifting*
> *in Uganda.*

Therefore, the inclusive deliberative environments fostered by KTPs can empower interested stakeholders (M), who – if sufficiently organized (C) – can seize the platform and advocate for or strive to block action on the evidence (O), depending on their interests. While – in this case, at least – the outcome was a *lack of policy action*, this arguably represents an example of "evidence-*informed*" decision-making at work, since the resources furnished by the KTP led to the consideration of evidence in this process of deliberation (O):

> *Stakeholders were appreciative and supportive of the KTPs because they*
> *enhanced the access to relevant evidence and empowered CSOs*
> *representatives including media to demand, access and appraise relevant*
> *evidence and to further articulate their advocacy campaigns, views and*
> *expectations.*

Of particular importance for this synthesis is Ongolo-Zogo et al's focus on how the existence, functioning and features of these institutional structures influence what the authors refer to as "the general climate for EIHSP [evidence-informed health system policymaking] in both countries." It is worth contemplating what this "general climate" outcome specifically refers to. Drawing on seminal texts on evidence-to-policy processes from the field of health policy and systems research (Green & Bennett, 2007; Lavis et al., 2006), the study authors defined "the country climate for EIHSP" as:

> *the range of national contextual features pertaining to the integration of research evidence in making decisions about health system policy and management. It features whether and how the social and health policy agendas and the health system actors (especially funders and research users) value the use of research evidence to inform decision-making in terms of action proposals and allocation of financial resources.*

The "general climate" for evidence use is thus comparable to the institutional and organizational "cultures of evidence" to which other authors have referred, in which (certain kinds of) evidence are increasingly valued and evidence-informed approaches are accepted and normalized. The study found that the institutionalization of the Cameroonian and Ugandan KTPs improved the evidence culture (O) through a process of "change agen[cy]" (M), which the authors posit had a cascading effect on a number of domains related to the countries' evidence climates:

> *Interviewees noted that clearer understanding of the attributes of EIHSP has broadened policy horizons and created new careers opportunity for policy analysts and young researchers. The emphasis on evidence syntheses (e.g. systematic reviews, evidence briefs) as best sources of evidence to inform policy options and of reliable monitoring and evaluation systems to inform problem definition induced demands for expertise in the then neglected domains of secondary research and secondary analysis of routine health information. The latter created incentives for researchers and research organizations, health bureaucrats and policy-makers, knowledge brokers and CSOs. An emerging community of EIHSP champions came into life. Further, universities in both countries incorporated short courses in KT into their programmes.*

The importance of an evidential culture – both as a broad intended *outcome* of the institutionalization of evidence use processes, and an enabling *contextual factor* for other social mechanisms related to evidence use – was also highlighted by several other included studies, and lends some weight to Proposition 3 in this synthesis.

Case 13: Lavis and colleagues (2002 – Canada)

In the next case, Lavis et al. (2002) conducted a rigorous study of the use of research in healthcare policy processes in the two Canadian provinces of Ontario and Saskatchewan. Using a

sophisticated multi-stage sampling procedure, they purposively selected eight policies, both to generate variation within provinces across different types of policies (i.e., policy decisions related to jurisdiction/governance, financial arrangements, delivery arrangements, and program content), and comparability between the two provincial cases. The researchers "determined whether and how research was used in the policymaking process for each of the policies under study by interviewing the policy advisers who were directly involved in the process." Additional informants were identified through snowball sampling. These interviews were supplemented by a review of policy documents, though the authors acknowledge that the "analysis relied mainly on the data obtained from the interviews" because relevant internal documents were not made available to the researchers in all of the cases.

Overall, the study revealed that "[f]our of the eight policies used citable research: three, in only one stage of the policymaking process; and one, in both [the agenda setting and policy formulation] stages, for a total of five cases of research use." Moreover, they found that "research was a *major* influence in three of the[se] four policies" whereas it played a more minor role in the other case.

Looking at the broader conditions that seemed to be favourable to evidence use in their cases, the authors found that policy processes in which opportunities existed for contact between policymakers and researchers seemed more likely to be research-informed, and that these interactions were facilitated by formal institutional structures:

> *For the three policies in which citable research was a major influence in the policymaking process, policymakers had direct contact with researchers. In two of these three policies, this contact took place through what could be called a "receptor" for research (Lomas 1997) created by the health department. By this we mean that specific functions were established with explicit responsibility for establishing and maintaining linkages with researchers: Ontario's AIDS Bureau, which had been established to improve the department's knowledge of (and responsiveness to) HIV/AIDs-related*

*health issues and community concerns, and Saskatchewan's "expert" working
group on a needs-based funding formula.*

All else being equal, relationships between policymakers and researchers are widely understood
to be facilitative of evidence uptake (O), but these interactions may be particularly fruitful when
formalized through institutional structures. This is because such structures confer "explicit
responsibility" for managing researcher relationships on one or more actors within the
policymaking organization (M); such accountability increases the likelihood that such
relationships are nurtured and maintained over time (O).

Variation across the eight policy cases in this study – deliberately generated by the
researchers through their sampling strategy – allows for some lessons to be drawn about the
likely differential influence of evidence on the basis of the nature of the policy decision being
considered:

> *For the three policies in which citable research was a major influence in the
> policymaking process, two could be categorized as professional decisions
> about program content [...] and one could be categorized as a technical
> decision about financial arrangements for which stakeholders' perceptions of
> the decision's credibility were deemed to be important to the policy's
> implementation. [...] These types of professional or technical "content-driven"
> decisions may be more amenable to the influence of research in instrumental
> (i.e., specific and direct) ways than are large-scale decisions concerned with,
> for example, jurisdictional considerations. Large-scale decisions likely require
> research that is much broader in scope than is typically produced by
> discipline-based researchers, who ask very focused research questions.
> Moreover, even when relevant research exists, it may be overlooked in the rush
> to assess other factors, like stakeholders' interests and institutional
> constraints, that seem more germane as the scale of a decision increases.*

Technical or "content-driven" policy questions (C) may be more readily amenable to direct
evidential influence than those that are more complex and large-scale (O). This may be explained
by a relative lack of "usable" research for the latter category of questions, due in part to the
narrow research questions typically addressed by the siloed functioning of academic disciplines
(M). An alternative explanation is that in relatively large scale and complex policy processes

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research is more likely to be drowned out or overlooked because of the wider variety of stakeholder interests and other considerations competing for attention (M).

It is difficult to draw firm conclusions from this study, which was exploratory and based chiefly on one type of data source. The study was not primarily set up to investigate the influence of institutionalization efforts, so the lessons here are based on a few fragments ("nuggets") of researcher interpretations. Still, the study provides partial, supportive evidence for Proposition 2.

Case 14: Uneke and colleagues (2015 – Ebonyi State, Nigeria)

Institutionalized evidence use processes often take the form of organizational and institutional structures designed to link researchers with policymakers in formal, ongoing working relationships – for instance, technical working groups and advisory committees. These are precisely the structures that are the focus of the investigation by Uneke et al. (2015) in Ebonyi State in southeastern Nigeria. The purpose of their study was to "describe the establishment of a [health policy advisory committee] in Ebonyi State, Nigeria, its role as a mechanism to bridge the divide between researchers and policy-makers and its implementation as a [knowledge translation] platform."

The study focused not just on the implementation of the advisory committee, but devoted special attention to capacity building efforts to improve its effectiveness. The data generated are therefore useful for the purposes of this synthesis because they provide information about the relationship between the smooth functioning of institutionalized evidence advisory structures and the knowledge and skills of the key actors who are central to their implementation.

The Ebonyi State Health Policy Advisory Committee (HPAC) was:

> *[d]esigned as a forum for Government, and other stakeholders (policymakers, researchers, civil society organizations) to make use of the best available*

> *research evidence for recommendations to the health ministry for*
> *government's health policy and health sector development.*

The eighteen-member committee comprised a diversity of key health system actors in

Ebonyi State:

> *The HPAC had 18 members including 9 directors from Ministry of Health*
> *(MoH), 5 senior researchers from the university, an NGO executive director, a*
> *director of public health in the local government service commission, the*
> *executive secretary of the AIDS control agency, and the State focal person of*
> *Millennium Development Goals (MDG). The committee meetings were*
> *scheduled at least once every quarter.*

Their major functions include identifying the key health challenges facing Ebonyi State,

appraising research evidence and interpreting findings with attention to its likely applicability to

the local context, and generating recommendations for policymakers. The committee also

prepares policy briefs on these issues to bring to the attention of decision-makers.

Perceptions of advisory committee members were collected through individual interviews

and group discussions, both before and after the implementation of various capacity building

interventions designed to improve their knowledge and skills related to the application of

research evidence to policy decisions. To their credit, the authors report the methods used

transparently, reproducing verbatim the questions that were put to interview participants. What

this reveals, however, is that a series of highly descriptive and (mostly) leading questions was

used. For instance, in reference to one of the capacity building interventions provided to HPAC

members, the researchers asked:

> *[H]ow would you describe what you have benefited from this training on KT*
> *and its impact? [and] [H]ow would you describe your expectations from this*
> *KT training regarding evidence-to-policy link in Ebonyi State?*

Social desirability bias is thus a core methodological concern here.

A close reading of the study's methods section reveals another detail about the HPAC

that is crucial to understanding the interviewer-interviewee dynamics in this study: the advisory

body itself was the brainchild of the same research team who authored this paper, and it was created as a formal component of a World Health Organization-funded academic project led by these researchers:

> *The establishment of the HPAC was one of the products of the Alliance for Health Policy and Systems Research (AHPSR) of World Health Organization (WHO) funded study (Supporting National Processes for Evidence-Informed Policy in the Health Sector of Developing Countries) in Ebonyi State University Nigeria. […] [T]he study team initiated a proposal to the government for the establishment of the HPAC. Following the approval by the Health Ministry, the HPAC was inaugurated and became known as Ebonyi State Health Policy Advisory Committee.*

On its own, this detail is not necessarily problematic, but it reinforces the importance of reading some of the paper's claims with scrutiny, for at least two reasons. First, the study authors have a vested interest in reporting positively on the HPAC's functioning. And second, the study participants, presumably aware of the authors' double status as both designers and evaluators of the initiative under investigation, may have felt some pressure to emphasize the positives and downplay the negatives.

In terms of findings, the authors present a series of rather glowing claims about the benefits both of the advisory committee and the capacity building interventions implemented to support it. Core to the authors' (implied) theory regarding how institutionalized forums for researcher-policymaker interaction generate their outcomes is their fostering of *ongoing* rather than *one-off* interactions, with the implied assumption being that more formal structures – as opposed to *ad-hoc* or informal interactions – have a greater likelihood of being maintained through time. The implied mechanism at play, then, appears to relate to the benefits that follow from the depth of the relationships that develop through these structures (M). In a commentary article on the role of the HPAC in supporting evidence-informed policymaking, the authors

discuss the added value of their model compared to more informal and short-term networking

initiatives:

> *Various efforts attempt to bring researchers and policymakers together. In many countries, funding agencies have employed one-time policy dialogues or deliberative dialogues. In the absence of funding, such interactions are rarely sustained; long-term mechanisms that allow for periodic interactions between the parties are needed.*

Trust between researchers and policymakers (M) appears to be a key mechanism in this process.

> *The mutual mistrust existing between the researchers and policy-makers was addressed among the members of the HPAC. It was discovered that the constant contact between the policy-makers and the researchers helped to build trust and friendship. [...] There is now a healthy collaboration and partnership between the policy-makers in the health ministry and the researchers of the University. This study has enabled us the researchers and the policy-makers to learn how to work with each other for the purpose of improving the operations of the health systems through evidence-informed policy-making.*

While Uneke et al's claim that the advisory committee led to the "*elimination* of mutual mistrust

between policy-makers and researchers" (my emphasis) is almost certainly an exaggeration, their

implied theory that relationships of trust are at the core of these types of institutional structures

achieving their aims is a useful insight, and one worth incorporating into this synthesis.

The second important insight to draw from this study relates to capacity, both of

researchers to engage and communicate with policymakers, and of policymakers to interpret and

understand researchers and research evidence. A structure or body that formalizes links between

researchers and policymakers may be useful, but absent the knowledge and skills required to

engage in meaningful, evidence-informed dialogue (C), it is not likely to generate the smooth

feeding of evidence into the policy process that is intended (O). As part of this study, HPAC

members were exposed to various forms of capacity building designed to equip them with the

knowledge and skills to effectively serve their knowledge translation function (Uneke et al.,

2012). Of particular importance for the success of the HPAC was the provision (and success) of

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training that "expose[d] the researchers to the policy-making process and the policy-makers to research process." Therefore, researcher knowledge of policy work and policymaker knowledge of research work (C) laid the groundwork for improved communication and the creation of a "common language" and a shared understanding (M) between researchers and policymakers:

> *The benefit of this strategy is that it will enable the researchers and the policy-makers in the committee to know each other's strengths and weaknesses, as well as likes and dislikes and communicate their knowledge effectively to avoid the risks of barriers in language and understanding. This would promote communication among the policy-makers and researchers by creating a common language and which can help the policy-making process more effective.*

Overall, Uneke et al. conclude that an HPAC is "an excellent mechanism to bridge the divide between those who produce research evidence and those in the position to use research evidence for policy-making." However, considering the methodological weaknesses discussed above, the findings have to be interpreted with caution. Importantly, this does not mean that they do not contribute to the overall synthesis; rather, these findings are still valuable as *supporting* or *corroborating* evidence alongside more rigorous studies from other contexts that generated similar conclusions.

Case 15: Schwartz and Rosen (2004 – Israel)

In their study on the role of evidence in a series of health system reforms in Israel during the mid- to late-1990s, Schwartz and Rosen (2004) sought to "cast light on when and how political considerations influence the use of data in the policy-making process in an environment that consciously encourages data-based policy-making." The authors purposively selected ten health policy decisions made between 1995 and 1999, and "focuse[d] on explaining the variance amongst policy decisions in the use of data in the policy-making process."

The study is informative for this review because it examines the types of decisions most and least amenable to evidence in the context of ongoing efforts within the Israeli government to institutionalize 'rational' or data-driven decision-making. Commenting on the contribution of their study, the authors note that:

> [p]revious studies have mostly examined the use of data under normal conditions; this article is unusual in that it looks at what happens when a deliberate attempt has been made to increase the use of data in the policy-making process.

In terms of data, the study drew on eighteen "interviews with the leading people in the Israeli health system […] top managers and policy-makers who were involved in many, if not all, of the Israeli health reform decisions." The paper represents what qualitative researchers refer to as a "thin" report. While the findings are (somewhat) "rich" in the sense that they provide highly compelling, relevant insights, the report is not even remotely "thick" (Geertz, 1973), that is, it provides precious little detail about the circumstances surrounding the policy decisions in question and the contexts in which the decisions were made. Many of the interpretations are not evidenced with direct quotations from informants, meaning that the strength of the authors' arguments must, to some extent, be taken on trust. Still, measures were taken to check the validity of the analyses. For instance, the authors report that:

> [a] preliminary summary of the findings was presented to the project steering committee, which played an important role in validating and correcting the findings, as well as in aiding in their interpretation.

The sampling procedures, as described, seem rigorous and logical. The typical sorts of bias associated with interview studies – recall and social desirability – are relevant here, of course, and their risks are even more pronounced than they might be otherwise, since the authors did not triangulate across multiple data types (e.g., documents).

This study lends general support to the cardinal proposition of this synthesis, that institutional efforts to systematize evidence-policy interactions in policymaking bodies increases the likelihood of evidence playing a prominent role in policy decisions (O). Reflecting on their overall findings, the authors note that:

> [i]n a hierarchical [governance] system, top-down reform to rationalize policy-making might be expected to decrease the influence of variables known to impede data-based policy-making. The findings reported here provide partial support for this hypothesis. Since the 1995 [health system reform] legislation, some policy decisions about health care in Israel have been highly informed by data and no decisions have been taken in a complete data vacuum. Some policy decisions, however, demonstrated what might be called 'data resistance syndrome'.

In the majority of policy decisions sampled for this study the authors observed at least some role for evidence, though in some cases there was "resistance" to evidence. Seeking to explain this variation, Schwartz and Rosen appealed to differences in the nature of the policy decisions under investigation.

Of particular note is the authors' categorization of each of their ten sampled policy decisions as either 'first tier' or 'second tier' decisions. The former refer to "fundamental 'yes–no' choices about whether to go ahead with a significant policy change," while the latter are more technical decisions, "concern[ing] details regarding 'how much', 'which population groups' and costs." The study revealed that second-tier decisions about the technical and procedural details of a policy are usually readily amenable to evidential input, confirming findings from other studies in this synthesis. The role of evidence in first-tier decisions, on the other hand, may depend much more on the circumstances surrounding the policy in question:

> [S]econd-tier decisions demonstrated high use of data, regardless of policy type. For first-tier decisions, data played a greater role in the policy discourse of decisions that are more technical and less influenced by budgetary constraints and by jurisdictional turf battles. This pattern lends support to the contention that investing in data collection and analysis for politically-

> *sensitive policy decisions is futile because these decisions, in the end, are solely the result of political preferences.*

The presence of budgetary constraints and jurisdictional turf battles can be understood as special cases of the more abstract contextual category of political sensitivity and contentiousness. When a policy decision is characterized by a high degree of political sensitivity (featuring jurisdictional conflict and major budgetary implications, for example) (C), evidence is unlikely to be a key determining factor in the policy direction (O) because political considerations take precedence, diluting the potential impact evidence can have (M).

Conversely, policy decisions that are highly technical (or 'professional', 'administrative' or 'procedural') (C) are highly amenable to evidential input (O) – meaning that evidence is sought or used without much hesitation or resistance (O) – when jurisdictional and budgetary issues are not salient (C), presumably because, in the absence of deep-seated positions and vested interests swaying the policy in one direction or another, it is considered largely sensible to 'follow the evidence' (M).

The authors go on to provide some examples to illustrate these interpretations. One example in particular provides a final piece of data relevant to key dimensions of this synthesis:

> *In one case, the implementation of data-based decision-making helped deflect lobbying efforts by pharmaceutical companies and by patient-interest groups. The entire policy area of additions to technology (essentially made up of second-tier decisions) showed the greatest use of data in policy-making. In a system which has been in operation since 1999, ad hoc professional teams evaluate the safety, efficacy and effectiveness of new technologies and conduct needs assessments. An explicit set of criteria facilitates prioritization of the assessed technologies. A public committee reviews the professional analyses and recommends changes to the Minister of Health. Interviewees noted that there had been a significant decline in the exertion and influence of pressure by interest groups since the establishment of the new system.*

Structured processes and procedures for feeding evidence into policy can help to ensure that consideration of research evidence takes precedence over external interests (O). This effect, which is only likely to hold in the context of technical ("second-tier") decisions (C), may require the presence of explicit official criteria against which (evidential) inputs are assessed, so that any arguments or demands made by commercial actors, lobbyists or other interest groups will – as a function of the official rules of the process – carry little weight unless they conform with high evidential standards (M).

Case 16: Vecchione and Parkhurst (2015 – Ghana)

All institutional arrangements for linking evidence with policymaking in democratic governments operate in the context of pre-existing systems of accountability. Through a case study of the evidence advisory system in Ghana's health sector, Vecchione and Parkhurst (2015) investigated the implications of "institutionalized evidentiary practices" for governance and democratic accountability, shedding particular light on the role of non-state international policy actors – international donor agencies in particular. Democratic accountability refers in this study to the contestability of policy decisions, that is, to the processes through which policy decisions are subjected to "tests of legitimacy" through various forms of (public) scrutiny. This study adds a new contextual angle to the synthesis: the implications of the significant presence and powerful influence of international development actors (donors or "development partners") on evidence-to-policy processes.

Methodologically, the authors drew primarily on qualitative interviews with Ghanaian policymakers, including health policy officials – both within the country's ministry of health and the Ghana Health Service – and national politicians, officials from international donor organizations ("development partners"), and local NGO representatives. Confidence in the

findings is enhanced by their use of policy documents for triangulation, however the lack of extensive methodological detail provided makes it difficult to assess the study's strengths definitively. Moreover, virtually none of the findings are supported with verbatim quotations from study participants – standard practice by now in qualitative research and one of the few simple means by which a qualitative researcher can directly evidence the validity of their interpretations – making it difficult to appraise. Still, the paper's theoretical grounding is sound, and the authors' core arguments coherent. The resonance of their interpretations with the findings of other studies in this synthesis make it a useful addition to this review's evolving theory.

The case study itself focuses on what the authors refer to as "an institutionalized process of interagency review assessment" called the Holistic Assessment Tool. The study authors quote a policy document that summarizes the purpose of the evidentiary tool:

> *The holistic assessment of performance in the health sector is a structured methodology to assess the quantity, quality and speed of progress in achieving the objectives of the [MoH's annual] programme of work [PoW]. The primary objective of the assessment is to provide a brief but well informed, balanced and transparent assessment of the sector's performance and factors that are likely to have influenced this performance. The assessment is based on indicators and milestones in the PoW.*

GHANA HEALTH SECTOR (2012), QUOTED IN VECCHIONE AND PARKHURST (2015)

This evaluative process was established as part of the Common Management Arrangement (CMA), the framework through which relations of accountability between Ghanaian government agencies (of note, in this case, the Ministry of Health) and international donors are governed. Arrangements like this are not necessarily problematic. Indeed, by definition, all democracies feature accountability structures that subject governments to tests of legitimacy, and such processes are essential to healthy, functioning democratic systems.

However, the authors note that "the link between evidence use and accountability becomes more unstable and questionable in light of international donors' participation into the evaluation of the health policy sector in Ghana." In a background document for the study, Vecchione and Parkhurst (2016) describe the significant role played by international donors in the Ghanaian policy context, noting that:

> *development partners (DPs) are a particularly important group involved in decision making for a variety of programmes, from disease-specific interventions (i.e. vertical programmes) and health policy interventions, to health systems strengthening and technical capacity improvement. [...] Ghana is a recipient of high levels of international donor finance and aid which has significant implications for policy-making and the use of evidence.*

The Holistic Assessment Tool and the CMA system more generally were designed in part to "address the problem of parallel donor systems and increased aid transaction costs." However this institutional arrangement also exposes the Ghana health system to scrutiny by external actors who are not representative of – and are therefore not clearly accountable to – the Ghanaian population:

> *The presentation of the Holistic Assessment to the Health Summit [the venue at which the Tool is discussed by stakeholders] is to provide the mechanism for all sector partners to review performance and assess the level of compliance with the CMA. [...] However, this mechanism of evidence generation serves another purpose besides bringing coherence to the decentralized system of health governance; it makes the system evaluable by external reviewers. [...] [T]he Health Summit represents not only an additional venue of evaluation, but also an additional system of accountability in which the MoH is accountable to [development partners] for the overall performance of the health sector.*

The arrangement is further complicated by the fact that the Holistic Assessment Tool and the attendant donor-government accountability relationship exists alongside (but is not integrated within) the established systems of authority that govern relationships within and between domestic health sector agencies at the district, regional and national levels. The existence of separate, parallel structures of authority can lead to accountability confusion and permit savvy

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and powerful stakeholders to ignore or bypass domestic accountability structures. As the authors

point out, "[h]aving two accountability systems driven by different stakeholders thus can make it

unclear to whom responsibility and liability issues should be referred."

What emerges from this study, then, is the observation that "institutionalized evidentiary

practices" – in this case, the policy evaluation activities formalized in the Ghana health sector's

interagency review process – can expose policymaking systems to serious disruptions to

democratic accountability (O) in policy contexts in which considerable power – financial,

normative and otherwise – is wielded by external, unelected policy actors (C):

> *Data created to evaluate (or monitor the performance of) a health sector's*
> *functioning may often be described as purely technical tools. Yet when such*
> *data are used to inform policy and planning, they can have direct political*
> *implications [...] their use can create new accountability systems and thus*
> *raise questions over governance and influence over local policy decisions.*

More specifically, this study reveals "that the involvement of international donors as responsible

for funding a significant amount of health services can challenge the national structure of

authority and accountability relationships within existing constitutional parameters or the

existing governance structure of the state." The downstream impacts of such disruptions to

democratic accountability are not addressed empirically in this study, though the implications

can be speculated upon. In a briefing document on the Ghanaian health sector, Atengble,

Kemevor, Nyakutsey, and Asamoah (2018) reflected on existing governance structures for

linking evidence to policy, the dominance of donor needs, and the implications for other policy

priorities:

> *Available evidence products to policymakers are currently mostly used for*
> *health sector performance review, which reflect the governance structure for*
> *policymaking within the sector. The interest mostly of development partners*
> *(DPs) are met, and policymaking with respect to other pressing issues within*
> *the sector such as the distribution for health facilities, pharmaceutical*

> *services, ambulance services, etc. remain mostly unattended to, and this affects*
> *the general quality of service within the sector.*

ATENGBLE ET AL. (2018, P. 2)

In the context of a high degree of international donor influence (C), institutionalized evidence-to-policy structures that render the health policymaking system "evaluable to external reviewers" may distort priority setting, generating undue and disproportionate attention to donor policy preferences (O) because of the leverage this style of accountability structure allows them to exert over decision-making in general and resource allocation in particular (M).

The institutionalization of processes of evidence generation and use is often promoted as legitimacy-enhancing, as a potential means of holding governments accountable and upholding ideals of "good governance." This study shows that, under certain conditions, institutional evidentiary structures can threaten, rather than support, democratic accountability.

Case 17: Weiss and colleagues (2005 – United States)

In the final study reviewed here, Weiss et al. (2005) looked at drug abuse prevention decision-making at the school district level in the United States. The investigators set out to study when and why evaluation evidence is ignored and/or dismissed (Birkeland et al., 2005; Petrosino et al., 2006), using the case of a school-based drug abuse prevention program which, while evidently highly popular, had repeatedly proven ineffective in evaluation studies:

> *We chose the case of the Drug Abuse Resistance Education (D.A.R.E.) because*
> *it seemed a strategic example of the neglect of evaluation. D.A.R.E. is a*
> *program implemented by schools, usually at the elementary school level, to*
> *keep kids off harmful drugs. Dozens of evaluations had revealed that D.A.R.E.*
> *was not effective in actually keeping young people from using drugs. Still*
> *somewhere around 70% to 80% of all school districts were implementing the*

D.A.R.E. program. This seemed an elegant case of nonutilization for us to study.

This study is a strong example of a comparative multiple case study design. The case selection approach was logical and rigorous: within each of four US states – Colorado, Illinois, Kentucky and Massachusetts – four school districts were purposively sampled, two that were currently implementing the DARE program, and two that were not. Within each of the 16 sampled districts, interviews were conducted with public officials involved in the selection and implementation of prevention programs, as well as other community stakeholders.

After beginning the study, the authors found that evidence non-use was only one of a number of interesting phenomena uncovered in the case of DARE-related decision-making. Of particular interest for this review are the study districts in which DARE had previously been faithfully implemented, but was currently in the process of being overhauled or abandoned, often contrary to the wishes of the public and even the judgements of the local officials in charge. Most notably, the analysis revealed the powerful influence of a top-down mandate designed to make local-level drug abuse prevention more "evidence-based." The study's headline contribution is the conceptual development of a "new type of [evidence] use", what the authors term "imposed use." In this case, the imposition came from the federal government – more specifically, from the Department of Education's Office of Safe and Drug-Free Schools, which was responsible for doling out much of the funding for school-based prevention programs across the country:

In the late 1990s, SDFSCA [Safe and Drug Free Schools and Communities Act] called for using federal funding on "research-based" programs. In 1997, the SDFS [Safe and Drug Free Schools] office issued a draft of "Principles of Effectiveness" for public comment. […] The principles are four criteria that research-based programs should meet. […] The office also established an expert panel […] whose purpose was to use the criteria to identify "exemplary" or "promising" school-based drug and violence prevention programs (Petrosino, 2003). […] The Principles of Effectiveness and the list of

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exemplary and promising programs are steps in the Department of
Education's effort to adopt an evidence-based approach (Petrosino, 2003).

The DARE program did not meet the standards required to be included as a either a

"promising" or "exemplary" program on the Department of Education's list. In other words, it

did not qualify as "research-based." Strictly speaking, for local districts "the rules did not require

a choice of programs from the list; rather, *the requirement was to use scientific principles* in

making program choices" (my emphasis). If districts wanted to retain DARE – or any other

program not included on the list – they were granted two years to produce an evaluation

demonstrating that it was effective in their local context. However, none of the districts whose

experiences were analyzed in the study sought to conduct their own evaluations. Rather,

"[r]espondents believed that they had to select a program from the approved list in order to

receive federal funds or find another funding source for the D.A.R.E. program."

The study authors referred to imposed evidence use as:

> *a type of use that comes about because of pressure from outside. […] What*
> *distinguishes this type of use is that program stakeholders are obliged to pay*
> *attention to evaluation results. In this case, they would lose their funding if*
> *they did not agree to adopt a program that had been proved effective through*
> *scientific inquiry. The government funding agency did not say that districts had*
> *to use any particular program; there was no "enforcement" in the sense of*
> *prescribing a single course of action. What was prescribed was attention to*
> *scientific evidence.*

The SDFS principles provide useful lessons on the downstream processes that may be seeded

through the imposition of evidence use through the use of top-down mandates. This study shows

that, while in some conditions mandates might produce the desired outcome – the adoption of

programs with scientific backing – such directives may backfire in unexpected ways.

In one of the case districts – Hawkins, Illinois – some informants suggested that

knowledge of the negative DARE evaluation results contributed to the decision to switch from

DARE to a more research-based prevention program. However, it was also clear that the

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policymakers with direct involvement in the decision felt compelled to make the change in order to comply with the requirements of the new federal mandate:

> [O]fficials explained that pressure from the state to use a "proven" program also influenced their decision. [...] Hawkins's health coordinator was one of the central figures in the decision to shift away from D.A.R.E. Her description of why the district ended the program had more to do with pressure coming from the state than the evaluations directly. "We're given a state grant to help fund this program, and the bottom line was ... the state is now asking us, if this program is not effective, then why are you using those dollars still for that program?" This was a new approach on the part of government, according to hthis school official, which had "never asked for us to be accountable before."

It is clear, then, that in the presence of credible threats of sanction, such as the removal of funding (C), top-down mandates can compel policymakers to adopt programs or initiatives accredited as "effective" or "evidence-based" by expert authorities (O), because of felt pressure (i.e., compulsion) from superordinate authorities to be seen to be meeting standards of accountability (M), and the negative incentives introduced by the possibility of losing funding combined with officials' desires to continue delivering programming (M). In this way, mandates from on high appear to be effective at inducing the adoption of policies branded as "research-based," and the deimplementation of those that do not meet this standard.

For their part, the authors speculated on a few social mechanisms likely to be at play in their cases, suggesting that various forms of motivation on the part of local officials (M) were critical:

> "[M]otivational" factors played a part. The exercise of looking at [possible causal] pathways heightened our awareness of two components of the influence process: the importance of incentives pushing districts to attend to evaluation results on one hand (especially the looming imposition of restriction to programs on the list) and the urge to act rationally. In a number of cases, school officials and police officials seemed to embrace rationality; they wanted to do what science suggested worked for kids and not use programs that evaluation showed yielded little or no benefit.

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In sum, when the policymakers in question are genuinely concerned with generating results and improving outcomes (C), the opportunity to adopt an evidence-based ethos – to "embrace rationality" – is likely to be met with enthusiasm (M), leading to compliance with the mandate (O). For other policymakers, carrot and stick incentives (M) are the more active mechanisms (see above), but this also requires a certain motivation, namely (in the DARE case), to keep their programs funded (C).

Therefore, this study provides partial support for the hypothesis that mandates can lead to more evidence-based decisions. However, the study also provides evidence that such top-down measures may prompt decision-makers to "game the system", finding creative ways to comply with the *letter* of the law while contravening its *spirit*. A narrative provided by one of the officials interviewed in Massachusetts illustrates this well:

> *The federal grant that came through, especially with the No Child Left Behind [federal policy] and prior to that the Safe and Drug Free Schools, they did not want your monies attached to D.A.R.E. Their goals were to have . . . research-based programs, and that's especially with the No Child Left Behind. Presently, they will not fund any of the money unless anything that you're using now is on the basis of one of the designated research-based programs that they give you a list of. And, currently, that's how we really have to operate. But, we used to be very creative. To be very honest, we didn't refer to it by the name of D.A.R.E. We used to refer to it as After School Violence Prevention Clubs and so forth. That in a roundabout way used to allow us to utilize the funding because they were programs that we were actually initiating, but the D.A.R.E. people, and the D.A.R.E. officers especially, were really a big part of what we were doing with our kids.*

In this case, local officials were not sold on the premise of the evidence mandate (C). This, combined with its apparent lax enforcement (C), gave officials the opportunity to game the system – to creatively tweak their local program to *technically* satisfy the requirements of the mandate (M), while failing to meet the objective of the regulation – the implementation of an "evidence-based" program (O). The officials in this example were able to essentially rebrand

their drug abuse prevention program to comply with the mandate, while continuing to implement a program that closely resembled DARE.

So, under some circumstances, top-down evidence mandates can backfire, allowing for savvy "street-level bureaucrats" (Lipsky, 1980) to circumvent them. Nevertheless, the mandate described in this study clearly produced the desired outcome in at least some cases.

It is worth considering, however, what exactly this outcome refers to. The adoption, by obligation, of a program deemed "effective" and "research-based" by a superordinate authority is clearly not the same as policy officials "using evidence" to come to such a decision. While Weiss and colleagues argue that the federal mandate led some officials to "attend to evaluation results," it is not obvious that the policymakers in question actually engaged with the research findings in any meaningful way. Indeed, it is noted that "[o]nly occasionally did people in the districts read the evaluation reports, but they had heard the gist of the findings." In the paper, the authors reflect on the conceptual distinction between the idea of "imposed use" developed in this study, and the instrumental use of evidence to inform or guide policy decisions:

> *Is imposed use just another kind of instrumental use? In one sense, it is. It pushes a decision from "on" to "off." However eager or reluctant a school district may be to conform to federal mandates, it seems to be "using" the evidence. Carrots and sticks are there, but the district is turning off D.A.R.E. because of the evaluations. On the other hand, several of our districts were responding not so much to the evidence as to the federal mandate. They were not at all interested in the evidence; they were concerned with the list that showed which programs were acceptable. This is not instrumental use of evaluations. It is straightforward imposition.*

It is possible to conclude that mandates that focus on a desired *outcome* (e.g., adoption of a policy or program accredited as "evidence-based") are different than what might be termed *process*-based mandates, those that stipulate that evidence (perhaps of a certain quality, for instance, a specified level of methodological rigor) must be considered in the course of coming to a decision. A mandate of the latter sort would not presuppose a specific desired policy

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outcome, but would rather define success as the extent to which the process of policymaking is informed by evidence. If mandates are expected to help institutionalize evidence-informed policymaking, the focus of their incentives – their carrots and their sticks – should be on how decision-making is conducted, rather than which products result from that process.

Lessons and refined theory

Drawing on a diverse sample of qualitative case study research, this realist synthesis has identified a number of insights on the contextual conditions in which deliberate efforts to institutionalize evidence use processes are most likely to be successful, and the generative social mechanisms through which outcomes are achieved. In this section, I summarize the overarching lessons from this synthesis in a refined, more granular version of the crude program theory – along with its constituent propositions – that was presented at the start of this chapter.

Refined propositions

In the sub-sections that follow, I discuss the four initial propositions, one by one, and summarize the evidence related to each.

Proposition 1: Embedding key functions on the pathway from evidence to policy – including research planning and priority setting, evidence generation, deliberation and discussion of evidence, and the translation of evidence into recommendations and policy advice – within the infrastructure of government increases the likelihood of evidence uptake and use. Embeddedness leads to evidence use through mechanisms related to availability and accessibility of evidence and the perceived policy relevance of evidence generated and disseminated by embedded institutions.

This synthesis uncovered a great deal of evidence on this proposition. The general conjecture that, all else being equal, embedding evidence production, translation, communication and deliberation within the apparatus of government decision-making bodies is conducive to evidence uptake and sustained evidence-informed policymaking was supported by many studies.

As anticipated in the language of the initial theory, embedded structures for generating and translating evidence tend to furnish "products" – data, reports, recommendations, and so forth – that are both readily available to policymakers when needed, and are perceived as more relevant to policy, and therefore more "usable", than they otherwise might be. However, the "accessibility" mechanism works in the opposite direction as well: embedding the generation of evidence and its translation into policy advice within government means that these processes are more likely to have access to policymaker input and influence, increasing the likelihood of the products of such processes meeting the evidentiary needs of end users. The synthesis further identified mechanisms related to policymaker feelings of "ownership" over and "investment" in evidence.

Embeddedness most commonly took the form of what one study (Nutley et al., 2002) referred to as "co-location": arrangements within policymaking bodies in which research staff and policy development and/or planning staff work closely alongside one another. If embedding researchers within decision-making processes produces meaningful, sustained interaction between researchers and policymakers, the latter are more likely to take evidence (in general) seriously in their work, but also to develop a sense of ownership over the specific evidence produced and/or shared by their research colleagues. This requires that policymaker-researcher working relationships are marked by mutual respect and minimal conflict, and that the policymakers are motivated to draw on evidence – in other words, that they are open to being informed.

More preliminary evidence pointed to the possibility that – under some conditions – greater embeddedness may increase the likelihood of research generation processes being "corrupted" by the priorities of policymakers, resulting in evidence that legitimates rather than

informs policy decisions. This process – which has been referred to as "policy-based evidence making" (Choi et al., 2005; Marmot, 2004) – is most likely to manifest when proactive efforts have not been made to protect the academic independence of embedded researchers. While embedding the generation of evidence (and advice) within policymaking organizations implies that researchers compromise some of their independence to satisfy the preferences of policymakers, measures should be implemented to limit policymaker influence – for example, to the selection of priority topics of focus – and to protect researcher independence in the conduct of data analysis, the generation of interpretations, and the communication and dissemination of recommendations.

Proposition 2: The formalization of key functions, roles and relationships in evidence-to-policy processes can increase the likelihood of sustained and consistent evidence use. Within policy organizations, the assignment of formal responsibility to individuals or groups makes evidence use more likely. Formal venues for researcher-policymaker interaction are more effective than informal relationships, and formal structures for the generation of evidence-informed policy recommendations are more effective than informal channels of advice. Formalization leads to more consistent evidence-informed policymaking processes through the mechanisms related to explicit accountability and sustained functioning that it activates.

Of the four initial propositions, the volume of relevant primary empirical evidence available was greatest for this one. One reason for this may that the proposition was framed broadly, subsuming a number of sub-topics that could have been dealt with separately. In the language of the initial program theory, this proposition was understood to refer to the allocation of formal responsibility for evidence use, the formalization of researcher-policymaker relationships, and the creation of formal structures and procedures for the review of evidence and the generation of evidence-informed advice. There is some evidence that improvements in evidence use practices may result from the establishment within policymaking organizations of formal responsibility for activities related to evidence use – gathering evidence, appraising it, and maintaining relationships with researchers, for example – to a unit, an individual, or group of

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individuals. Formal, explicit responsibility creates accountability and makes evidence more likely to be considered part of the normal working routine of the organization.

Many studies included in this synthesis provide basic support for the notion that evidence-informed policymaking is more likely when evidence-to-policy processes are supported by formal structures and relationships. Of particular note is the distinction between informal, casual or ad-hoc relationships between researchers and policymakers, on the one hand, and official venues or formal channels for researcher-policymaker interaction, on the other. Consistent with the initial proposition, formal interactions are more likely to support consistent evidence use because they are more easily sustained over time, thus providing the opportunity for ongoing, deep relationships rather than one-off interactions between researchers and policymakers. This can, in turn, lead to the development of mutual trust and shared understanding. This bodes well for evidence-informed policymaking for at least two reasons: first (and most obviously), policymakers are left with trusted expert contacts on whom they can depend for advice; and second (more speculatively), long-term exposure and interaction with researchers may increase policymakers' appreciation for the value that research evidence can add to their work.

Along similar lines, the general conjecture that formal structures or bodies for reviewing evidence and translating it into policy recommendations and advice are preferable to the informal provision of policy advice (e.g., on an unstructured basis, through one-to-one consultations with experts) also found support in this synthesis. In the absence of formal channels for the provision of evidential advice – a condition which obtained in some of this review's included cases – policymakers are free to rely on evidence from informal expert connections, which is both easily ignored when its implications are inconvenient and easily cherry-picked when opportunities arise

to legitimate pre-existing policy preferences. Understandably, policymakers may reason that informal evidence can have strategic value (quite apart from its informational value), and, equally, that the political and professional penalties that accompany its misuse or non-use are likely to be minor.

Formal evidence review structures may help to dampen the (potentially powerful) influence of interest groups external to the policy process clamouring to have their preferences accommodated. Provided they are governed by clear evidential standards, such structures can insulate decision-making processes from distortionary pressure and "evidence-free" proposals by setting the "rules of the debate." However, these mechanisms are only likely to be activated when evidential standards are explicitly communicated and consistently upheld or enforced. Moreover, in order to be perceived as legitimate – itself a prerequisite for being taken seriously by policymakers – it helps for such formal structures to be transparent and inclusive. In brief, a broad array of stakeholders should be welcome at the table, but they should be required to adhere to some minimum standard of evidential quality when voicing their positions.

One aspect of evidence use institutionalization initially conceptualized in this review as an aspect of formalization – the *systematization* of evidence use – emerged as sufficiently distinct to be defined as a separate, fifth domain. This synthesis uncovered mixed evidence on the value of systematizing evidence generation, collation, and application in policy formulation. Systematizing the processes through which policymakers use evidence – for instance by introducing official guidelines or standard procedures for how, when and which evidence should be used – can indeed increase the likelihood of evidence use by providing clarity about the expectations of the various actors involved, and confidence that the job is being done properly. Policymakers tend to be busy people. Provided they simplify and decrease – rather than

complicate and increase – policymakers' workloads, tools that save time by reducing evidence

use to a series of technical procedures make the task seem less daunting and increase the

likelihood of evidence playing a prominent role in decisions. However, the less technical and

procedural, and more contested and politicized, the issue or decision at hand, the less likely the

mechanisms underlying systematization's influence on evidence use are to be activated.

While the benefits of formalization are generally well supported by this synthesis, a key

concern that remains is the observed tendency for policymakers to avoid, suppress, or ignore

formal evidence-based advice when political conditions are heated or volatile, or when the

decision under consideration is characterized by a high degree of contestation. This preference

for informal advice (that doesn't "tie the hands" of policymakers) is rarely observed for highly

technical or procedural questions. One potentially promising avenue to remedy this is to bolster

norms of evidence use, so that institutionalized evidence review processes are understood by

policymakers as a routine feature of decision-making processes, whether highly political or not.

The next proposition deals with the normalization of evidence use.

***Proposition 3: In a given policy context, the extent to which evidence informs policymaking is
directly related to the degree to which norms of evidence use have taken hold – that is, the
degree to which evidence has become an accepted, routine part of everyday decision-making.
In contexts in which evidence is more normalized, consistent evidence use is more easily
sustained over protracted policy processes, and research-based arguments are less likely to be
ignored or defeated in hotly contested debates, because of the political currency evidence holds
in such policymaking environments.***

Compared to the first two propositions, this synthesis uncovered relatively little direct

evidence on the effects of efforts to institutionalize norms of evidence use in policymaking

settings. Most of the support that was identified for this proposition took the form of cases in

which successful, "evidence-driven" policy change was attributed in part to a fostering of what

some authors called "cultures of evidence" – organizational cultures in which evidence use is

highly valued and understood as a marker of "good" policymaking – by enthusiastic leaders and/or "champions." This may be particularly important in contexts characterized by weak institutions in which there is great scope for individual leaders to be highly influential.

While this synthesis revealed minimal direct evidence on the effects of institutionalizing norms of evidence use, some indirect fragments of evidence could be lifted from studies that were primarily focused on the other domains of institutionalization. The establishment of formal evidence use structures and processes within policy organizations, if sustained over time, may help to generate organizational cultures in which evidence is valued. Both formalization of evidence use processes and embeddedness of evidence use structures can help to nurture such cultures, leading to policymakers becoming accustomed to the idea that defending one's ideas and arguments with evidence is "the way things are done" (i.e., the norm) within their organizations. The achievement of a cultural "tipping point" – after which a policymaking organization's collective identity as "evidence-informed" becomes self-perpetuating, continually strengthening evidence use norms through a kind of positive feedback loop – was alluded to in various ways. This kind of mechanism remains conjectural, however, and more evidence is needed to shed light on the possible dynamics surrounding the long-term shifting of evidence use norms.

Proposition 4: Mandating evidence use through the use of top-down rules, decrees or policies can increase evidence use within policymaking processes by altering the incentives of the actors involved. Policymakers understand that either evidence use will be rewarded, or non-use punished (or both), and a combination of the fear of sanction and the drive to be rewarded motivates changes in their behaviour.

This final proposition was also met with mixed evidence. As anticipated in the initial theory, formally requiring evidence use can influence policymaker behaviour through shifting their incentives: either the promise of reward (carrots), the threat of sanction (sticks), or

combinations thereof, may be active mechanisms depending on the situation and setting, provided these promises and threats are understood to be credible. In the absence of a formal requirement to draw on evidence in some way, intrinsic policymaker motivation and enthusiasm to work in a research-informed manner becomes more important, as does the availability of institutional tools and standard procedures that simplify the process of appraising and applying evidence.

Mandates may motivate evidence uptake, but this is no guarantee that it will be used appropriately or as intended, especially if such requirements are imposed on individual policymakers or policymaking organizations that lack the technical know-how and capacity to apply evidence appropriately. The most important thing to acknowledge about mandates is that – in practice – they may result less in improvements in evidence-informed decision-making than in increases in the use of evidence as "window dressing." If mandates are not accompanied by sophisticated enforcement, and policymakers have not "bought in" to the premise that evidence use is beneficial or "good" in its own right, then policymakers may do the bare minimum to produce work that is consistent with the letter – rather than the spirit – of the mandate.

Refined program theory

The refined program theory now reads as follows (with substantial amendments in bold):

The institutionalization of the uptake and application of research evidence in health policymaking takes place through a combination of embedding, formalizing, systematizing, normalizing and mandating. Embedding key structures and processes within government decision-making bodies increases the availability and accessibility of policy-relevant evidence, **and improves evidence use by generating policymaker ownership of and investment in evidence. Embedding researchers in policy development organizations alongside policymakers can also be beneficial, provided their working relationships are characterized by mutual respect.** *Formalizing researcher-policymaker relationships increases their sustainability,* **leading to improved evidence use through the nurturing of trust and mutual understanding.** *Formalizing processes of evidence review increases their credibility by bestowing them with 'official status,'* **and can insulate policy decisions from potentially distortionary outside pressures, provided they are transparent, inclusive and governed by clear evidential standards.**

Systematizing evidence use through standard processes, procedures, and guidelines for collating, appraising and applying evidence may increase evidence use by making these tasks more simple and clear, and by increasing policymaker confidence. *The normalization of evidence as a routine aspect of policy processes **may** help to sustain evidence use over time **through the establishment and nurturing of evidence 'cultures' by charismatic leaders, especially in contexts characterized by weak institutions.** When all else fails, decrees and dictates that mandate evidence use **may** alter the incentives faced by policymakers, **motivating them to draw on evidence; however such measures are no guarantee that 'the evidence' gets its due hearing.***

Rival program theory

In addition to these modifications to the initial program theory, a series of important findings related to potential unintended consequences of efforts to institutionalize evidence use emerged from my reading of the included cases. These can be summarized in the form of a 'rival' program theory that – in a future synthesis, perhaps – can be systematically subjected to empirical scrutiny. The rival program theory reads as follows:

Institutionalizing the systematic generation, dissemination and application of evidence in health policymaking leads, more often than not, either to the non-use of evidence, the misuse of evidence for political gain, or the selective use of evidence to achieve pre-determined ends. Embedding evidence use functions within the machinery of government facilitates policymaker infiltration into processes of evidence production, collation and review, and the generation of policy recommendations, furnishing opportunities for politically-motivated policymakers to corrupt these processes by, for instance, encouraging or incentivizing the amplification of evidence that legitimates their aims instead of informing their decisions. Policymakers make selective use of formal evidence advisory structures, choosing to establish, fund and bestow official status on them when their outputs are likely to be either unthreatening to or supportive of their agendas, and ignoring, discrediting or suppressing them when they perceive them as inconvenient or threatening. Systematizing evidence use through standard procedures and guidelines that reduce policymaking to a set of discrete, technical steps, promotes the relegation of non-research based knowledge (e.g., tacit knowledge) to secondary status, tends to privilege high-quality but acontextual evidence, and stifles the application of intuitive reasoning and creative thinking in the practice of policymaking. Institutionalized norms that incentivize evidence use – and policies and standards that mandate it – may lead to increases in the use of evidence, but they also generate performative and symbolic uses of evidence to 'signal' good practice and meet minimum standards – far from the ideal of evidence-informed policymaking. The institutionalization of evidence-to-policy processes encourages, at best, a selective engagement with evidence to satisfy professional requirements or advance agendas, and, at worst, the deliberate distortion or misuse of evidence by policymakers to achieve political ends.

It is important to note that this rival program theory emerged from a synthesis that was not initially designed with its propositions in mind, and that its constituent hypotheses must, as a result, be read as exploratory and conjectural. The implications of the refined program theory presented above, and this 'emergent' rival theory, are elaborated upon in **Chapter 8** of this thesis.

Conclusion

In this realist synthesis I have interpreted the findings of 17 case studies on the relationship between evidence and health policymaking through the lens of the initial program theory introduced at the start of this chapter. In doing so, I have subjected the program theory – and each of its constituent theoretical propositions on the institutionalization of evidence-to-policy processes – to empirical scrutiny, refined the theory accordingly, and reported on both the key generative mechanisms underlying evidence use outcomes, and some of the contextual conditions in which they are likely to be activated.

An unexpected, but nonetheless valuable, result of this synthesis was the emergence of a set of findings related to the unexpected adverse effects of institutionalization efforts. These possible unintended consequences were summarized as a kind of "rival" theory, illustrating how deliberate efforts to institutionalize evidence use might backfire. All social action generates unintended and unanticipated effects, some of which are harmful (Merton, 1936). It is increasingly recognized in public health and intervention research that researchers and others should invest effort and time in anticipating and planning for such harms. While, at this stage, this rival theory's propositions have the status of exploratory conjectures or hypotheses, it represents the first step in developing what might be called a 'dark logic model' (Bonell, Jamal, Melendez-Torres, & Cummins, 2015) of evidence use institutionalization.

The methodological strengths and weaknesses of this synthesis are detailed in **Chapter 7** of this thesis, in which I present a critical methodological comparison between the thematic synthesis reported in **Chapter 4**, and realist synthesis reported in the present chapter. The findings reported here, and their implications, are elaborated upon further in **Chapter 8**, in which I conclude the thesis by summarizing its overall substantive findings on the role of research evidence in health policymaking.

Part 3: Studying regional cooperation and evidence-informed policymaking through a realist lens

Chapter 6: Regional cooperation to promote evidence use in policymaking: A realist case study of the West African Health Organization

Background

Despite considerable progress during the era of the Millennium Development Goals, key health indicators related to maternal, newborn and child health (MNCH) in much of sub-Saharan Africa have not improved to the extent hoped (Agyepong et al., 2017b). Nowhere is this more evident than in West Africa: levels of maternal mortality (Kassebaum et al., 2016) and neonatal, infant, and under-5 mortality (Wang et al., 2016) remain high in most of the region's 15 countries. While efficacious and cost-effective clinical and public health interventions are available to improve maternal, newborn, and child health outcomes (Bhutta et al., 2014; Victora et al., 2016), there is growing consensus internationally (Travis et al., 2004) and in West Africa (Agyepong et al., 2017a) that strong and resilient health systems are required in order for these interventions to be delivered appropriately, effectively and at scale.

Two of the core 'building blocks' of any health system are stable health governance systems and reliable health research systems (WHO, 2007, 2010). Without either of these, the system's responsiveness to the health needs of the population can suffer, generating the poor outcomes discussed above and, in some cases, public health crises. This came into sharp focus between 2014 and 2016 during the devastating West African Ebola outbreak which – while a complex event with multiple interacting causes – has been linked to weaknesses in the health systems of the affected countries (Shoman, Karafillakis, & Rawaf, 2017), including failures in health research and information systems (Buseh, Stevens, Bromberg, & Kelber, 2015), and poor governance and lack of political leadership at both the national (Gostin & Friedman, 2015) and international levels (Gostin & Friedman, 2014).

The advent of the Ebola crisis in West Africa coincided with renewed recognition by West African health policy researchers (Defor, Kwamie, & Agyepong, 2017) and international donors (Godt, Mhatre, & Schryer-Roy, 2017) that systems of both research generation and evidence use require conscious and deliberate capacity strengthening to more effectively deliver evidence-informed policy responses to the health problems facing the region. One of the institutions at the forefront of efforts to strengthen evidence-informed policymaking is the West African Health Organization (WAHO).

The West African Health Organization (WAHO)

WAHO is the specialized health agency of the Economic Community of West African States (ECOWAS), an economic bloc of 15 West African countries (listed in **Figure 7**). WAHO was established in 1987 through the unanimous adoption by the ECOWAS Heads of State and Government of its founding protocol (WAHO, 1987), marking the merger of the West African Health Community and l'Organisation de Coordination et de Coopération pour la lutte contre les Grandes Endémies, which had hitherto been the principal sub-regional health policy coordinating bodies in Anglophone and Francophone West Africa, respectively (WAHO, 1987). The organization's founding document formally established WAHO's mandate as "the attainment of the highest possible standard and protection of the health of the peoples in the sub-region through the harmonisation of the policies of Member States, pooling of resources, [and] co-operation with one another and with others for a collective and strategic combat against the health problems of the sub-region" (WAHO, 1987). Executive authority for the organization rests with the Assembly of Health Ministers – a decision-making forum comprising the ministers of health of each member country – which convenes annually and whose resolutions are legally binding on WAHO member states. The implementation, monitoring and evaluation of these

resolutions, and other day-to-day operations of the organization, is overseen by WAHO's

Director-General, who is based at the organization's headquarters in the city of Bobo-Dioulasso,
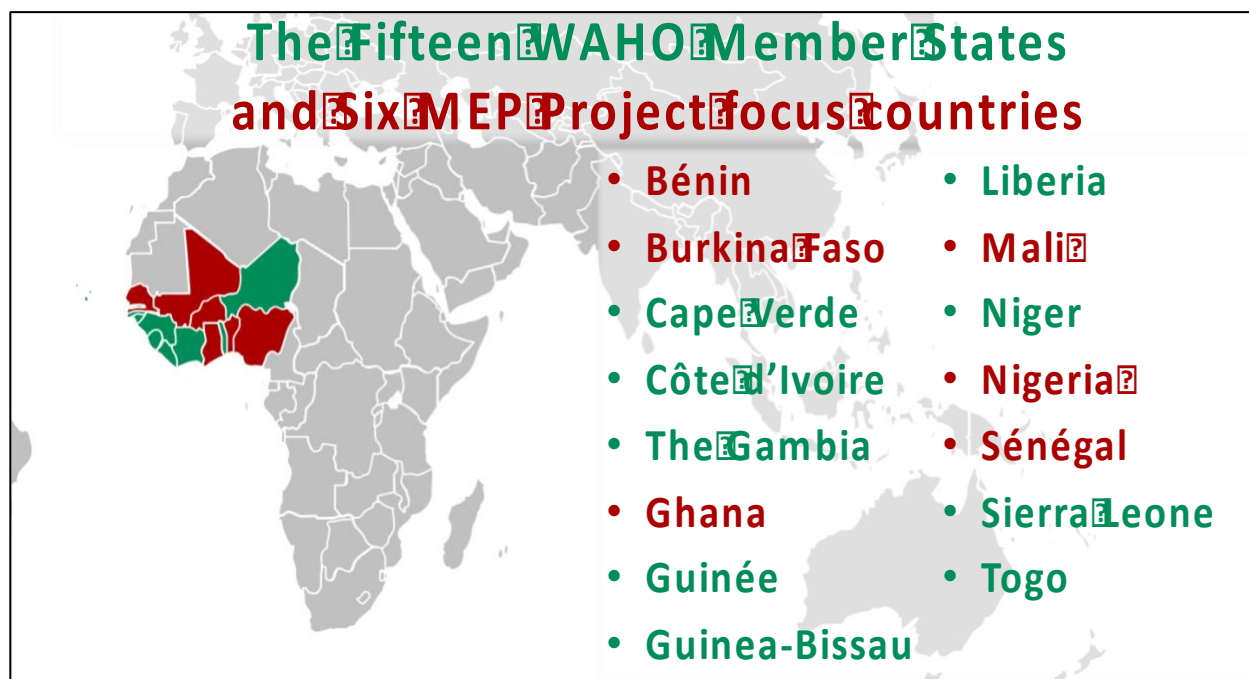
Burkina Faso.

Figure 7: Geographic location of the fifteen West African Health Organization (WAHO) Member States,
including the subset of six countries participating in the MEP Project
Adapted from (Verboom, 2018)

During the past decade, WAHO has become increasingly engaged in the promotion of

research use in health-related decision-making in West Africa, with a particular focus on

strengthening the research capacity of the region's national ministries of health (Sombié, Aidam,

Konaté, Somé, & Kambou, 2013; Sombie et al., 2017b; WAHO, 2015g, 2015h). This is

especially evidenced by WAHO's most recent strategic plan (WAHO, 2015h), which prioritizes

"improv[ing] the production, dissemination and utilization of health information and research

within the ECOWAS region" (p. 25) including "the development of mechanisms for regular

dissemination and utilization of knowledge, evidence and information" (p. 25).

Since 2014, the majority of the organization's work in this area has been carried out under the umbrella of the donor-funded *Moving Maternal, Newborn and Child Health Evidence into Policy (MEP) Project*. One of the core features of the MEP Project is its Knowledge Transfer Platform (henceforth, the WAHO KTP), a set of interventions aimed at improving evidence use in the region's health policy development processes.

In this chapter I focus on the MEP Project in general, and the WAHO KTP in particular, presenting a study of MEP stakeholder perspectives on how and why the WAHO KTP is expected to effect change in evidence use among health policymakers in WAHO member states. In the sub-section that follows I provide some background details on the MEP Project and its major objectives, and introduce the WAHO KTP.

The MEP Project and WAHO's Knowledge Transfer Platform (WAHO KTP)

The *Moving Maternal, Newborn and Child Evidence into Policy (MEP) Project* is the flagship project of WAHO's Health Research and Information Unit (henceforth 'Research Unit'), a division of the organization's Department of Planning. The main objective of the MEP Project is to "[i]mprove demand for the production of, and use of research results for decision-making in MNCH programs and policies within the ECOWAS region" (WAHO, 2016e). WAHO developed the MEP Project under the auspices of the *Innovating for Maternal and Child Health in Africa (IMCHA) Initiative*, a C$36 million health systems strengthening program which is co-funded through three Canadian donor institutions: the International Development Research Centre (IDRC), the Canadian Institutes of Health Research (CIHR) and Global Affairs Canada. In the parlance of the IMCHA Initiative, WAHO is funded to serve as a Health Policy Research Organization (HPRO), "[t]he primary goal of [which] is to function as [a] catalyst and enabler for moving research evidence to policy and practice at the national levels within the targeted

countries, therefore enabling connections between research and decision making" (GHRI, 2014). An HPRO is an "organization [that is] committed to facilitating the use of research evidence, knowledge, and recommendations to inform national policies on strengthening equitable health systems for better maternal, newborn and child health outcomes" (GHRI, 2014).

The centrepiece of the MEP Project is WAHO's Regional Knowledge Transfer Platform (WAHO KTP), a set of complex interventions aimed at improving the use of research in the policy development processes of national ministries of health in West Africa. During the six-year period of the project, these interventions have been implemented in various combinations across six countries – Bénin, Burkina Faso, Ghana, Mali, Nigeria and Sénégal – the subset of WAHO's 15 member states that were selected for participation in the project (WAHO, 2016e). Development of the WAHO KTP followed an extensive process of background research and stakeholder consultation in the participating countries, which entailed: (1) seven situation analysis studies (six country-level and one-regional level) to improve understanding of the existing state of evidence use and knowledge transfer in the region; (2) six country-level engagement workshops – one in each participating member state – to validate the findings of the situation analyses, to engage stakeholders in the MEP Project, and to elicit their input about the interventions needed to support evidence use; and (3) a regional workshop involving a diverse group of 76 stakeholders, to consolidate the findings from the first two steps into a coherent intervention framework, the WAHO KTP.

The result of this process was a suite of interventions targeting three sets of actors – policymakers in ministries of health, IMCHA-funded research teams, and WAHO itself – and aiming "to strengthen individual, organizational and institutional capacities to promote the use of evidence in maternal, newborn and child health in West Africa" (WAHO, 2016e). The

interventions of the WAHO KTP framework can be represented visually, therefore, in a simple 3x3 matrix, organized according to the three sets of actors and three 'levels' of evidence use capacity targeted by the program (**Table 14**).

Table 14: Simplified overview of the WAHO KTP intervention framework showing representative examples of interventions
Adapted from Verboom (2018)

Target Actor(s)	Level of intervention		
	Individual	*Organizational*	*Institutional*
Regional-level (WAHO)	Capacity-building trainings – knowledge & skills related to using evidence (e.g. searching for, appraising and applying evidence)	Regional guidance tool on using evidence in policy	Assembly of Health Ministers Resolution on the use of evidence in health decision-making
Country-level (ministries of health)		National guidance tool on using evidence in policy, tailored to specific country context	National-level text or law on the use of research in decision-making
IMCHA-funded research teams	Capacity building trainings – skills related to dissemination of research for policy uptake	•Collaboration between researchers and decision-makers (e.g. research co-production) •Research-to-policy forums	Advocacy for improved collaboration between researchers and decision-makers

It is important to note that these interventions were not implemented uniformly across the six participating countries. Rather, program stakeholders – mainly ministry of health policymakers and academic researchers – could select, co-design and/or co-implement interventions of the kind described in the framework according to their perceived needs. The rationale for this bespoke tailoring is discussed more extensively below, where I describe stakeholder perceptions of the WAHO KTP's 'program ethos.'

The management of the MEP Project and the design of the WAHO KTP were overseen by WAHO's Research Unit, which is led by Professor Issiaka Sombié (both a key informant for and partner on this study) and is staffed by three professional officers, all of whom have or had major roles in conceptualizing and rolling out the KTP's activities. Others with major

involvement in either planning or implementing the activities of the WAHO KTP include current and former staff of the project's Canadian donor organizations, and consultants – mainly from the project's six participating countries, but also from international universities – who were contracted to deliver some of the KTP's component interventions.

Rationale for this study

While the WAHO KTP was designed on the basis of a far-reaching consultation process, the designers did not explicitly set out their assumptions about how they expected the program, and its component interventions, to achieve its desired outcomes. That is, the designers did not present an explicit program theory for the WAHO KTP.

One of the overarching aims of this DPhil thesis, therefore, was to construct a realist program theory for the WAHO KTP that proposes explanations for *how, why and in what respects* the program influences the use of evidence in national health policymaking. In realist inquiry, a program theory is a "theory that hypothesizes how a program is expected to work, given contextual influences and underlying mechanisms of action." (Jagosh, 2019, p. 362). Mechanisms of action are types of causal processes (Westhorp, 2018); they are proposed explanations or accounts of how and why outcome patterns manifest as they do (or are expected to) in certain contexts (Pawson & Tilley, 1997).

The remainder of this chapter is divided into six sections. First, I provide a statement of the study's purpose and its research objectives. In the second section, I provide a brief summary of the procedures used in this study and the data sources on which it relied. The third section presents the study's findings: stakeholder perceptions of the program's underlying *ethos*, its intended outcomes, and the social mechanisms and contextual conditions hypothesized to generate these outcomes. In the fourth section, I illustrate the interrelationships between the

hypothesized mechanisms using linked context-mechanism-outcome configurations. In the fifth

section, I present a summary of the proposed realist program theory, and in the sixth section I

discuss the study's practical and academic contributions, and its strengths and limitations.

Study purpose and objectives

This study examines WAHO's role in strengthening evidence use in national health

policymaking in West Africa with the end goal of proposing a realist program theory of the links

between the WAHO KTP and evidence-informed health policymaking. In practical terms, the

study's purpose can be stated as follows:

> *To identify possible explanations of the processes through which WAHO's Knowledge Transfer Platform promotes the use of research evidence in national health policymaking, and to generate and propose a realist program theory for the WAHO KTP that can be tested in future research*

The specific research objectives for this study are:

1) To describe the **vision and ethos (philosophy)** underlying the design of WAHO's Regional Knowledge Transfer Platform and of the MEP Project, from the point of view of program designers and other stakeholders;
2) To identify and describe the **outcomes** related to the use of evidence in policymaking that the WAHO Knowledge Transfer Platform is intended to generate; and
3) To hypothesize possible generative **mechanisms** through which stakeholders expect the WAHO Knowledge Transfer Platform to produce these outcomes, and to contemplate the **contextual conditions** in which these mechanisms are likely to be activated.

Brief summary of study methods and data sources

Detailed methods for this realist case study are provided in **Chapter 2** of this thesis.

Briefly, data for the study were drawn from: extensive observation of WAHO meetings and

activities over the course of over a year of fieldwork; the review and analysis of relevant

documents; and key-informant interviews with program funders, designers, implementers and

others. Using content analysis, I applied a realist analytical lens to my reading of these data to

construct a ground-up conception of how, why and under what circumstances program stakeholders expect the WAHO KTP to achieve its intended objectives.

In total, 47 documents were used in the analysis, including internal WAHO strategic documents, documents describing the work of the Health Research Unit, activity reports of WAHO KTP interventions, webpages related to the program, academic articles cited by program designers drew upon when conceptualizing the MEP Project, and relevant literature from the project's funders. The details of these documents are provided in **Table 15**.

Table 15: Details of documents included in the analysis

D#	Author(s)	Title and citation	Perspective represented	Type of document
1	**Tikki Pang et al.**	*Knowledge for better health: a conceptual framework and foundation for health research systems* (Pang et al., 2003)	Other	Academic journal article
2	**Ritu Sadana & Tikki Pang**	*Health research systems: a framework for the future* (Sadana & Pang, 2003)	Other	Academic journal article
3	**Issiaka Sombié et al.**	*The state of the research for health environment in the ministries of health of the Economic Community of the West African States (ECOWAS)* (Sombié et al., 2013)	Program designers	Academic journal article
4	**Global Health Research Initiative**	*Call for Proposals: Innovating for Maternal and Child Health in Africa. Health Policy and Research Organizations* (GHRI, 2014)	Program Funders	Funding call
5	**WAHO Research Unit**	*West African Maternal, Neonatal and Child Health Evidence for Practice Project (WAMEPP)* (WAHO, 2014)	Program designers	Funding proposal
6	**WAHO Research Unit**	*Regional strategic plan for the promotion of health research in ECOWAS for the period 2016-2020* (WAHO, 2015g)	Program designers	Strategic plan
7	**WAHO Research Unit**	*Launch workshop for the IMCHA Initiative - Nairobi (Kenya)* (WAHO, 2015a)	Program designers	Report
8-14	**WAHO Research Unit**	*MEP News: MNCH Evidence into Practice in West Africa* (seven editions) (WAHO, 2015b, 2015c, 2016b, 2016c, 2017a, 2017b, 2018)	Program designers, implementers	Newsletters (n=7)
15	**WAHO Research Unit**	*First MEP Project Progress Report, November 2014 to July 2015* (WAHO, 2015e)	Program designers	Report to funders
16	**WAHO Research Unit**	*MEP Project Objectives* (WAHO, 2015d)	Program designers	Internal planning document
17-22	**Various consultants**	Country-level Situation Analyses in each of the six participating countries: Bénin (Balgoun, 2015), Burkina Faso (André, 2015), Ghana (Abekah-Nkrumah, n.d.), Mali (Bagayoko, 2015), Nigeria (Uneke, 2015), Sénégal (Sall, 2016)	Program implementers, Other stakeholders	Consultant reports (n=6)

D#	Author(s)	Title and citation	Perspective represented	Type of document
23	WAHO Research Unit	*Need for Utilization of Evidence-based Data in Strategy Review or Development (WAHO, 2016a)*	Program designers	Appendix to regional policy document
24	WAHO Research Unit	*Second MEP Project Progress Report, August to December 2015 (WAHO, 2016d)*	Program designers	Report to funders
25	Pierre Ongolo-Zogo	*Situational Analysis of Knowledge Transfer and Exchange for Mother Newborn and Child Health in West Africa (Ongolo-Zogo, 2016)*	Program designers, implementers	Consultant Report
26	Jude Aidam & Issiaka Sombié	*The West African Health Organization's experience in improving the health research environment in the ECOWAS region (Aidam & Sombié, 2016)*	Program designers, implementers	Academic journal article
27	Virgil Lokossou et al.	*Can the West African Health Organization become a centre for promoting the transfer and application of evidence for MNCH? (Lokossou et al., 2016)*	Program designers	Conference paper
28	Ermel Johnson et al.	*Transferring and Applying Evidence in Maternal and Child Health Policies and Programmes in West Africa: A Situation Analysis (Johnson et al., 2016)*	Program designers, Other stakeholders	Conference paper
29	Namoudou Keita et al.	*Strengthening equitable health systems in West Africa: The Regional Project on Research Governance for Health Equity in Health Systems (Keita et al., 2016)*	Program designers	Conference poster
30	Issiaka Sombié & Virgil Lokoussou	*Editorial: Lessons learned from the Situation Analysis of knowledge transfer and use of evidence in maternal, newborn and child health in West Africa (Sombie & Lokossou, 2016)*	Program designers	Blog post
31	WAHO Research Unit	*West African Platform for Strengthening Knowledge Transfer and the Use of Evidence in Maternal, Newborn and Child Health (WAHO, 2016c)*	Program designers	Internal planning document
32	ECOWAS Assembly of Health Ministers	*Resolution on the use of evidence in developing health care policies, plans, standards and protocols in the ECOWAS region (WAHO, 2017c)*	Program designers	Policy document (Resolution)
33	Issiaka Sombié et al.	*Promoting research to improve maternal, neonatal, infant and adolescent health in West Africa: the role of the West African Health Organisation (Sombie et al., 2017b)*	Program designers	Academic journal article
34	Issiaka Sombié et al.	*Evaluation of regional project to strengthen national health research systems in four countries in West Africa: lessons learned (Sombie, Aidam, & Montorzi, 2017a)*	Program designers	Academic journal article
35	Sue Godt et al.	*The Change Makers of West Africa (Godt et al., 2017)*	Program funders	Academic journal article
36	Ermel Johnson	*Introduction to West African Health Organization MEP Project (Johnson, 2017)*	Program designers	Conference presentation
37	Nafissatou Diop	*Presentation of the IMCHA Initiative – Canadian Conference on Global Health (Diop, 2018)*	Program funders	Conference presentation

D#	Author(s)	Title and citation	Perspective represented	Type of document
38	**Small Globe Inc.**	*Innovating for Maternal and Child Health in Africa: A Mid-Term Formative Evaluation (Thorsteinsdóttir, Bell, & Bandyopadhyay, 2018)*	Program funders, designers	Consultants' Evaluation report
39	**WAHO Research Unit**	*Evidence-Based Policy Making Guidance for West Africa (WAHO, 2019)*	Program designers, implementers	Guidance document
40-41	**Jesse Uneke**	*Evidence-Based Policy-Making Guidance for West Africa: Part 1 (Uneke, 2019a) and Part 2 (Uneke, 2019b)*	Program designers, implementers	Presentations (n=2)
42	**Jesse Uneke et al.**	*Promoting the use of evidence in health policymaking in the ECOWAS region: the development and contextualization of an evidence-based policymaking guidance (Uneke, Sombie, Johnson, Uneke, & Okolo, 2020)*	Program designers, implementers	Academic journal article
43	**Ermel Johnson et al.**	*Policy dialogue to support maternal newborn child health evidence use in policymaking: The lessons learnt from the Nigeria research days first edition (Johnson et al., 2020)*	Program designers, implementers	Academic journal article
44	**Moukaïla Amadou et al.**	*Qualitative evaluation of a knowledge transfer training programme in maternal and child health in Burkina Faso, West Africa (Amadou, Johnson, Tougri, Berthe, & Sombie, 2020)*	Program designers, implementers	Academic journal article
45	**Issiaka Sombié et al.**	*How does the West African Health Organisation (WAHO) contribute to the evidence based decision-making and practice during COVID-19 pandemic in ECOWAS region? (Sombié et al., 2020)*	Program designers, implementers	Academic journal article
46	**WAHO Research Unit**	*Moving Maternal, Newborn, and Child Health Evidence into Policy in West Africa* (Project page on WAHO website) (WAHO, n.d.)	Program designers	Webpage
47	**IDRC**	*Moving Maternal, Newborn, and Child Health Evidence into Policy in West Africa* (Project page on funder website) (IDRC, n.d.)	Program funders, designers	Webpage

In total, I conducted 39 key informant interviews with 32 different informants. The

majority of interviews were between 30 minutes and two hours in length, with a mean interview

duration of 53 minutes. Four participants gave more than one interview, three of whom

(accounting for seven interviews between them) played direct and intimate roles in the MEP

Project and the design of the WAHO KTP. The professional roles of interview participants, and

their relationships with the WAHO KTP, are summarized in **Table 16**. Overall, ten participants –

all WAHO officials or consultants – were either program designers or implementers. This group

contributed 17 total interviews. Ten of WAHO's fifteen Liaison Officers – the organization's main contact points within member state ministries of health – were interviewed. Three informants, who represented either IDRC or CIHR, provided the perspective of the program funders. Finally, nine other interviewees were ministry of health officials or other country-level stakeholders who shared their views on the role of WAHO in promoting the use of research in the region's health policymaking.

Table 16: Overview of interview participants

Primary professional role	Number of participants					
	Role in relation to the WAHO KTP program				TOTALS	
	Funder	Designer or Advisor	Implementer	Other	Participants	Interviews
Regional level: *WAHO Officials or Consultants*	-	9	4	-	10	17
Country level: *WAHO Liaison Officers*	-	-	-	10	10	10
Other MOH Officials	-	-	-	5	5	5
Other country level stakeholders	-	-	-	4	4	4
International level: *Donor representatives*	3	2	-	-	3	3
					32	**39**

Results

In this section I present the findings of this study. First, I describe the objectives of the WAHO KTP, summarize its key component interventions and sketch out its intended outcomes from the point of view of program stakeholders. Second, I describe the program ethos (i.e., its underlying philosophy), based on how program stakeholders and planning documents depict the overall vision for the MEP Project. Third, I describe the generative mechanisms hypothesized by stakeholders to drive the (expected) change in outcomes attributable to the WAHO KTP, and contextual features that might condition the effects of these mechanisms on intended outcomes.

The WAHO KTP program: Component interventions and intended outcomes

Before delving into the mechanisms through which the WAHO KTP is hypothesized to operate, it was necessary to understand the main interventions that make up the program, along with stakeholder interpretations of the outcomes that these interventions are intended to influence. The overarching vision of the MEP Project and the WAHO KTP – well-captured in the WAHO Research Unit's main internal planning document for the platform – sheds light on the program's key component strategies and interventions, and the outcomes of interest:

> *At the end of the project, WAHO [will] be a competent institution supporting the production, sharing and use of evidence in maternal and child health in West Africa. Exchange platforms or mechanisms will be in place to support collaboration between researchers and decision-makers and to facilitate access to and use of evidence. Decision-makers will have better skills to understand and use research in decision-making in planning, advocacy and strategic communication. These decision makers will work more closely with researchers who will have the capacity to translate their research findings into simple, understandable and usable messages. In other words, the environment to support the use of evidence will be favourable in West Africa.*

<div align="right">DOCUMENT 31 (PROGRAM DESIGNERS)</div>

The WAHO KTP designers therefore envisioned a number of possible interventions through which research use in policy development could be encouraged, and multiple 'pathway' outcomes through which the main outcome of improved research evidence use could be achieved. As discussed earlier in this chapter, the main interventions targeted three levels:

> *[I]nterventions should be carried out at three levels: individual, organizational and institutional [...] [O]ur situation analysis [showed that] weaknesses and needs were noted at these three levels. Interventions should therefore aim to build the capacity of individuals, organizations and institutions and get them to work together to create an environment that is conducive and supportive of the use of evidence.*

<div align="right">DOCUMENT 31 (PROGRAM DESIGNERS)</div>

These intervention levels map neatly to the primary intended outcomes identified as important by program stakeholders, namely, individual, organizational and institutional capacities for the use of evidence in policymaking.

Individual capacity for evidence use

While the concept of individual capacity is not explicitly defined in program documents, discussions of the project vision during interviews with stakeholders suggest that individual knowledge and skills about how to access, appraise and apply evidence appropriately are key aspects of this outcome:

> *If you give [policymakers] the [evidence], you also need to give them the skills, the capacity, the knowledge to use it [...] All the stakeholders [have] capacity needs. Some valued [using] evidence, but did not know how to do it [...] [they] told us, you need to understand what evidence is, the different type[s] of studies – of research – how to look for it and [how to] use it.*

> INTERVIEW 39 (PROGRAM DESIGNER AND IMPLEMENTER)

Similarly, some informants suggested that individual capacity also involved basic skills for engaging in the research process and with researchers, especially having the ability to communicate productively with researchers and to effectively solicit research-informed policy advice from them. For one informant this meant, at least in part, the ability to "ask the right questions":

> *Because we, the decision-makers in the Ministry [of Health] [...] for us [but] also [for] the political decision-makers, research is not our first instinct [...] we need to better understand the research process, to better know how and [what] we can demand of research, how we can ask [questions of] researchers.*

> INTERVIEW 6 (PROGRAM DESIGNER)

Individual-level interventions targeting policymakers mainly took the form of capacity-building trainings and workshops aiming to improve knowledge and skills related to evidence use.

Organizational evidence use capacity

Organizational capacity for evidence use was the main outcome to which stakeholders referred when talking about the intended effects of two classes of intervention: those implemented at the level of ministries of health (e.g., the evidence use guidance tool that is currently being adapted for and introduced in some ministries of health) and those that might best be termed 'network' interventions, that is to say, interventions that function through linking researchers with policymakers and policy development processes within ministries in various ways.

The precise meaning of organizational capacity was elusive in program documents despite the term being mentioned frequently. When prompted in interviews to discuss this outcome, some program designers and implementers struggled to provide a clear definition, usually defining the concept in contrast to individual capacity. For example, one informant stated:

> *It's about capacitating people, it's about capacitating the organization, [the Ministry of Health], to increase organizational capacity. This is not just individual.*

INTERVIEW 35 (PROGRAM DESIGNER)

Others described the organizational capacity outcome by invoking the concept of 'enabling environments' for the use of research evidence. For program designers, an enabling environment is an organization that makes policymakers feel "supported" in their efforts to use evidence in their daily activities, and that provides tools and resources so they feel confident that they are doing so in the "right" way. As one program designer put it:

> *[W]e find that—people need some organizational support, an environment.*
> *People need an enabling environment within their work area, within the*
> *Ministry, to support them to use evidence.*

<div align="right">INTERVIEW 6 (PROGRAM DESIGNER)</div>

Country-level teams participating in the WAHO KTP operationalized this outcome – and, consequently, the interventions designed to target it – in highly diverse ways. In discussing efforts to strengthen organizational capacity, a program designer said that the WAHO team's intention was for each country to:

> *set up a functional system for research finding and dissemination [...] and put*
> *in place a mechanism to share the key research findings with the decision-*
> *makers [...] The interventions to achieve this result can be of multiple types,*
> *take multiple [forms]. For example, The Nigeria Research Days – [a research-*
> *to-policy forum hosted by Nigeria's Federal Ministry of Health] and [other*
> *initiatives] to facilitate collaboration between decision-makers and*
> *researchers.*

<div align="right">INTERVIEW 6 (PROGRAM DESIGNER)</div>

Whereas the Nigeria team's efforts to address the 'organizational' level took the form of the annual *Nigeria Research Days* forum, other countries addressed this objective differently. For example, the team from Burkina Faso established a Ministry-wide unit responsible for making actionable research findings available to policymakers within the Ministry. With the support of WAHO's Research Unit:

> *a Rapid Response Unit [was] set up at the [Burkina Faso] Ministry of Health*
> *[...] The Unit provides support services in the areas of research and*
> *synthesized relevant information gleaned from scientific literature. Following*
> *a request from a person in a decision-making capacity, a staff [member] of the*
> *[Rapid Response] Unit conducts research in specialised libraries, finds the*
> *relevant articles and summarises the information in two or five pages with*
> *bibliographical references. The document is then forwarded to the decision-*
> *maker as soon as possible for on-ward action.*

<div align="right">DOCUMENT 9 (PROGRAM DESIGNERS)</div>

Moreover, most of the six participating countries (as well as other member states in the region) are in the process of adopting an evidence use guidance tool, a booklet that provides decision-makers with practical, step-by-step guidance on seeking out and applying research findings to common policy activities undertaken within ministries (e.g., the updating of key policy documents). This intervention is expected to help serve the "organizational support" function discussed above as a key aspect of the creation of "enabling environments" for evidence use.

Institutional evidence use capacity

Finally, the program designers sought to intervene at what they termed the 'institutional' level. In terms of interventions, this level encompasses efforts to codify the importance of evidence use in legal or policy texts and/or other authoritative or binding statements from political leaders. In designing the KTP, the program designers recognized that previous efforts to strengthen the use of evidence have often had disappointing results, and they argued that this was, at least in part, because of a failure to address "institutional" issues:

> *[O]ne of the key things that [previous evaluations] pointed to is that if you want to sustain changes, and have meaningful changes, in evidence use in policy, you need to address the institutional level. It's not enough to address the organizational and the individual level. You need to institutionalize these norms of evidence use.*

FIELD NOTES (RECONSTRUCTED CONVERSATION WITH PROGRAM DESIGNER)

For WAHO's Research Unit, institutional capacity to use research evidence refers to high-level endorsement, by health system leaders, of the premise that evidence use is important and should be a standard feature of policy development procedures in ministries of health.

The one core institutional-level intervention implemented under the MEP Project umbrella technically applies not just to the six participating countries, but to all 15 WAHO member states. During their annual meeting in 2017, the ECOWAS Assembly of Health

Ministers passed a "Resolution on the Use of Evidence in Developing Health Care Policies, Plans, Standards and Protocols in the ECOWAS Region" which acknowledged the importance of using evidence in policymaking and compelled member states to institute systematic practices to do so. The resolution recognized:

> *that a significant amount of research is conducted and that very few findings are used in policy and practice [and] that the development of health care policies, plans, standards and protocols requires the use of evidence to have valid information. […] The Assembly of Health Ministers of ECOWAS […] urges the Ministers of Health of the Member States to implement this resolution in their countries through legislations or guidelines, capacity building in research and the establishment of mechanisms for validation and use of research outcomes.*

<div align="right">DOCUMENT 32 (PROGRAM DESIGNERS)</div>

As the MEP Project nears completion, efforts are underway within the WAHO Research Unit to promote country-level implementation and adaptation of this resolution in the form of "[n]ational-level text[s] or law[s] [endorsing] the use of research in decision-making" (Document 31, Program Designers).

Program ethos

The program 'ethos' – that is, the underlying philosophy – of MEP in general, and the WAHO KTP in particular, can be summarized under four thematic headings or principles: *(1) Evidence-informed:* interventions to shape evidence use should themselves be informed by evidence; *(2) Context-specific***:** evidence use is a highly context-specific activity and interventions should therefore be designed for, or tailored to, the context of implementation; *(3) Interdependence and synergy***:** intervention is required at multiple levels of the system and individual intervention components are mutually interdependent; *(4) Needs-based:* Interventions must be selected and implemented based on the needs of intended beneficiaries.

Evidence-informed. First, WAHO officials recognized that to promote country-level evidence-informed decision-making as a regional body, the organization must itself function in an evidence-informed fashion. These officials considered the WAHO KTP to be evidence-informed (if not "evidence-based"), in that previous empirical evidence and academic knowledge transfer frameworks were consulted in developing its programming. In particular, these officials relied heavily on a World Health Organization-sponsored framework as a source of inspiration for WAHO's evidence-to-policy vision, namely Tikki Pang et al's *Conceptual Framework for Health Research Systems* (Pang et al., 2003). Program designers argued that:

> *[i]n order to be able to [credibly] promote the use of evidence, WAHO needs to be experienced and trained in the use of evidence. Thus [...] WAHO's capacity to use and facilitate knowledge transfer in ECOWAS was [considered in the WAHO KTP program]*

<div align="right">DOCUMENT 8 (PROGRAM DESIGNERS)</div>

Informants suggested that for WAHO to be a respected knowledge broker, the institution must model good practice by assessing and seeking to improve evidence use in its own regional-level policymaking and planning activities. Activities to address WAHO's research capacity were therefore included within the MEP Project program of work.

Context-specificity. Appreciation for the importance of considering the target context before taking action to improve the use evidence was at the core of many informant narratives and program documents. For instance, one of the program funder documents asserted that:

> *context [...] matters – it is not enough to simply 'adapt' promising innovations developed elsewhere. The evidence shows how context can change the shape of externally imposed interventions [...] resulting in unintended outcomes. At the same time, it highlights [...] how innovative local actors are developing their own approaches [...] embedded in the context, to bring about change.*

<div align="right">DOCUMENT 35 (PROGRAM FUNDERS)</div>

This principle animated the early phases of the MEP Project, during which the WAHO KTP intervention framework was still being developed. Understanding that the component interventions available to participating member states should be tailored for the West African context – and to the needs of participating countries – a far-reaching process of background research and stakeholder consultation was undertaken, taking the form of the situation analyses and country- and regional-level consultation meetings described above.

Interdependence and synergy between interventions. The perceived interdependency of project components was a major theme. Informants felt strongly that there is no panacea for the challenge of inadequate evidence use, and that multipronged strategies targeting multiple levels – namely the individual, organizational and institutional levels – are required. In stakeholder narratives this interdependency was often communicated using the logic of necessary and sufficient conditions for success. Program documents and informants cited several pieces of previous research attesting to this, including a study of capacity building platforms in four countries (Hawkes et al., 2015), from which program designers inferred that:

> *capacity building at the individual and organizational level was necessary but probably insufficient to sustain evidence-based decision-making. Institutional capacity also needs to be strengthened; this requires resources, legitimacy and regulatory support from policy makers.*

<div align="right">DOCUMENT 31 (PROGRAM DESIGNERS)</div>

A WAHO official at the core of the WAHO KTP's design elaborated on this, arguing:

> *[w]hat [most] people have not done previously with knowledge transfer platforms is [address] the institutional level [...] [W]e did. [...] [I]f you do not work at the institutional level, you will not change anything. [Y]ou need to have some activities, or promote something that will be [motivating] for people to use evidence. You can do many things, and [...] have many activities, [but without institutional change] people will not engage.*

<div align="right">INTERVIEW 35 (PROGRAM DESIGNER)</div>

Equally, informants were quick to point out that this structural-level institutional change, while necessary, will not make a difference in the absence of technical skills and tools to facilitate the use of research evidence. One informant, a WAHO official, made this point using the example of the Regional Evidence Use Resolution (the WAHO KTP's main institutional-level intervention):

> *The [Assembly of Health Ministers] Resolution [on the use of evidence] mandates that research evidence should be used in planning, decision-making, policy development, but this is not enough […] because people need capacity and skills, they need guidance [and] tools.*

<div align="right">INTERVIEW 29 (PROGRAM DESIGNER AND IMPLEMENTER)</div>

Therefore, in the views of program stakeholders, no level of capacity can be ignored: intervening at multiple levels is required to improve the use of evidence in ministries of health.

Needs-based. Finally, at the core of the WAHO KTP program's design is an appreciation that different member states have different needs and baseline levels of evidence use capacity and therefore require different forms of support. In the implementation of the MEP Project, this principle was enacted by making the entire 'menu' of interventions of the WAHO KTP available to member countries, but allowing ministries of health and other beneficiaries to select interventions *à la carte* according to their perceived needs. One of the informants, a designer and implementer of the WAHO KTP, illustrated this using the examples of Nigeria and Ghana:

> *According to the situation analysis, some countries [we] identified had lower capacity than others. Capacity [to use evidence] means knowledge, skills, you know. Those countries [with low capacity] are the ones that took the trainings, the capacity building trainings. Nigeria, Ghana […] didn't request [trainings on] capacity building [because] Nigeria and Ghana have more capacity than other countries.*

<div align="right">INTERVIEW 29 (PROGRAM DESIGNER AND IMPLEMENTER)</div>

In this section I have tried to unearth and illustrate some of the core principles implicit in the MEP Project's driving philosophy, with a view to informing the discussion below on the

hypothesized generative mechanisms through which program stakeholders expect to achieve change. In the section that follows, I take this analysis a step further, describing the mechanisms that emerged most frequently and coherently through my analysis of stakeholder narratives and program documents, and proposing causal explanations for the intended effects of the WAHO KTP in the form of context-mechanism-outcome (CMO) configurations.

Hypothesized mechanisms

Having described the main intervention activities of the WAHO KTP, unearthed some of the key features of the program philosophy, and identified the program's target outcomes, the question still remains: *how* and *why* might this suite of interventions generate changes in evidence use capacity and, ultimately, the actual use of research by ministry of health policymakers in West Africa? My analysis of stakeholder perceptions revealed nine candidate generative mechanisms that might explain the (expected) effectiveness of the WAHO KTP. While these hypothesized mechanisms are predicted by stakeholders to work together as parts of a complex series of causal chains, for the sake of simplicity of presentation I discuss them here as distinct causal processes. In each of the nine sub-sections that follow, I provide a brief discussion of each mechanism, alongside supporting quotations, and summarize them as hypothesized CMO configurations. Later in this chapter I provide a visual summary integrating the key aspects of all of the proposed CMO configurations together, in what represents an initial realist program theory for the WAHO KTP.

Mechanism 1: Front-end engagement and stakeholder ownership of the program

The designers of the WAHO KTP recognized early on that for their interventions to be successful in improving the use of evidence, country-level stakeholders had to be engaged early in order to develop a sense of ownership over and investment in the MEP Project and its goals.

As discussed in the background section of this chapter, the development of the WAHO KTP was preceded by an extensive situation analysis process, the purpose of which "was to review the existing infrastructure for knowledge transfer and exchange (KTE) and the current status of research evidence use in MNCH policymaking and practice in the six countries targeted by the MEP project" (Document 25, Program Designers). However, documents and informal conversations with program designers pointed to a secondary objective of these early-stage activities, namely, generating enthusiasm for and ownership and investment in the program among the stakeholders whom WAHO would later target as WAHO KTP intervention beneficiaries.

This also applied to the regional validation workshop and six country-level workshops that followed the situation analysis. Documents and interviews indicate that these workshops were also expected to serve more than the stated function of "validat[ing] the findings of the situation analysis and identify[ing] interventions to be implemented [in the WAHO KTP]" (Document 10, Program Designers). Rather, the WAHO team saw these meetings as yet further ways of generating investment in and enthusiasm for the MEP Project in particular and encouraging "buy-in" to the concept of evidence use in general. In the case of the workshops, this was achieved by delegating some of the responsibilities for organization and implementation to the same stakeholders who would later be asked to engage with the WAHO KTP as intervention participants:

> *An important point to highlight in the organization of the workshops was the leadership of the teams of the Ministry of Health. Indeed, it was the teams that ensured the effective organization of the workshops through the convocation letters for the meeting and the practical organization of the workshops. This approach allowed for [...] an ownership of the [MEP] project by the country decision-makers. The [active] participation of Ministry of Health officials in the opening ceremonies also showed [a] kind of ownership of the project.*

<div align="right">DOCUMENT 24 (PROGRAM DESIGNERS)</div>

To develop a sense of ownership over the program, the WAHO KTP provided early and frequent opportunities for meaningful engagement in setting the direction for, and designing, the program roll-out in participating countries (M). For this mechanism to generate substantial ownership over and investment in the program (O), and buy-in to the notion that evidence use is a worthy aim (O), a minimum of pre-existing capacity – both at the individual participant (i.e., policymaker) level (C) and organizational level (C) – is required to get the process started. That is, to seize the opportunities provided by WAHO to country-level stakeholders to participate meaningfully in co-designing the program, some excess time, energy and commitment on the part of participating policymakers is needed.

Mechanism 2: Bespoke tailoring and responsiveness

Two of the core features of the MEP Project's ethos (described above) were the importance of designing the offerings of the WAHO KTP to be appropriate to the West African policy context generally, and those of the participating countries specifically and, relatedly, allowing individual country stakeholders to select interventions from the platform on the basis of their unique needs. A WAHO official summarized the responsiveness feature succinctly:

> *We [intentionally] didn't build the intervention plan from the start. As we go, they [stakeholders] express their needs, we try to fill their needs. [For example] even the [Evidence Use] Guidance [intervention] – stakeholders in the six countries [expressed] the need for a physical tool that can guide daily [policymaking] activities, so we provide[d] it.*

<div align="right">INTERVIEW 39 (PROGRAM DESIGNER AND IMPLEMENTER)</div>

The basic hypothesis underlying this mechanism is that the program and its components are more likely to be enthusiastically taken up and engaged with by potential beneficiaries when they are geared toward the country context and the unique knowledge transfer needs of participants.

Program designers made explicit links between the responsiveness of the program to stakeholder needs and the likelihood of commitment to and participation in the WAHO KTP's component interventions:

> *The enthusiasm of the participants during the different [country-level and regional engagement] workshops show[ed] their commitment to work with the [MEP] project. This commitment will be realized if the project's interventions in the future cover the needs expressed and help the different stakeholders to better access, appropriate and use evidence in everyday practices.*

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DOCUMENT 24 (PROGRAM DESIGNERS)

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Therefore, program designers sought to foster both stakeholder enthusiasm for and investment in the WAHO KTP (O) and increase the likelihood of long-term, sustained commitment to and engagement in the project (O) by actively taking a responsive posture toward the communicated needs of country-level stakeholders through the bespoke tailoring of intervention offerings (M). Not unlike the front-end engagement mechanism described above, activation of the responsiveness mechanism likely requires a minimum of stakeholder motivation to engage at the start of the project (C) as well as some sense of reflective awareness about their strengths and weaknesses (C). This can be as basic as a ministry of health's willingness to engage faithfully in the situation analysis process to help to uncover some of the most promising areas for improvement.

Mechanism 3: Facilitation and "Strategic Accompaniment"

This mechanism refers to facilitation and oversight role provided by WAHO to support and guide member states as they seek to make reforms to how they use evidence in the policy development processes within their ministries of health. Program designers state that "WAHO's main intervention strategy is that of facilitation, as this encourages the generation and use of evidence to inform decision-making and reinforce practices" (Document 33, Program

Designers). Program funders characterize this facilitation function as "the *strategic*

accompaniment role played by WAHO as a regional organisation" (Document 35, Program

Funders).

One of the WAHO officials who was instrumental in the development of the WAHO

KTP argued:

> *[W]e need to support countries in order to change. Let's say you want to apply [evidence] [...] for example, if a country has a policy document in development, we can say "Ok [...] let us start to discuss how you can use our guidance to [...] support the process." One thing we can do [...] to support countries [...] is if they develop a [policy] document, one thing we [WAHO's Research Unit] can do is to take the document and read it and try to identify some weaknesses on evidence use with them, to try to find if [after our support] they better understand.*

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INTERVIEW 2 (PROGRAM DESIGNER)

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Many stakeholders – in particular, WAHO officials themselves – were explicit about the

boundaries that the regional body has to respect in its relations with member states. In particular,

the idea of respect for sovereignty was implicitly invoked as program designers explained the

organization's role as a politically neutral actor – a strategic facilitator who could help ministries

of health to achieve their goals. By extension, in its efforts to support its member states to use

research evidence more effectively, the Research Unit strives not to rigidly set the agenda for

country teams, nor to dictate the particulars of their change strategy. Rather, they *accompany*

country teams from start to finish, supporting them to set their own agendas and *facilitating* the

rollout and implementation of their planned activities.

The facilitation and strategic accompaniment mechanism suggests that the WAHO KTP

is more likely to be successful at building individual, organizational and institutional capacities

(O) and ultimately changing evidence use practices (O) if stakeholders are able to rely on the

support of WAHO and to draw on the organization's guidance to address challenges and

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problem-solve along the way (M). The relationship between WAHO as a knowledge brokerage institution and the ministries of health as the target beneficiaries should be one of openness and trust (C) in order to facilitate this.

Mechanism 4: Sensitization and institutionalization of 'cultures of evidence'

The need to institutionalize 'cultures of evidence' in West Africa in general, and within health policy bureaucracies (including both WAHO and national ministries of health) in particular, was referred to in multiple ways – sometimes direct, but often indirect – in interviews and documents. Stakeholder consultations conducted in the region during the program's development highlighted the existence of:

> *urgent needs in terms of [...] [the] creation of an enabling environment to support EIHP [evidence-informed health policymaking] and EBHP [evidence-based health policymaking] and [...] incentives and rewards to encourage actors to promote EIHP and EHBP within ECOWAS.*

> DOCUMENT 31 (PROGRAM DESIGNERS)

Program designers saw the fostering of such cultures of evidence as a key objective of the WAHO KTP. The idea of 'sensitization' – the term used by insiders to refer to awareness-raising about evidence use and its importance – and its links to the normalization of evidence use through the creation of 'enabling environments' came up repeatedly during meetings and informal discussions during my fieldwork at WAHO headquarters. Indeed, one of the key points of consensus that emerged from the February 2016 Regional Workshop that convened stakeholders from the six participating countries was that "organizational and institutional environments need to be made conducive to supporting the use of evidence" (Document 10, Program Designers).

Program designers often mentioned that sensitization was particularly important for programs promoting evidence use in the region of West Africa because of the relative novelty of the "evidence-based" and "evidence-informed" movements and ideas in the region:

> *The topic is new here [in West Africa] – some actors have never heard of evidence use and evidence-based policy and the importance of using research [...] Sensitiz[ing] them was very important.*
>
> <div align="right">INTERVIEW 39 (PROGRAM DESIGNER AND IMPLEMENTER)</div>

Still, it was clear that there were disparities in this domain not just between West Africa and other regions, but within the region as well. Indeed, diversity across the institutional contexts of WAHO member states in terms of what was sometimes called the "climate" for evidence use was identified by several informants. One of the lead program designers pointed out that:

> *the first lesson [the MEP Project team] learned was that the countries are not [necessarily] at the same level, some are more evolved in terms of [evidence use]. For example, the Anglophone countries, Nigeria and Ghana [...] we know some people are more aware of evidence use in Nigeria and Ghana than the countries [of] Burkina [Faso], Mali, Sénégal and Bénin.*
>
> <div align="right">INTERVIEW 6 (PROGRAM DESIGNER)</div>

Several participants reiterated this point, emphasizing that differences in the degree to which evidence use had been normalized in this way manifested roughly along linguistic lines:

> *There may be an Anglophone [versus] Francophone issue [because] all these things—[the focus on] the issue of evidence use and all these things—are coming from Anglophone countries: Canada, US and UK [...] Even up until now there is some terminology—knowledge transfer—that does not even exist in French [...] it's not easy [for Francophone countries].*
>
> <div align="right">INTERVIEW 29 (PROGRAM DESIGNER AND IMPLEMENTER)</div>

A key hypothesized function of the WAHO KTP, then, is the institutionalization of enabling environments – of 'cultures of evidence' – through a process that stakeholders referred to as 'sensitization.' Program designers and implementers hypothesized that, rather than arising

from any particular intervention component within the WAHO KTP, the mechanism of sensitization and institutionalization operates through all project activities: the 'resource' provided takes the form of a visible, well-funded and influential project endorsed by an organization with the normative power of WAHO signalling the importance of evidence use, prompting the hypothesized stakeholder 'reaction' of (perhaps gradually) buying into the premise that using evidence in policy is a valuable and worthwhile aim (M). This mechanism might generate a spectrum of outcomes depending on the degree to which cultures of evidence have already been nurtured (C) and the receptivity of the target audience (C) – for instance, the extent to which WAHO is considered a trusted authority and valued partner in a given member state (C), the openness of policymakers to a shift in institutional culture (C) and, as alluded to above, the extent to which stakeholders have some pre-existing familiarity with and enthusiasm for evidence use (C). In some contexts, therefore, greater awareness of evidence-informed approaches (O), or increased enthusiasm for the ideal of evidence-informed policymaking (O), might be considered genuine successes in the short to medium term, while in others, the widespread normalization of routine, systematic evidence use (O) would be expected.

Mechanism 5: Convening for linkage, exchange and dialogue

This mechanism refers to the hypothesized increases and improvements in the use of evidence that are anticipated to result from the greater communication and interaction between researchers and decision-makers provided by WAHO-convened networking events, meetings, trainings and other interventions that bring researchers and decision-makers together. In the words of the consultants who were contracted to conduct a mid-term evaluation of the IMCHA initiative:

> [p]ut simply, the idea [of IMCHA] was that the HPROs [Health Policy
> Research Organizations, including WAHO] would function as a connection

> *between researchers and their outputs on the one hand, and policymakers and*
> *the policy environment on the other.*

One of the strengths of WAHO as an organization is its capacity to bring together diverse and influential stakeholders from across the West Africa region. This convening power, which derives directly from the organization's founding mandate (WAHO, 1987), allows WAHO to attract the attention, and command the presence, of influential policymakers – including senior ministerial staff and political leaders – at the various researcher-policymaker networking forums implemented as part of the WAHO KTP.

The *Nigeria Research Days in Maternal, Newborn and Child Health* event – now an annual gathering of researchers and policymakers organized by Nigeria's Federal Ministry of Health in concert with WAHO – is a typical example of how participating countries have chosen to target this mechanism. A program document described events like this as forums for fostering dialogue on evidence use, leading to evidence uptake:

> *Nigeria Research Days in MNCH, Nigeria's collaborative researcher-decision*
> *maker platform is an example of an innovative intervention for promoting*
> *researcher-decision maker dialogue and the uptake of research results […]*
> *The research results presented [by participating researchers] serve as a basis*
> *for creating a researcher-decision maker-practitioner dialogue on mechanisms*
> *for the use of research in decision-making.*

Another program document similarly acknowledges the benefits of convening researchers and policymakers in terms of keeping policy actors apprised of current research – a kind of *passive* role for researchers in policymaking – but also alludes to the possibility that such interactive forums may lead to an increase in *active* researcher involvement in policy processes, perhaps through relationship building between individual decision-makers and researchers:

[T]here is a [...] need for partnership [...] between researchers and policymakers in order to acquaint policymakers [with] evidence regularly produced by researchers and also to carry researchers along in the policymaking process [...] The work of the researchers will greatly benefit the policymaker.

<div align="right">DOCUMENT 39 (PROGRAM DESIGNERS AND IMPLEMENTERS)</div>

Program designers, therefore, expect WAHO's convening power to facilitate improvements in evidence use capacity through the creation of space and time for researcher-policymaker interaction and policy dialogue. Stakeholders are expected to enthusiastically seize these opportunities, in part, because of WAHO's credibility and their reverence for the organization (M). This, in turn, is expected to lead to the building and strengthening of relationships, both at the individual level, between individual researchers and policymakers within member countries (O), and the organizational level, between research organizations (e.g., universities) and ministries of health (O). Of course, the smooth functioning of this causal process depends on the strength of WAHO's reputation (C), and of the organization's policy and research networks (C) within a given member country, both of which vary across the region.

Mechanism 6: Co-producing "usable" evidence

Like Mechanism 5, this mechanism is about relationships between researchers and policymakers. However, whereas the *convening* mechanism is strictly about the process through which WAHO facilitates researcher-policymaker interaction to help feed research findings into policy processes, the *co-production* mechanism suggests a slightly different pathway: it proposes that interaction – or, more accurately, formal collaboration between decision-makers and researchers – can lead to the generation of research evidence that is more "usable" for policy, while simultaneously nurturing researcher-policymaker relationships through which evidence can later be communicated. That is, giving policymakers the opportunity to provide meaningful

input on, for instance, the topic selection process, the design of studies, and even the way study findings are written up and otherwise communicated, can lead to the production of findings that are inherently more likely to be drawn upon to inform decisions within ministries of health.

The concept of research co-production was commonly invoked by the program designers and funders who were interviewed for this study. Indeed, one of the core features of the IMCHA Initiative (of which MEP is a part) is the sponsorship of research projects co-led by teams of academic researchers and decision-makers working together to co-produce evidence. Addressing how this mechanism plays out for researchers involved in these co-production arrangements, a WAHO KTP program document argues that:

> *[c]ollaboration between researchers and policymakers [...] [can] align researchers more specifically to operational problems inherent in the health systems from the policymaking perspective [...] If this relationship is established, it will facilitate the co-production of evidence and policy.*

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DOCUMENT 39 (PROGRAM DESIGNERS AND IMPLEMENTERS)

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An academic article written by members of the WAHO Research Unit who were instrumental in the design of the WAHO KTP sheds further light on how this mechanism might operate, suggesting that collaboration between researchers and policymakers can make for needs-based, context-sensitive, innovative, and more actionable findings. Describing their efforts to support researcher-policymaker blended research teams, the authors assert that:

> *platforms promoting researcher–policymaker collaboration will ensure that research is creative, innovative, multidisciplinary and guided by current needs and opportunities, the goal being to develop solutions that are based on context, as well as results that are properly used and shared. Here, WAHO's efforts [...] importantly [involve] bringing together researchers and potential research users, including decision-makers.*

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DOCUMENT 33 (PROGRAM DESIGNERS)

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Provided policymakers are motivated to participate in knowledge generation arrangements (C) and researchers have "bought in" to the premise that producing evidence that is useful for policymaking is worthwhile (C), collaborative partnerships for research co-production can lead to the generation of more policy-relevant, context-sensitive and usable evidence (O) and improve the use of evidence in policy (O) by orienting researchers to the needs and challenges facing policymakers and building trusting professional relationships through which findings can later be communicated into the policy process (M).

Mechanism 7: Regional cooperation and cross-country mentoring

Another mechanism related to interaction and communication – apparently not anticipated in the explicit objectives of the MEP Project, but emerging from stakeholder narratives during interviews – entails hypothesized improvements in evidence use arising from knowledge sharing and mutual learning between policymakers from different decision-making contexts (distinct from the policymaker-researcher interactions discussed above). This suggests that WAHO Member States can improve their research use practices by using the regional workshops and meetings convened by WAHO as opportunities to share ideas and strategies related to knowledge transfer and evidence use.

A WAHO official who was both a program designer and implementer hypothesized that this cross-country mentoring mechanism would be particularly pronounced when countries with relatively strong evidence use practices are given the opportunity to interact with and mentor countries with lower levels of capacity to use evidence:

> *Each country is different in their capacity, their strengths and weaknesses and opportunities. We bring them together – the countries – at the regional level [...][T]his mixing [between] stronger countries with some [of the] weaker*

countries can help, help them to try and catch up. They [weaker countries] learn from other stronger countries

Therefore, the WAHO KTP may facilitate improvements in both individual (O) and organizational-level capacities (O) for using evidence through processes of cross-country mentorship and learning (M), especially when stakeholders are brought together from member states with significant capacity differences (C). As ever, given the long-term nature of changing evidence use practices, motivation to learn and improve organizational practices is important (C), as are a minimum degree of buy-in to the importance of the process (C) and ownership over and investment in the project (C).

Mechanism 8: Evidence mobilization and amplification

Some informants and many program documents – representing, in particular, the perspective of program funders – referred to an evidence amplification function that they expected WAHO could play in the region. That is, research and knowledge brokerage organizations like WAHO, by virtue of their strong connections to country-level health system planners and others with the authority to influence policy, could ensure that research findings reach the attention of those in a position to act on them, thereby amplifying their influence:

> *WAHO, [t]his suprastructure if you wish, [as] I call them – called HPROs – that have a view above the project [...] have their connections, they [...] have their relationships and networks [...] [with] the political [actors] – the people who can make changes in the region [...] So, the beauty with IMCHA is these suprastructures [...] really have the power to take any [research] that comes from this project and to really make it bigger and broader, just because of the nature of what [connections] they have [...] [s]o for me the key role of the HPROs is to make sure that evidence [...] reaches the people who can make a difference in terms of policy.*

In an independent report evaluating the progress of the IMCHA Initiative, the authors quoted a donor representative, who referred to organizations like WAHO as potential knowledge transfer "force multiplier[s]." The informant explained that:

> *the thinking was that a specialized HPRO, who really excelled in research communication, and was connected to the right actors, would help to draw the research from the researchers and to share and make it more widely known. It would act as a force multiplier on the knowledge translation.*

<div align="right">DOCUMENT 38 (PROGRAM FUNDERS)</div>

WAHO is therefore seen by (some) stakeholders as having the potential to function as the quintessential knowledge brokerage organization. Through a combination of strong connections across the region and effective and strategic research communication (M), the organization is hypothesized to be able to increase the accessibility of policy relevant evidence, getting research findings into the hands (and minds) of decision-makers (O). This mechanism is not likely to function equally well in all contexts, however. While WAHO is composed of 15 member states, the organization is not uniformly influential in each, and the organization's ability to mobilize and amplify evidence is likely to be particularly influential in member countries in which it has a strong foothold and a well-established network of contacts (C).

Mechanism 9: Top-down motivation and engagement

As mentioned above in the discussion of WAHO's efforts to intervene at the "institutional" level, one of the most consistent themes to emerge from the interviews with program stakeholders – especially with those involved in designing the WAHO KTP – was the critical importance of top-down pressure from political actors and health system leaders. Some stakeholders went so far as to assert that in the absence of meaningful institutional incentives or organizational pressure to use research evidence, individual capacity building interventions –

such as those that develop the knowledge and skills of policymakers – are unlikely to lead to desired outcomes. For example, a program designer argued that:

> *you can, have for example, the skills to access and apply [research evidence to policy], but if there's no one telling you—no superior person telling you—[to use evidence], you will not do it.*

<div align="right">INTERVIEW 6 (PROGRAM DESIGNER)</div>

In the context of the WAHO KTP, stakeholders understood this mechanism to be activated primarily by the Assembly of Health Ministers' unanimously-endorsed Evidence Use Resolution, the project's principal 'institutional level' intervention. Interestingly, however, one of the program designers all but acknowledged that it is not the resolution *per se* that has the potential to generate motivation to use evidence, but rather the *mechanism* of top-down engagement that such an intervention might activate:

> *[I]f you work only at the individual level [and] the organizational level, [and] if you do not [intervene] at the institutional level—it is engagement that [will be missing] [...] The institutional level, for me, is about engagement and leadership. For example, [if] I am the Minister of Health [and] I commit to the use of evidence to develop policy—me, as the Minister—I push this as a priority. How can people learn that this should be important for [Ministry of Health] decision-makers? [...] What [form] can it be? This can be a document, this can be an orientation, this can be a framework to say to people "this is how you must do that, this is how you [make policy]." It doesn't have to be a [ministerial] resolution. A resolution is [just] one form.*

<div align="right">INTERVIEW 35 (PROGRAM DESIGNER)</div>

Consistent with this (decidedly realist) position, another program designer agreed that the resolution may not be the only component intervention that furnishes the 'resource' in the top-down engagement mechanism. They suggested that the Regional Evidence Use Guidance tool – if taken up, adapted and promoted at the national level – could work in a similar manner:

> *The Guidance [tool] is serving also a similar function as the [Evidence] Use Resolution [...] to signal the importance [of], to incentivize [evidence] use at*

the organizational level [...] [it is] kind of [the] implementation of the Resolution [...] at the organizational [Ministry of Health] level.

This finding – that some intervention components may generate desirable outcomes by activating mechanisms quite different from their primary stated function – was a recurring theme throughout this case study.

It was therefore hypothesized that pressure from the top – in the form of political and ministerial leadership endorsing a prominent role for evidence and exhorting decision-makers to adopt an evidence-informed approach (M) – can encourage policymakers to apply evidence in policy development processes (O), provided individual policymakers have the skills and know-how to do so (C) and the contexts in which they work (i.e., ministries of health, or their constituent offices) provide adequate support (C).

Interrelations between CMO Configurations

In the previous section, I outlined the nine mechanisms through which WAHO KTP program designers and other stakeholders believe the program works to engage participants, strengthen evidence use capacity, and ultimately achieve the end goal of promoting evidence-informed policymaking. However, just as the program is expected to work as a result of interactions between several intervention components and multiple targeted actors, these mechanisms – that is, hypothesized causal processes – are likely to interact in a complex chain of causal relations.

Before presenting a summary of the program theory, I first illustrate how some of its constituent CMO configurations might be expected to intersect by drawing on the concept of the 'ripple effect' (Jagosh et al., 2015). Developed in a realist review of community-based

participatory research (Jagosh et al., 2012), the ripple effect concept demonstrates how 'linked'

CMO configurations can be used to model the evolution of a social system over time through

successive phases of a long causal chain. As shown in **Figure 8,** the outcomes generated in one

causal process (i.e., $C_1M_1O_1$) – for instance, the processes acutely initiated by the introduction of

an intervention – may subsequently contribute to the generation of an enabling context for the

activation of a second causal process (i.e., $C_2M_2O_2$), which in turn might furnish the necessary

conditions for the activation of a third causal process (i.e., $C_3M_3O_3$), and so on. In this way,

successive configurations of contexts, mechanisms and outcomes can be linked in complex

causal chains.
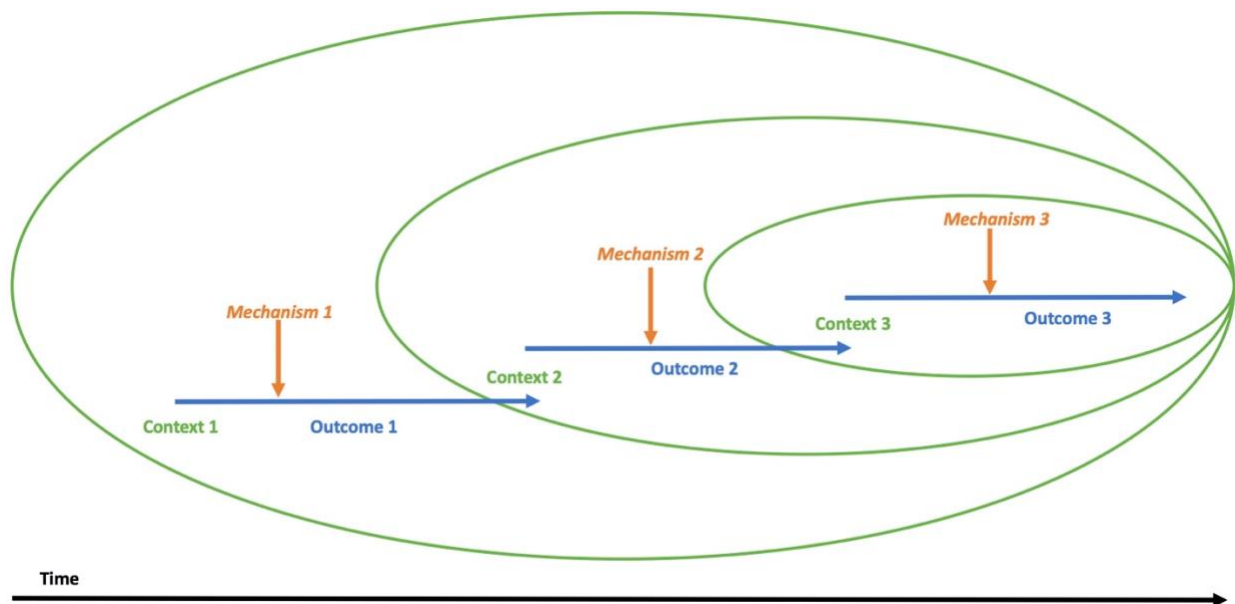
Figure 8: Schematic representation of the 'ripple effect' concept. Outcomes generated by mechanism 1 form the enabling context for mechanism 2, whose outcomes subsequently function as the context which activates mechanism 3.

The ripple effect concept provides a framework to integrate some of the CMO configurations generated in this study and presented in the previous section. It also sheds light on an important practical consideration for future intervention and evaluation work, namely that a complex intervention like the WAHO KTP may require that a chain of several successive causal processes be traversed before the intended effects ultimately materialize. A close reading of the CMO configurations presented in the previous section reveals several examples of similarities between the contextual conditions hypothesized to activate some mechanisms, and the intermediate outcomes thought to be generated by others. This hints at the possibility of ripple effects at play.
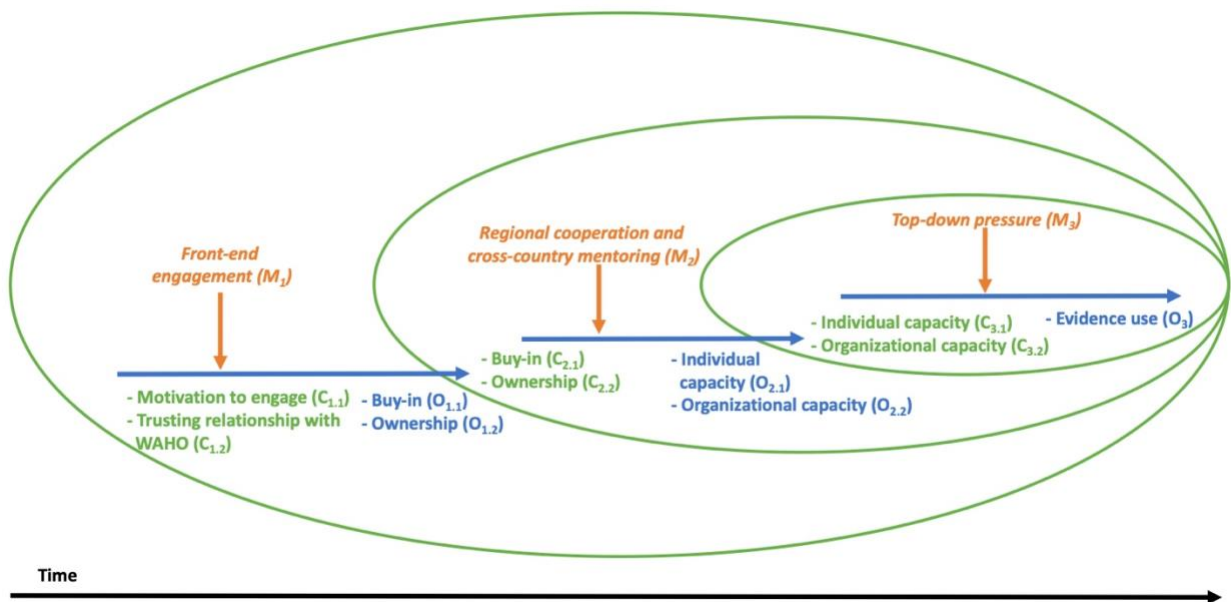

Figure 9: Ripple effect concept as applied in this study. Outcomes generated by the 'front-end engagement' mechanism generate an enabling context for the 'cross-country mentoring' mechanism, whose outcomes in turn contribute to the context which activates the 'top-down pressure' mechanism.

In **Figure 9**, I provide an illustrative example of these potential relationships, using the mechanisms I have labelled 'front-end engagement,' 'regional cooperation and cross-country mentoring,' and 'top-down pressure.' Under the right conditions, opportunities for early and meaningful engagement in the co-development of WAHO KTP activities can spark enthusiasm

in and empower country-level stakeholders to engage, generating a sense of ownership in the program and encouraging "buy-in" to the basic premise that evidence-informed policymaking is a worthwhile goal ($C_1M_1O_1$). In the context of a strong sense of program ownership and buy-in to the evidence use premise, the provision of space and time for interaction between stakeholders (i.e., policymakers and researchers) from multiple countries at various levels of progress in their efforts to link evidence to policy might facilitate a process of cooperation, cross-country mentorship and (mutual) learning, and problem-solving, generating improvements in both individual policymaker knowledge of how to engage with evidence, and organizational capacity to support evidence-informed decision-making ($C_2M_2O_2$). In turn, such improvements in capacity are expected to provide favourable conditions for top-down pressure – in the form of exhortations and endorsements from leaders that signal the importance of using evidence – to produce desired improvements in evidence-informed policymaking within national ministries of health ($C_3M_3O_3$).

It would be possible to visually illustrate other examples from these results in a similar fashion, but the point here is not the specifics of individual interrelationships, but rather the general observation that the achievement of the intended effects of the WAHO KTP on evidence-informed policymaking may require successfully navigating several links in a complex causal chain. As a consequence, the influence of the program on these downstream outcomes is unlikely to be apparent until a considerable amount of time has passed, because of the multiple aspects of context that require transformation in order to achieve the end goal of consistent evidence-informed health policymaking in West Africa.

Program theory

Having described each of the hypothesized social mechanisms and facilitating contexts underlying the intended outcomes of the WAHO KTP, and discussed how these causal processes are expected to intersect and interact, I now bring together the analytical work presented in the previous sections by summarizing the identified CMO configurations as a proposed program theory for the WAHO KTP. In this section I provide both a visual description and written summary of the program theory.

There is no perfect way to visually represent a complex program theory for a highly dynamic, multi-component intervention. Therefore, what follows is by necessity a simplification. Still, to aid understanding of this chapter's contribution – the uncovering of stakeholder views, perceptions and assumptions about how, why and in what circumstances the WAHO KTP might achieve its effects – I have tried to capture the program theory diagrammatically. The schematic in **Figure 10** provides a visual summary of the key explanatory ingredients of the WAHO KTP program theory. At the centre of the visual is the ultimate objective of the program: the achievement of consistent, routine application of evidence to inform health policymaking. Individual, organizational and institutional capacities for the use of evidence – the main intermediate outcomes of the WAHO KTP, and ultimately the main contextual features that are predicted to facilitate the impact of the program on evidence use – are shown surrounding the final outcome.
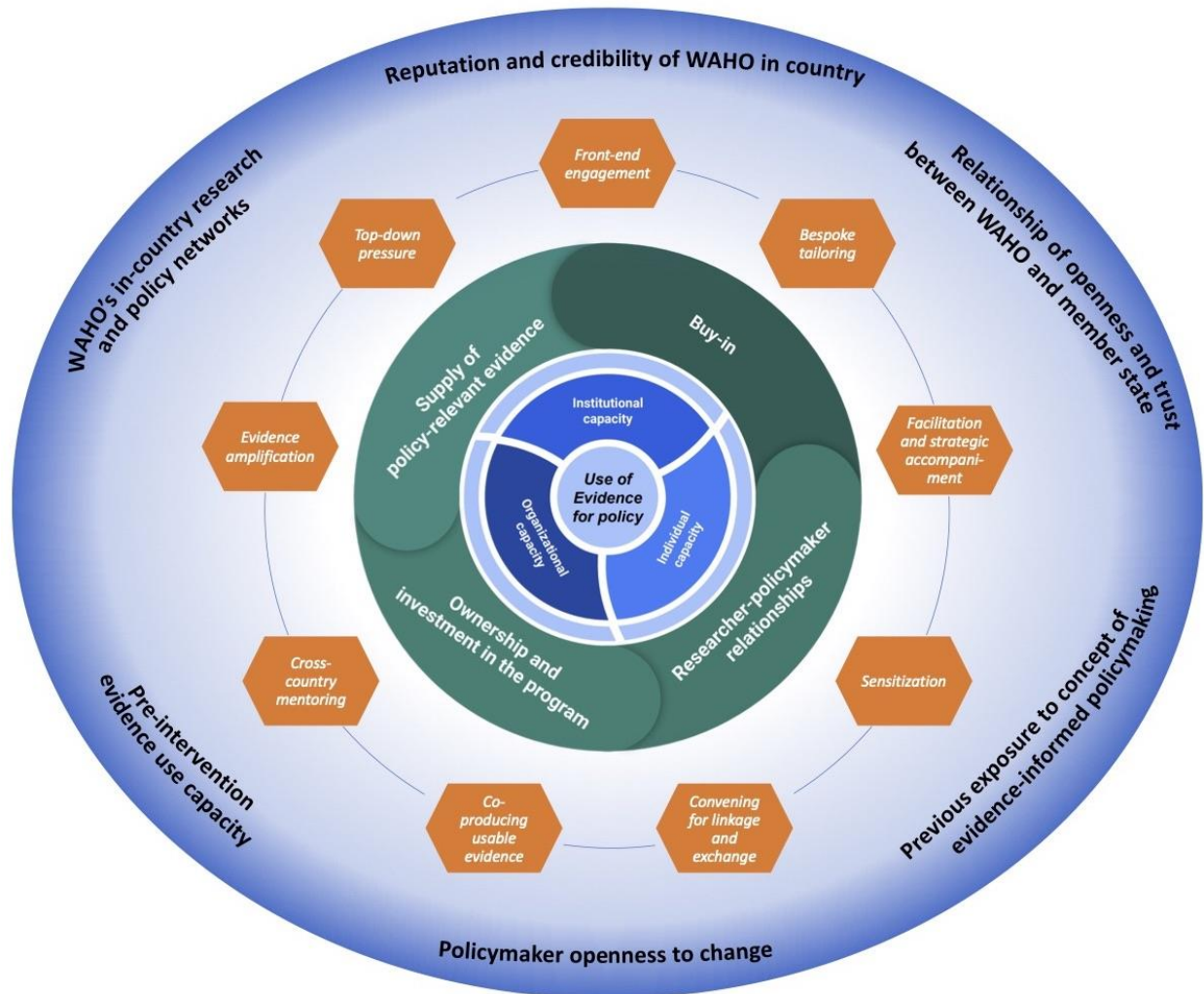
Figure 10: Visual summary of key elements of WAHO KTP program theory

The nine generative mechanisms hypothesized to underlie the effects of the WAHO KTP

are represented by the orange hexagons which are linked together in a circle, signifying

stakeholders' understanding that mechanisms do not operate in isolation, but rather work

together to achieve changes in the targeted outcomes. Key contextual factors are listed both

within and outside of the circle of mechanisms. Those within the circle (in the green band

surrounding the main outcomes) function in this explanatory model both as contextual features

(in that they are thought to activate key downstream mechanisms), as well as intermediate

outcomes that are hypothesized as prerequisites to the downstream improvements in evidence

use capacity and, ultimately, evidence use in policymaking, that are envisioned by the program.

The contextual factors dotted along the outside of the visual can be thought of as important

aspects of the pre-intervention context: features of context necessary to the activation of the more

upstream program mechanisms.

The WAHO KTP initial program theory can be summarized as follows:

The achievement of consistent, systematic and appropriate application of evidence to health policy development in national ministries of health requires the convergence of three types of evidence use capacity: individual knowledge and skills, organizational guidance and support, and institutional norms and pressure. WAHO strengthens capacity in these three domains through: leveraging its convening power to create space for meaningful engagement, knowledge sharing, and mentorship between stakeholders both within and across country contexts; leveraging its research and policy networks to foster the co-production and dissemination of usable evidence, amplifying its reach and impact; and leveraging its political legitimacy by facilitating the generation of high-level support and pressure to encourage evidence use. Smooth implementation of the WAHO KTP, and sustained stakeholder investment – both in the program and in the ideal of evidence-informed policymaking – is achieved by: engaging stakeholders in the development of the program from the start, and allowing country teams to lead the design of country-level iterations of the program; tailoring the program's content and implementation to specific country contexts and stakeholder needs; and providing accompaniment and support to country teams, both in relation to program implementation and their efforts to link evidence to policy more generally. Each country has unique needs and as such will require a unique combination of intervention efforts, activating a unique combination of mechanisms to achieve the end goal of improving in evidence-informed policymaking. In general, however, this outcome will be preceded by improvements in individual, organizational and institutional capacities, which themselves require stakeholder ownership of the program, genuine buy-in to the notion that evidence use is a worthy goal, strong professional relationships between policymakers and researchers, and adequate availability of policy-relevant evidence.

This theory and its constituent claims and assumptions can be considered a candidate

program theory to explain the effects of the WAHO KTP project's *ethos*, the *vision* of its

designers. It is generic and broad, focused on the overarching philosophy of the program, not the

effects or effectiveness of all of its (potential) component interventions. The complexity of the

program and its many moving parts demanded this broad focus. One can imagine dozens of

potential causal pathways for any given component of the WAHO KTP; indeed, conducting a

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realist evaluation on just one family of capacity building interventions to support evidence use (e.g., just one cell of the matrix in **Table 14**) would itself be a complex undertaking. Instead, this theory addresses the novel concern about the role of a regional body in supporting evidence-informed health policymaking. It has both practical and academic implications, to which I turn in the following section.

Discussion

In the realist case study reported in this chapter, I investigated the potential role of WAHO's regional coordination and governance activities – chiefly, its knowledge transfer platform and the MEP Project – in promoting evidence-informed health policymaking. Using interviews with key program stakeholders and analysis of program documents, I presented a description of the main interventions designed, implemented and supported by WAHO under the banner of its knowledge transfer platform, the outcomes that these interventions are expected to improve, and a reconstruction of the program's underlying ethos from the program designers' points of view. I identified and described some of the possible generative mechanisms underlying hypothesized program effects, and features of the context that may play a role in activating these mechanisms. Finally, I summarized these findings as configurations of context, mechanism and outcome, and presented them as a proposed realist program theory.

This study suggests that WAHO's complex set of strategies and interventions targeting individual, organizational and institutional capacities for the use of research evidence in policymaking may operate through combinations of nine mechanisms that emerged from the stakeholder narratives. It has shed light on topics of importance within health policy and systems research that have hitherto not been addressed in this way. It adds to a small but growing literature applying realist approaches to understand the effects of capacity building for the

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promotion of evidence use in policy decisions (Haynes et al., 2018; Vogel & Punton, 2018). I know of no previous studies that have taken a realist or a mechanism-based approach to understanding the links between regional coordination and governance on the one hand, and outcomes related to the policymaking activities of governance targets on the other, nor any empirical work on the role of regional bodies in the promotion of evidence-informed decision-making.

The study presented in this chapter has contributed to constructing and proposing a program theory for the WAHO KTP, which sets out theoretical propositions about the relationship between the knowledge transfer platform and the achievement of evidence-informed health policymaking in member state ministries of health. This theory may serve both practical and academic/evaluative functions. First, the program theory will serve as a planning tool for WAHO to begin contemplating how to roll out its knowledge transfer and evidence use promotion programming moving forward. These results are being fed back to the organization, and they should help to guide decision-making on its Research Unit's program of work moving forward.

Second, the program theory can function as the starting point for a future theory-driven evaluation of WAHO's work as a regional knowledge brokerage organization. Work of this kind could be designed as a multiple case study – conducted in multiple national policymaking organizations in Anglophone, Francophone and Lusophone West Africa – to subject the program theory to empirical scrutiny across diverse contexts.

Strengths and limitations

The information sources consulted in this study – internal and public documents related to the program, interviews with the key players involved, and observations from both day-to-day

workings of the unit in charge of research as well as key meetings and workshops – provided detailed access to the thinking and planning that went into the program and the rationale for its design. This study has yielded some important conceptual ideas and hypotheses and resulted in construction of a realist program theory for the WAHO KTP.

However, it is important to take a critical eye to the study, including reflecting on both the value and limitations of a 'ground-up' program theory of this kind, what the study has been unable to contribute by virtue of its design, and the next steps that are required moving forward to address these gaps.

First, this case study drew entirely on qualitative data. Our research team determined that a combination of qualitative methods was the most appropriate approach to addressing the research questions, which were related to stakeholder perceptions, were of an interpretive nature, and were geared toward hypothesis generation rather than hypothesis testing and falsification. While it is possible that quantitative data could have shed light on some of our concerns, this was not feasible or necessary in the context of this exploratory, hypothesis-generating study.

Moreover, in-depth qualitative case studies of this kind may constitute a particularly fruitful approach for topics as complex and contingent as knowledge transfer and evidence-to-policy processes. Indeed, Contandriopoulos, Lemire, Denis, and Tremblay (2010) argued the phenomenon of knowledge exchange is "ontologically more suited to case studies than to any other method" (p. 453), owing to the complexity of knowledge exchange interventions and to what they call the 'systemic' nature of the relevant outcomes, which frustrate attempts at valid quantitative measurement in this subject area. Still, in follow-up work to test the hypotheses generated in this chapter, the use of various quantitative tools (e.g., questionnaires), especially for capturing the magnitude of intermediate program outcomes, may prove useful.

Table 17: Standard approaches for safeguarding rigor in qualitative research and application of these in this study

Approach	Description and importance	Application in this study
Prolonged engagement	Lengthy period engaging with phenomena under study – ensure richness of data and ideally achieve data saturation	Conducted multiple interviews at different time-points Conducted extended periods of observation
Multiple methods	Use different tools to capture different aspects of the phenomena of interest	Used interviews, observation and document review
Triangulation	Comparing results across multiple data sources in order to identify patterns of divergence and convergence	Comparison of results from each method Comparison across different document types & interviewees
Negative case analysis	Seeking out evidence that contradicts developing explanations	Actively explored (in interviews and documents) possible interpretations that contradict emerging narrative
Peer debriefing	Peer review of reports and findings	Consulted with other team members and colleagues for input and criticism
Respondent validation	AKA "Member checking"; Respondent review of data/findings	Provide interviewees with early report of study findings, opportunity to provide feedback
Transparent reporting	Clear reporting of methods and procedures	Followed relevant criteria in published reporting guidelines on qualitative interview studies and realist evaluations

Qualitative research is not without its potential weaknesses. Common risks – especially in qualitative studies that rely on participant perceptions – include social desirability bias, overreliance on one or another type of data source (e.g., interviews or documents), and lack of transparency in methodological reporting, among others (Mays & Pope, 1995; Seale & Silverman, 1997). Over the course of this project I took measures to ensure that the study was conducted according to the highest possible standards of methodological quality. Drawing in part on adapted methodological guidance from the field of health policy and systems research (Gilson et al., 2011) I identified some of the key approaches to safeguarding rigor in qualitative research. These are listed and defined in **Table 17** along with a summary of the ways I have applied them in this study. This chapter was written to comply with relevant items in reporting guidance on realist evaluations (Wong et al., 2016) and qualitative interview research (Tong, Sainsbury, & Craig, 2007).

Second, these findings represent the views of the funders, designers and implementers of the program. There is therefore no illusion of objectivity or impartiality here. It was not entirely surprising that the study identified mainly optimistic perceptions of the likely effectiveness of the program. Indeed, documents, interviews and discussions with stakeholders yielded relatively few ideas about the program's weaknesses or limitations, particularly any potential negative side-effects, unintended consequences or other impacts of the program or contexts in which the program simply may not work well. This was not for lack of effort: informants were asked in multiple ways about the potential downsides of promoting evidence use and, in particular, the possibility that institutionalizing (rigid forms of) evidence-informed policymaking could dampen creativity and imagination in policy development, upset established working dynamics within ministries of health, or inadvertently incentivize what is sometimes termed 'policy-based evidence-making' (e.g., Marmot, 2004). However, very few informants found these ideas persuasive and all expressed enthusiasm for and confidence in the program's potential to effect positive change. Documents, similarly, yielded virtually no insights on possible negative impacts of the program and few on the contexts in which it is not likely to work.

These findings are predictable and they do not necessarily constitute limitations of the study; rather, they prompt reflection on the limitations of a purely "ground-up" program theory – that is heavily dependent on the views of stakeholders with a vested interest in the program's success – and what additional sources of information might help to provide a more fulsome picture. Indeed, while program designer conceptions of whether, how and why a program might work – what Pawson and Tilley (1997) termed 'folk theories' – are essential to ensuring that a program theory 'makes sense' to key stakeholders and is therefore practically meaningful,

relying exclusively on stakeholder input entails multiple potential pitfalls. These were

summarized eloquently in Huey-Tsyh Chen's classic text *Theory-Driven Evaluations*:

> *A program evaluation that is designed solely around the stakeholders' own*
> *perceived needs is often problematic. Stakeholders may fail to raise or foresee*
> *important issues because of their training, ideology, immediate concerns, or*
> *overinvolvement with the program. If the evaluator follows only the*
> *stakeholders' views in determining which evaluation domains to focus upon*
> *[…] important issues will often be neglected and only limited information will*
> *be provided by the evaluation.*

CHEN (1990, P. 81)

Therefore, any future evaluation of WAHO's work on linking evidence to policy,

including to subject the program theory proposed here to empirical scrutiny, should involve

broader perspectives and insights from outside of the organization, including but not limited to

direct participants in and intended beneficiaries of WAHO programming. In **Chapter 8** of this

thesis, I put the key findings and lessons from this chapter into conversation with findings from

the realist synthesis on the institutionalization of evidence-informed policymaking reported in

Chapter 5. In the process, the (rather optimistic) conclusions from this chapter's analysis of

stakeholder views are faced with some of the broader evidence-to-policy literature, both

encouraging and sobering.

Conclusion

In this chapter I have described the findings of a realist-informed case study of the West

African Health Organization, which generated a program theory on the role of this regional body

in the promotion of evidence-informed national health policymaking. The primary contribution

of this study is an in-depth description of the key assumptions behind, and mechanisms and

outcomes underlying, the WAHO KTP, from the point of view of its main stakeholders: a

proposed realist program theory. The findings presented here can be used as the starting point for

a future theory-driven evaluation of WAHO's effectiveness as an institutional knowledge broker.

Part 4: Lessons, interpretations and conclusions

Chapter 7: Factors versus mechanisms: Comparing realist and thematic approaches for synthesizing evidence on complex policy questions

Introduction

A large and growing body of qualitative literature has shed light on the phenomenon of evidence use by health policymakers, including the various factors – often conceptualized as 'barriers and facilitators' – affecting of evidence-informed policymaking (Cairney, 2016; Verboom & Baumann, 2020). Several systematic reviews have descriptively catalogued these factors in various ways, generally with little to no interpretive attention paid to the role of contextual conditions, whether social, political, institutional or otherwise (Innvær et al., 2002; Lavis et al., 2005; Liverani et al., 2013; Oliver et al., 2014a; Orton et al., 2011). In **Chapter 3** of this thesis I detailed some of the limitations of these reviews, including, for example, the failure to appraise the methodological quality of included studies, a preference for the simple aggregation of individual study-level findings instead of engagement in interpretation and conceptual innovation across studies, and inattention to the differential manifestation of factors across contexts. In **Chapter 4**, I presented a synthesis designed, in part, to address these weaknesses: following Thomas and Harden's (2008) popular thematic synthesis strategy, I analyzed a purposive sample of 44 qualitative studies to interpretively generate a synthesis of the key factors affecting the use of evidence in health policymaking.

While this constitutes an improvement on previous syntheses on this topic, there are more fundamental critiques leveled at 'thematic' reviews for which my thematic synthesis may have no response. According to Ford, Wong, Jones, and Steel (2016), such reviews "reflect the traditional systematic review methodology which aims to pool data to achieve an overall result, rather than explore and explain underlying causal processes" (p. 2). Wellstead et al. (2018) argue that the process of classifying complex processes as 'barriers' (not unlike my 'factors') is

functionalist, and "reduces complex and highly dynamic decision-making into simplified, static and metaphorical statements about why current outcomes are 'incorrect'" (p. 1241). Like Ford et al. they propose replacing the thematic approach with one that conceptualizes social phenomena as products of the work of causal mechanisms. Moreover, Brennan et al. (2018) argue that thematic reviews – what they refer to as "the current orthodoxy" with roots in the Cochrane tradition – incorrectly locate the problem of lack of (appropriate or desired) uptake in characteristics of the objects or interventions of interest themselves (e.g., clinical practice guidelines in their case, and research evidence in mine) rather than the complex social interactions that surround their use or non-use. For Brennan et al., thematic reviews simply re-state the problem of poor uptake rather than providing a strategy for improvement. Their solution is to advocate a form of research synthesis that can accommodate the dynamic complexity of policy and practice systems, and account for interactions between context, mechanisms and outcomes.

A second synthesis, presented in **Chapter 5** of this thesis, takes up this mantle. In contrast to the thematic synthesis, this realist synthesis (Pawson, 2006b) was informed by principles of the philosophy of scientific realism (Pawson & Tilley, 1997), and involved critically reading included studies through the lens of the realist context-mechanism-outcome heuristic. Using this approach, I analyzed 37 papers on 17 separate cases, en route to testing and refining a realist program theory on the institutionalization of evidence-informed approaches in health-related policymaking.

While similar in their subject matter, inclusion criteria and practical objectives, these two syntheses involved starkly different approaches to the appraisal and analysis of their included studies. Detailed methodological protocols for both of these syntheses are provided in **Chapter**

2. Rather than simply restating these methodological details, in this chapter I provide a side-by-side reflective and critical comparison of the two approaches, focusing on some of the more salient similarities and differences between them. The content of this chapter is part critical engagement with the methodological literature, and part reflection on my own experience conducting these two syntheses. The basic question I reflect on in this chapter is: what is the added value, if any, of taking a realist approach to synthesizing complex qualitative evidence?

Synthesis comparison

This discussion is organized around some of the key "stages" of thematic and realist synthesis, which are summarized in **Table 18**, alongside a description of how these stages were operationalized in this thesis. Anticipating critiques from both purists and pragmatists alike, I acknowledge that these key "stages" are simplistic, caricatured versions of what "really happens" in an interpretive synthesis, whether thematic, realist or otherwise. All but the most rigid and aggregative of qualitative synthesis approaches are non-linear exercises, involving both iteration and improvisation. Still, setting out these key activities, even if they rarely unfold sequentially, gives some structure to the discussion presented here.

The remainder of this chapter is thus summarized under the headings *Asking* (formulating the synthesis question), *Acquisition* (sampling studies for inclusion), *Appraisal* (assessing methodological 'quality'), *Abstraction* (what counts as "extractable" evidence to be synthesized?), *Analysis* (synthesizing the evidence), and *Action* (the synthesis "product" and influencing decision-making).

Table 18: Key stages in thematic synthesis and realist synthesis

Stage	Thematic synthesis		Realist synthesis	
	General approach (Thomas & Harden, 2008)	*As operationalized in this thesis*	**General approach (Pawson, 2006)**	*As operationalized in this thesis*
Overarching aim or purpose	Identify and construct themes, both descriptive and analytical	*To identify, interpret and classify factors affecting evidence use by health policymakers*	Propose and test program theories about whether, in what respects, how, and in what contexts an intervention is effective	*To propose, test and refine a program theory on the institutionalization of evidence-informed policymaking*
Question formation	Some iteration; question defined and refined in consultation with review commissioners	*Little iteration; focus on factors affecting evidence use by policymakers driven by perceived gaps in existing literature and academic curiosity*	High-degree of iteration; specific step in synthesis process devoted to "focussing the question"	*Synthesis began with construction of broad initial theory on evidence use; focus tightened to phenomenon of institutionalization as theory developed*
Searching and study selection	Exhaustive searching or purposive sampling	*Three-stage purposive sampling procedure used to maximize sample's richness and diversity*	Purposive sampling involving multiple encounters with the literature	*Multi-stage purposive sampling used to maximize relevance and richness of sample*
Quality appraisal	Checklist to facilitate identification of study-level methodological strengths and weaknesses	*Bespoke quality appraisal tool adapted from CASP and JBI instruments facilitated critical reading of papers*	Assessment of evidence fragments on *relevance* (can it help test theory?) and *rigor* (is it credible and trustworthy?)	*Relevance and rigor appraised at the level of evidence fragments from primary studies; appraisal incorporated narratively within synthesis report*
Data extraction	Extraction of all text in sections of study reports labelled 'findings' or 'results'	*Extraction of all text labelled 'findings' or 'results' and 'discussion' and/or 'conclusion'*	Evidence fragments from all sections of study papers eligible for extraction	*Extracted useful evidence fragments from all sections of included papers and linked documents (e.g., sibling papers)*
Analysis	Inductive line-by-line coding to identify descriptive themes; construction of analytical themes to "go beyond" individual study findings	*Line-by-line coding to identify regularities about how evidence is used; re-analysis across descriptive findings to construct analytical "factors"*	Analysis using CMO heuristic and application of retroductive reasoning to unearth hidden mechanisms	*Critically examined sampled material through realist philosophical lens and with initial theory top of mind; CMO annotation used to illustrate causal explanations*

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Stage	Thematic synthesis		Realist synthesis	
	General approach (Thomas & Harden, 2008)	*As operationalized in this thesis*	General approach (Pawson, 2006)	*As operationalized in this thesis*
Synthesis "product" and practical influence	List of themes (e.g., barriers, stakeholder perceptions) feed directly into intervention development or program management	*Summarized findings as an inventory of the key factors affecting evidence use by policymakers, and a detailed interpretive narrative of these factors*	Refined program theory illustrated in any number of ways: as a model or framework, a narrative discussion, or revision of initial propositions	*Illustrated each case's 'encounter' with initial theory using thick narrative descriptions; summarized findings as revised program theory alongside discussion of each revised proposition*

Asking: Formulating the synthesis question

Unlike conventional (e.g., Cochrane) quantitative systematic reviews, in which objectives and research questions are generally established *a priori*, published in a review protocol, and faithfully adhered to, most forms of qualitative synthesis allow for the review question to evolve to a greater or lesser extent, at least during the early phases of a project. In her review of several common approaches to qualitative synthesis, Garside (2008) noted that "[i]n most of the review methods described, the scope of the research question is not pre-specified in a rigid protocol, as Cochrane-style reviews are, but develops iteratively as the researcher becomes more familiar with the subject area and available data" (p. 84). In many qualitative syntheses, including one of the reviews through which the thematic synthesis approach was developed (Thomas et al., 2003), commissioners of the review and advisory or steering groups play an instrumental role in the process of narrowing the focus and prioritizing questions (Gough, Oliver, & Thomas, 2017).

In the case of my thematic synthesis, relatively little iteration was involved: the objectives and research questions – focused on the identification and interpretation of factors affecting evidence use – barely changed following development of the review protocol. The only evolution worth mentioning was in my understanding of the term 'factors': initially, I took this to refer rather narrowly to "barriers" to and "facilitators" of evidence uptake, that is, factors that

influence, either positively or negatively, *whether* evidence is "taken up." As I engaged more deeply with this highly complex and "uniquely swampy literature" (Greenhalgh, 2011, p. 4), I relaxed this definition significantly. Realizing both that there are likely to be important factors that cannot readily be conceptualized as barriers or facilitators, and that focusing on the static, binary outcome of "evidence uptake" would forestall the development of insights about *how and why* evidence is drawn upon in policymaking, I decided to conceptualize factors as structures, processes and phenomena that influence whether, how and why policymakers use evidence.

The main impetus to pursue a broad question on the factors affecting policymaker evidence use (at the start of the process, at least) was a combination of academic interest and the motivation to improve on what I saw as the weaknesses of previous reviews on this topic (which I summarize in **Chapter 3**). In this way, my experience is reminiscent of the description by Noblit and Hare (1988) of the early stages of meta-ethnography, who – prior to the advent of evidence-based approaches and the dominance of systematic reviews (Garside, 2008) – wrote about a meta-ethnography driven primarily by intellectual curiosity: "there is no value in a synthesis that is not of interest to the author" (Noblit & Hare, 1988, p. 27).

The process of formulating the question for the realist synthesis was far more dynamic and iterative than for the thematic synthesis. Similar to other forms of interpretive synthesis, it is not uncommon in realist synthesis for the focus of the review to evolve over the course of a project, especially (though not exclusively) during the early stages. Indeed, guidelines on conducting realist synthesis devote an entire "stage" in the review process to what is called (depending on the source) either "identifying the review question" (Pawson, 2006b) or "focussing the review" (Wong et al., 2013). In the RAMESES Project guidance on realist reviews, Wong et al. (2013) comment that "[t]he proper rhythm of inquiry is […] for [a review's]

potential scope to widen before a well-informed choice can be made on how and when to narrow it" (pp. 17-18) and that "[i]t is entirely legitimate for the synthesis' objectives, question and/or breadth and depth of the review to evolve or be refined as the review progresses." (p. 18).

There are many possible, scientifically justifiable reasons for this. For example, a review's searches may uncover an unexpectedly broad or complex literature, necessitating a narrowing of the inclusion criteria for the sake of both manageability of the project and coherence of the synthesis. In Jagosh et al.'s (2012) review on the benefits of research co-governance by academics, practitioners and community members, initial searches yielded an unmanageably large and heterogeneous literature, leading the research team to limit their empirical content to intervention-focused research and studies that were conducted in "community-based" settings (Jagosh et al., 2011). Similarly, early theorizing in a realist synthesis may reveal particularly promising theoretical avenues, prompting a review team to narrow the focus of their research questions. In McCormack et al.'s (2013) realist review of interventions to promote evidence-informed healthcare practice, early theoretical work generated a framework comprised of four theory areas. To make an in-depth synthesis feasible, the group selected one particularly rich area from the four – namely, a category of mechanisms labelled 'change agency' – on which to focus the synthesis.

In this same spirit, I remained open to altering the specific research questions under examination, while keeping the basic trajectory of the review consistent with addressing my core objective of identifying social mechanisms and contexts underlying outcomes related to evidence-informed policymaking. Like the example just described, the tightening of my initially broad synthesis question on the mechanisms underlying evidence-to-policy processes generally, to one focused on deliberate efforts to institutionalize evidence-informed policymaking, took

place during the early theory development process. Not only did this theoretical avenue appear both intellectually interesting and feasible in scope, it was also compatible with the focus of another area of research reported in this thesis – a case study on evidence use capacity strengthening in West Africa (**Chapter 6**) – which was already underway. The flexibility of the realist approach therefore allowed for the accommodation both of pragmatic considerations (the need to inform broader research aims) and whimsical ones (my intellectual curiosity). The specific questions in this realist synthesis and modes of addressing them were therefore tweaked to focus in on a specific set of promising and interesting theoretical propositions, but the synthesis maintained its objective to propose and refine a program theory explaining evidence-informed health policymaking in realist terms.

Acquisition: Sampling studies for inclusion

In conventional systematic reviews on intervention effectiveness, comprehensive searching to identify as many studies as possible that meet a review's eligibility criteria is generally considered a marker of methodological excellence (Higgins et al., 2019). This is sensible for quantitative syntheses (i.e., meta-analyses) that follow a probabilistic statistical logic, for which comprehensive study identification may help to protect against bias and increase confidence in the findings. Qualitative synthesis methodologists have historically disagreed on the importance of comprehensive searching, with some considering it essential to preserve the validity of a synthesis (Paterson, Thorne, Canam, & Jillings, 2001), others advocating for the use of purposive sampling akin to primary research (Dixon-Woods et al., 2006b), and others still basing their syntheses on primary studies already known to the reviewers (Noblit & Hare, 1988).

While Thomas and Harden (2008) are not highly prescriptive about how relevant studies should be identified for a thematic synthesis – whether through exhaustive searching or

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purposive sampling – they do acknowledge that "it may not be necessary to locate every available study because, for example, the results of a conceptual synthesis will not change if ten rather than five studies contain the same concept" (p. 3). During the years since their approach was published, it appears that the qualitative synthesis community has increasingly embraced the use of purposive sampling. A decade ago, Suri (2011) published what is now a highly-cited menu of approaches to purposive sampling, based on the work of Michael Quinn Patton (1978, 2002) on sampling in primary qualitative research. Since then, several examples of purposive sampling in qualitative synthesis have been published (Ames, Glenton, & Lewin, 2019; Benoot et al., 2016), even in Cochrane reviews (Lewin et al., 2010). Indeed, the meta-ethnographic approach (Noblit & Hare, 1988) – perhaps the most popular methodology for qualitative synthesis (Hannes & Macaitis, 2012), and one not dissimilar from thematic synthesis – has never depended on the identification of a census of relevant studies.

In this domain, realist synthesis has been consistent from the start. Identifying studies not exhaustively, but strategically, is one of the key features of the review process described early on by Pawson (2006b): "[t]he logic is that of purposive sampling, aiming to retrieve materials purposively to answer specific questions or test particular theories" (p. 85).

The sampling approaches I employed for my two syntheses were similar: both involved the development and application of deliberate, multi-phase purposive sampling procedures. In the thematic synthesis, study selection started with a form of 'intensity' sampling, to capture in-depth, rich examples of the phenomenon of interest, followed by versions of maximum variation sampling, to include diversity in terms of geographic and policy context, and disconfirming case sampling, to actively seek examples that challenged the emerging narrative of the synthesis (Booth et al., 2013; Suri, 2011). In the realist review, evidence was sampled purposively at

multiple time points throughout the conduct of the synthesis according to the evolving contents of the theory's propositions and my conceptions of the empirical evidence required to test them. In both cases, the studies were selected from a sampling frame developed through a comprehensive systematic review of the qualitative literature on evidence use by health policymakers. As a result, I had a high degree of confidence that I captured a diversity of relevant cases in both syntheses.

While the sampling logic in the two syntheses was therefore broadly similar, there is one fundamental difference in this review stage. Like classical systematic reviews and most qualitative syntheses, the process of determining a study's eligibility for inclusion in the thematic synthesis was based on an assessment of "study level" characteristics: overall, does the study focus in a significant way on identifying 'factors' related to evidence use? Does it provide rich data on such factors and thick descriptions of contexts in which they operate?

By contrast, in realist synthesis, the sampling unit is not (necessarily) the whole study, but often fragments of evidence: "[w]hat constitutes the 'right evidence' is different in a realist synthesis than it is in other form of review. Data that may usefully contribute to a realist synthesis are […] not necessarily drawn from a whole text/document, but from a sub-section of it relevant to a particular aspect of the review question" (Wong et al., 2013, p. 29). Famously, small "nuggets of wisdom" can be sampled for realist reviews, even if drawn from studies that are otherwise generally irrelevant or of suspect quality (Pawson, 2006a). This flexibility enriched my realist synthesis, with at least two cases included (Huckel Schneider et al., 2014; Mbachu et al., 2016) on the basis that they provided one or two unique fragments of insight to refine the evolving program theory, even if they would almost certainly have been excluded in a more conventional screening process.

While thematic synthesis is less flexible in this regard, there is no reason that such a logic should not be considered an option in thematic synthesis or, indeed, any other form of qualitative synthesis. In fact, on reflection, a handful of the studies that I sampled for the thematic synthesis – because they initially appeared to meet my sampling criteria of being thick, data-rich, exemplary cases illustrating the dynamics of evidence use in health policy – ended up approximating Pawson's notion of providing nuggets of evidence in the broader context of data that were mostly not usable. Indeed, while some relatively "thin" papers yielded several compelling factors that were persuasively supported with data, papers characterized by "thick" description (Geertz, 1973) sometimes only contributed to one or two relevant factors. Given the opportunity to conduct the thematic synthesis a second time, I would more systematically incorporate sampling procedures that operate at the level of evidence fragments rather than whole papers. Such an approach might be expected to add richness and diversity to a qualitative synthesis.

Appraisal: Assessing methodological "quality"

There is an extensive literature in which the usefulness of formal critical appraisal instruments – which were initially designed to facilitate "risk of bias" assessments of the randomized trials (Higgins, Savović, Page, Elbers, & Sterne, 2020) and quasi-experiments (Sterne, Hernán, McAleenan, Reeves, & Higgins, 2020) included in Cochrane-style effectiveness reviews – is discussed and debated in relation to qualitative evidence synthesis (Carroll & Booth, 2015; Dixon-Woods, Shaw, Agarwal, & Smith, 2004; Garside, 2014). Many tools are available for the critical appraisal of qualitative studies, the most popular of which include the Critical Appraisal Skills Programme's (CASP) checklist (Critical Appraisal Skills Programme, 2013), the Joanna Briggs Institute's (JBI) instrument (The Joanna Briggs Institute, 2014), and guidance

published by the National Institute for Health and Care Excellence in the UK (National Institute for Health and Care Excellence, 2012). These appraisal exercises, which typically involve questions or prompts related to various methodological characteristics, yield study-level quality ratings – usually "high," "medium," and "low," or similar – that can be used in subsequent stages of the review, for instance, to inform processes of data analysis, interpretation, and 'weighting' of findings (Boeije, van Wesel, & Alisic, 2011), to feed into assessments of the 'certainty' of evidence (Noyes et al., 2018), and to facilitate the exclusion of studies flagged as being of "poor" quality and sensitivity analyses to assess the effects of such exclusions (Carroll, Booth, & Lloyd-Jones, 2012).

While criticisms of these instruments abound (Pawson, 2003; Thorne, 2017), they are increasingly popular: within health and social care research, at least, some form of quality appraisal is carried out in the vast majority of qualitative syntheses (Dalton, Booth, Noyes, & Sowden, 2017; Hannes & Macaitis, 2012). Quality assessment is considered by many authorities, notably Cochrane's qualitative methods group (Noyes et al., 2020; Noyes et al., 2018), to be an essential part of a complete qualitative systematic review, even if disagreement persists about precisely how it should be done and whether and how quality ratings should guide subsequent steps of a review.

In their introduction to the thematic synthesis approach, Thomas and Harden (2008) "take the view that the quality of qualitative research should be assessed to avoid drawing unreliable conclusions" (p. 4) and they adopt the fairly conventional approach of appraising studies against 12 criteria derived from various standards and principles of good practice. My approach to quality assessment in thematic synthesis was not much different: I sought an appraisal instrument that would comprehensively address important domains of validity in qualitative research. Based

on a comparative evaluation of the strengths and weaknesses of three popular tools (Hannes et al., 2010), I constructed a bespoke instrument that took the popular CASP tool as its starting point, supplemented with items from the JBI tool that addressed three domains of validity – descriptive, interpretive and theoretical – that were not well addressed by CASP. The result was a 12-item instrument that yielded a score of "high," "moderate," or "low" overall quality for each study.

Quality appraisal is also a core feature of every realist synthesis, though the conduct of this "step" differs markedly from the procedures used in conventional systematic reviews and qualitative syntheses in at least two important ways. First, realist review eschews the use of quality checklists, the argument being that (in the case of qualitative research) "the checklist does little more than assign structure and credibility to what are actually highly subjective judgements" (Pawson, Greenhalgh, Harvey, & Walshe, 2004, p. 22). And second, in a realist review, quality is assessed at the level of evidence "fragments" rather than full studies (Pawson, 2003).

For realists, the appropriate standard of "quality" to apply to a fragment of evidence depends on the stage of the review, the nature of the theoretical proposition being tested (including how refined it is by that point in the synthesis) and, most importantly, the purpose the reviewer is "asking" that evidence to serve in the synthesis. In realist synthesis, Pawson (2006b) suggests, "[j]udgements about rigour are made not on the basis of pre-formulated checklists, but in relation to the precise usage of each fragment of evidence" (p. 89), meaning that quality is conceptualized as an assessment of whether a specific inference within a primary study is "of sufficient quality to help in clarifying the particular explanatory challenge that the synthesis has reached" (p. 89). Therefore, in the realist synthesis, I assessed the quality of each piece of

primary evidence on the basis of its relevance to the theoretical proposition I was testing against

it, and whether the inference in question drawn by the study author could be considered

sufficiently credible and trustworthy to provide a useful appraisal of that proposition. This

position resonates with broader appeals in (constructionist) qualitative research to move from

questioning whether a piece of research "is valid" – that is, proximate to some notion of "truth" –

to asking the more pragmatic question "what is this research valid for?" (Aguinaldo, 2004).

In practice, then, when taken as a whole, a study may only peripherally relate to the

review questions, but nevertheless contain useful passages to test specific aspects of the program

theory. A corollary of the conception of rigor as an *inference-level* assessment of a fragment's

contribution to the synthesis, rather than a *study-level* variable, is that "[t]here are often nuggets

of wisdom in methodologically weak studies" (Pawson, 2006a, p. 127) and as a consequence,

"[t]he worth of a study is determined in the synthesis" (Pawson, 2006a, p. 141).

On reflection, this description is not dissimilar from my experience conducting not just

the realist synthesis, but the thematic synthesis as well. As mentioned above, the material

product of the quality appraisal process in the thematic synthesis was a summary score for each

study – low, medium, or high. More important than the scores, however, was the critical reading

of the studies – and in-depth discussion of their strengths and weaknesses between review team

members – that the instrument facilitated. Moreover, while the overall quality rating is a "study-

level" assessment, in practice, I found that the consideration of, and accounting for, quality

during the synthesis and generation of interpretations was unavoidably a process that took place

at the level of text fragments and individual findings. This was not a formulaic exercise, but

rather an interpretive (and, indeed, a subjective) one: concepts, framings and interpretations put

forth by primary study authors were more likely to feature prominently in the thematic synthesis

when they were supported by convincing data (e.g., direct quotations) and argued for logically in the text of the included papers. In at least three included studies (Apollonio & Bero, 2017; Mirzoev et al., 2017; Nabyonga-Orem et al., 2012), I located useful findings, persuasively argued and supported by data, in the broader context of studies whose findings were, on the whole, unconvincing and poorly supported.

The overall methodological lesson here might be that both genres of synthesis can inform one another. Thematic syntheses may benefit from a more granular conception of quality, in which both rigor and relevance are considered at the level of, say, the study "finding" – a move that would avoid the inappropriate downgrading or down-weighting of well-argued nuggets of wisdom when presented in the context of an "overall" weak study. Likewise, quality appraisal instruments may be used to support realist synthesis, insofar as they help to facilitate a critical reading of sampled evidence fragments and the methods used to produce them, provided the summary scores that result from such tools are not interpreted as final verdicts on the worth of whole studies.

Abstraction: What counts as "extractable data" to be synthesized?

Qualitative evidence synthesis is often said to be defined by the generation of "third-order" constructs or interpretations (Britten et al., 2002; Thorne et al., 2004). These are interpretations that "go beyond" those provided in the included primary studies (Barnett-Page & Thomas, 2009) and represent the "conceptual innovation" (Strike & Posner, 1983) that distinguishes interpretive syntheses from, for example, more aggregative reviews that tend to follow what might be termed an "accumulative logic" (Noblit & Hare, 1988). In this framework, the original data for primary qualitative studies – usually the words, indeed the interpretations, of interview informants – are referred to as first-order constructs, while second-order constructs are

the interpretations generated from these data by primary study authors, and third-order constructs are the reviewer's interpretations of these interpretations (Campbell et al., 2011). Since the accounts that are included as data in a synthesis are interpretations of interpretations, it follows that the findings that constitute a qualitative synthesis are "interpretations of interpretations of interpretations" (Noblit & Hare, 1988, p. 35). The analogue in thematic synthesis to these third-order findings is what Thomas and Harden call analytical themes – findings that "represent a stage of interpretation whereby the reviewers 'go beyond' the primary studies and generate new interpretive constructs, explanations or hypotheses" (p. 1).

Understanding conceptualizations like this is important because it has implications for how data are identified in and extracted from primary studies for inclusion in the analysis stage of a synthesis. There is a lack of widespread agreement among qualitative reviewers on how to determine what constitutes the "data" in an included study to be extracted and subsequently coded and/or analyzed (Noyes & Lewin, 2011). Approaches vary from the extremely inclusive (e.g., in which every word of text, including in supporting or supplementary documents, can be extracted and considered for analysis) to the highly particular (e.g., in which only analytical or conceptual findings supported in-text by direct quotations from participants "count" as data). In their presentation of thematic synthesis, Thomas and Harden were interested in the extraction of second-order constructs – study findings and "key concepts" that essentially constitute the interpretations of the primary authors. Recognizing that distinguishing these from unprocessed data (including, but not exclusively, participant quotations) is not always straightforward (Sandelowski & Barroso, 2002), Thomas and Harden (2008) opted for a pragmatic approach, taking "study findings to be all of the text labelled as 'results' or 'findings' in study reports" (p. 3).

In my thematic synthesis, I was also interested in synthesizing author interpretations rather than raw study data. I therefore started with an approach similar to (though more inclusive than) Thomas and Harden's: I extracted for analysis all text found in sections labelled 'results' or 'findings' as well as text in 'discussion' and 'conclusion' sections. The decision to include the text of discussion sections ended up having a significant influence on the final synthesis product. Several included studies used their results sections to present structured, descriptive summaries of their informants' views, while reserving their discussion and conclusion sections for presentation of the real interpretive work. While surprising at first, on reflection, the usefulness of the text that constitutes the discussion and conclusion sections should have been predictable. If qualitative synthesis is meant to trade in so-called higher-order interpretations, reviewers need to be looking for data where they are likely to find a high density of rich interpretation and conceptual analysis. In many cases, these are found in discussion sections as much as (or, even, instead of) the results sections.

A related issue is what is to be done with highly descriptive studies. The focus on second-order interpretations discussed above implies that, to be eligible for inclusion in a synthesis of this kind, primary study authors need to have done more than just identify themes in their data, and rather must have transformed their data through some process of theorizing, construct development, or other form of conceptual innovation. Indeed, this is the explicit position of qualitative synthesis methodologists Sandelowski and Barroso (2007). However, like Garside (2008), I found that descriptive studies could still be accommodated in an interpretive synthesis, provided there were at least a few conceptually-rich included studies that could furnish the conceptual scaffolding onto which the more descriptive findings could be incorporated.

In realist synthesis, on the other hand, there are not any hard and fast rules about what constitutes "extractable" data. In fact, Pawson (2006b) points out that the data extraction exercises conventionally associated with systematic reviews "ha[ve] no exact equivalent in realist review" (p. 91), and Wong (2018) advises that "within published studies, the 'background' or 'introductory' sections are often a good source of information about how the authors think the intervention they are reporting on is thought to work" and that "[a]nother potentially fruitful source of information is the 'discussion' section of published studies" (p. 135). The core methodological texts on realist synthesis make no mention of first-, second- and third-order constructs, and, as will be clear by now, the approach is highly pragmatic when it comes to determining what qualifies as relevant evidence: if it can be put to legitimate use in subjecting the program theory to scrutiny, it qualifies as relevant data for a realist synthesis.

My application of this principle meant that I was open to testing my program theory against text that represented the analyses and interpretations, theories and constructs of primary study authors, as well as the words of their study informants, when provided. This is consistent with syntheses conducted by Pawson (Pawson, 2002a, 2002b, 2004; Pawson et al., 2016), which treated both first- and second-order constructs as relevant data. Furthermore, I enhanced the quantity and richness of available data for some included cases by seeking and extracting text from "linked" papers, that is, empirical and non-empirical articles (and unpublished documents) by the study authors that elaborated upon the findings of the study, provided essential background information about it, or discussed its conclusions in relation to other literature. In one case, a non-empirical commentary article (Uneke et al., 2012) yielded some insightful theorizing about an evidence advisory committee that was not explicit in the main empirical article (Uneke et al., 2015). In another case, a 'sibling' paper (Flitcroft et al., 2011b) provided

detailed methodological information, not available in the 'main' sampled article (Flitcroft et al., 2014), that was essential to interpreting and appraising the study's contribution to the synthesis.

My key "take-home" lesson from these two syntheses in the data extraction domain is that inclusiveness is a strength. Interpretation requires detailed content, and (within reason) the more, the better. Even in forms of qualitative synthesis that subscribe to the strict demarcation between first- and second-order constructs – between the words of study participants, and the "extractable" interpretations of their authors – implementing a data extraction process that prematurely isolates the "key concepts" and "findings" of primary studies from the data ushered to support them may risk setting oneself up for an analysis that is stripped of essential context and detail. Data reduction is, however, always necessary at some point in a synthesis, and below I discuss the challenge of doing so while maintaining due deference to context.

Analysis: Synthesizing the evidence

This discussion now turns to the review stage that, in both thematic and realist synthesis, has proven most enigmatic and resistant to simple explanation. Data analysis in thematic synthesis is straightforward enough in its first phase, involving the use of line-by-line coding to develop descriptive themes, but as it shifts to the construction of analytical themes (i.e., third order interpretations) it enters what Thomas and Harden (2008) consider "th[e] stage of a qualitative synthesis [that is] the most difficult to describe and is, potentially, the most controversial, since it is dependent on the judgement and insight of the reviewers" (p. 7). Reviewers have similarly struggled to describe the specifics of the analytical process in realist synthesis, probably, at least in part, because "the underlying logic of the approach makes it antithetical to standardized, predetermined or prescriptive application" (Jagosh et al., 2014,

p. 131) and therefore "there is no specific instruction for conducting a realist inquiry nor is there an a priori protocol development framework" (Jagosh, 2019, p. 368).

The conduct of both the thematic and the realist synthesis in this thesis was challenging, but in different ways. In the case of the realist synthesis, the major challenges were settling on an appropriate analytical strategy and knowing where to begin. In the end, my choice was to get started by simply "diving in" to the ocean of available empirical evidence (previously identified through an exhaustive systematic review) and trying to read it through a realist philosophical lens (Wong et al., 2013). For me, maintaining this lens meant 1) keeping the ontological principles discussed in **Chapter 2** (chiefly, stratified reality and generative causation) top of mind as I read and reread papers, and 2) inspecting text, at all times, for possible configurations of context, mechanism and outcome (either partial or complete). Pawson's (2006b) exhortations to "just do it" (p. 83) when faced with the paralysis of uncertainty in relation to how to start a synthesis proved helpful early on. The thematic synthesis was simpler in this regard, since the first, descriptive phase of coding is more regimented and procedural, rather like a conventional systematic review, and was therefore less daunting.

The specific analytical procedures differed markedly between the two syntheses, and, once again, the thematic synthesis proved less challenging in this domain. Thematic synthesis is strictly an inductive approach, meaning that themes, concepts and patterns are allowed to 'emerge' from the data (which, in this case, are primary research accounts – second-order interpretations), as opposed to the data being fitted within the parameters of a pre-specified framework or coding scheme (Braun & Clarke, 2006). This was appropriate to the review's goal of providing a rich overall account of the existing evidence on factors affecting evidence use, as opposed to, for example, a more targeted test of specific hypotheses. While this did not preclude

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conceptual innovation and the construction of novel insights, the result was a synthesis that remained relatively 'close' to the data.

Realist synthesis, on the other hand, involves a more eclectic mix of reasoning processes. Uniquely among qualitative synthesis methodologies, realist inquiry calls for the use of retroduction, a "mode of inference in which events are explained by postulating (and identifying) mechanisms which are capable of producing them" (Sayer, 1992, p. 107). Deductive and inductive reasoning alone are not sufficient to identify explanatory causal mechanisms because they tend to "orient inquirers to an associative rather than generative relationship between phenomena" (Jagosh, 2020, pp. 124-5). Since realist inquiry is concerned with identifying generative causal mechanisms, which are (usually) invisible (Astbury & Leeuw, 2010; Pawson, 2008), this kind of analysis depends on the use of "common sense, intelligence, expertise and informed imagination" because "an understanding of causation cannot be achieved using only observable evidence" (Greenhalgh et al., 2017, p. 1). Therefore, strictly speaking, the mechanisms to which I refer in the realist synthesis are metaphors, my best possible approximations of the "real" social processes I aim to describe (Williams, 2018).

In order to fill in gaps in the available descriptions of causal processes – i.e., when mechanisms were "hidden" (Papoutsi et al., 2018) – I employed a kind of 'inference to the best explanation' in conducting the realist synthesis. Also known as abductive reasoning (Danermark, Ekström, & Karlsson, 2019; Tavory & Timmermans, 2014), this process was at once creative and data-driven. It was striking, on reflection, just how similar this process was, in practice, to some of the analytic operations I used in the latter phases of the thematic synthesis. More specifically, the process of re-examining descriptive findings across studies to construct higher-order, analytical themes, involved similar creative thinking (and, to varying degrees, inferring to

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the best explanation) as the abduction and retroduction employed in the realist synthesis. This should perhaps not be surprising, since inferential, hunch-driven, imaginative thinking clearly informs concept development in most forms of thematic analysis, even if this is not usually identified explicitly as abduction (Kennedy, Thornberg, & Flick, 2018). If theorization in realist synthesis can be characterized as a process of "making up mechanisms" (Williams, 2018), then the generation of analytical findings in thematic synthesis can be understood as "making up themes."

Beyond the specific analytic operations used in the two syntheses, a final reflection has to do with their relative capacity to wrestle with complexity. Both synthesis methods, like all qualitative analytical methods, required "reducing" the data at some point prior to or during the analysis. When conducting the thematic synthesis, there was a constant tension between, on the one hand, the imperative to preserve the complexity and nuance of the included qualitative accounts, and on the other, to engage in the (efficient) reduction and distillation of data that is necessary to provide a succinct summary of the evidence. In the search for commonalities across the included studies, the tendency was to "decontextualize" the insights from individual studies relatively early in the analysis.

The imperative to "classify" text as a 'factor' or 'factors' sometimes made it difficult to do justice to the contingency of the processes I was investigating. In thematic reasoning, the impulse to draw conceptual boundaries between observed phenomena – to make the factors under construction "discrete" from one another – is ever present. As a reviewer, I was bound by my driving research objective to slice and dice the data into these comprehensible, easily-digestible pieces. In this approach, it is not convenient or straightforward to treat the factors as

candidate ingredients in a more nuanced causal explanatory framework that is attentive to social complexity.

Conversely, the procedures adopted during the realist synthesis – which necessitated attention to context as one of the fundamental, defining aspects of the analysis – made the process of preserving the connection between observed phenomena and derived concepts, on the one hand, and key attributes of the study context, on the other, much smoother. My experience was that the realist analytical framework – through which relevant evidence fragments were coded using the CMO heuristic – more effectively allowed for data to be reduced and for observations to be abstracted without oversimplifying the processes I was trying to capture and explain.

The realist synthesis, therefore, provided a more inviting framework in which to deal with contingency in a way that felt adequate to a topic as complex as evidence-to-policy processes. With that said, it was a laborious and time-consuming process compared to the thematic synthesis, which is probably better suited for dealing with broad, wide-ranging synthesis objectives and large volumes of data. It is difficult to imagine covering the broad topical ground that I did in the thematic synthesis – investigating evidence use in health policymaking, generally – using a realist synthesis methodology without doing an injustice to the complexity of the subject matter. Without the early focusing process – through which I narrowed the realist review topic considerably, to a focus on institutionalization of evidence-to-policy processes – the synthesis may have been impossible to complete.

Action: The synthesis "product" and influencing decision-making

Finally, how might the results of these syntheses be expected to be put into practice? All approaches to research synthesis can be read as a theory of research impact – a set of ideas about

how accumulated research findings are expected to influence policy and practice, or society more generally – even if such theories are implied rather than explicitly spelled out.

Realist synthesis, for its part, was explicitly designed with a view to informing policy and practice. Following Weiss (1986), Pawson (2006b) saw the contribution of realist synthesis to policymaking as one of *enlightenment* rather than the provision decisive pieces of knowledge that directly change the course of a policy. His intention for the refined theories that constitute the output of a realist synthesis was that "[t]hey initiate *a process of thinking* through the tortuous pathways along which a successful programme has to travel, […] their conclusions tak[ing] the form of *reflections* on how to navigate some significant highways and byways" (p. 100, my emphasis). This subtle theory of research impact can be contrasted with the blunt one that might be implied by the output of the thematic synthesis.

To consider how a thematic synthesis of the factors affecting evidence use might be received by decision-makers, it is worth considering some of the critical methodological work on thematic reviews in general, and "barriers and facilitators" approaches in particular, the latter of which have become widespread in the health literature (Bach-Mortensen & Verboom, 2020). The principal selling point of these reviews seems to be their simplicity and apparent user-friendliness. As Brennan et al. (2018) point out in their discussion of reviews on the implementation of clinical guidelines, the authors of thematic reviews often frame the product of their work – that is, inventories of factors – as planning tools: "the review is said to provide an authoritative checklist of barriers/facilitators to guideline implementation in expectation that it presents a "to do" list for policy makers, managers, and practitioners" (p. 108). On this logic, it might be argued that a practitioner interested in supporting the translation of research into policy

would interpret a list of "factors affecting evidence use" as a menu of domains to be tackled with knowledge transfer interventions.

I tend to agree with Brennan et al. (2018), who argue that "barriers are not something to be ticked off and torn down one at a time. What the barriers primary studies are actually describing are personal, social, and institutional interrelationships" (p. 109). Of course, as discussed above, I endeavored to resist the reduction of the highly complex processes observed in my primary studies to barriers (and facilitators) by using as my unit of analysis what I saw as a broader and more flexible construct, namely, "factors" affecting (i.e., influences on) how and why (not just whether) evidence is used. Still, the summary output of my thematic synthesis – the final product – was unavoidably a list of "key" factors. While I have tried to avoid giving the impression that my factors affecting evidence use should be treated as a "checklist" or a "menu" for those looking to improve links between evidence and policy, the impression that the product of a thematic synthesis is meant to serve such a function may well be baked into the approach.

From my vantage point, the realistic expectation of an interpretive synthesis is that, at best, it provides readers with a fresh perspective, a new way of thinking about, in this case, the relationship between research evidence and health policymaking. Compared to the schools of thought just described, my theory of synthesis impact might be read as similar to, but more modest than, Pawson's, and nothing like the readymade recipe implied by an inventory of thematic factors. Both realist and thematic synthesis are interpretive processes and their outputs are interpretive products. These are highly fallible sets of ideas – evidence-informed, but still subjective – and unlike their Cochrane-style cousins, we should not pretend that they are in the business of approaching certainty or facilitating prediction.

In this way, the words of Noblit and Hare (1988) on this topic resonate. Channeling Geertz (1973), they argued that "the goal of qualitative research is to enrich human discourse" (p. 24), and that our interpretive knowledge "is always limited in its ability to predict since humans are reflective and use knowledge bases to create new social and cultural forms. By understanding the sense of things, *anticipation*, rather than prediction, is the more reasonable result of qualitative research" (pp. 24-25, my emphasis). The most optimistic version of this view may be the notion that realist review can function as a source of "illumination" that helps policymakers plan for – indeed *anticipate* – the consequences of interventions in their specific circumstances (Pawson et al., 2005). Of course, many qualitative studies (including, no doubt, qualitative syntheses) attract little attention from other researchers, let alone policymakers. Still, for those syntheses that are able to break through and find an audience, to shape in some way the thinking of policy practitioners, other researchers, or members of the public who are in a position to agitate for policy change, the shifting of policy discourses may well be a fruitful channel for research impact.

Conclusion

In this chapter I have combined personal reflection with a critical reading of the methodological literature on qualitative synthesis to provide a structured comparison of realist and thematic synthesis, and my experience of conducting them for this thesis. One of the more interesting reflections to emerge from this comparison is how similar, in some ways, my experience of applying the two approaches was. Both involved considerable iteration, and comfortably allowed for the adoption of strategic, purposive sampling rather than the comprehensive inclusion of all possible relevant studies. Moreover, both syntheses were interpretive processes that entailed conceptual innovation to produce synthetic findings that 'go

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beyond' the findings that were readily apparent in included studies. While the coding procedures and analytical operations differed, the creative, abductive processes used to generate analytical themes and unearth causal mechanisms proved in practice to be similar across the two syntheses.

But the similarities end there. In the thematic synthesis, important operations like extracting data for analysis and appraising the quality of included evidence take place at the level of the included study, no doubt a relic of this approach's origins in the systematic review tradition. The realist approach's use of the evidence fragment as a unit of extraction and appraisal is more appropriate in the context of a qualitative synthesis, and the consequent flexibility to admit 'nuggets' of insight to the review, even when drawn from generally weak studies, enhanced the richness of the final product.

The realist approach, with context at the centre of its explanatory apparatus, also provided a more hospitable framework in which to accommodate complexity and preserve contextual sensitivity, while still reducing the data to make the analysis manageable. In the thematic synthesis, by contrast, data reduction was a much more crude process, and attention to context sometimes fell by the wayside in the face of the imperative to categorize data as factors and themes. Because separate factors have to be presented as discrete standalone findings, they all must be read as synthetic, hypothetical propositions in a form in which the preface "all else being equal" is tacitly in operation. In a thematic synthesis, it is difficult to understand 'factors' as interconnected parts of a complexity-sensitive causal framework.

Thematic synthesis – and, perhaps by extension, other non-configurative approaches – may be better suited than realist synthesis for wrestling with large volumes of data, and wide-ranging review objectives. The analytical attention to each fragment of text (and their interrelations) that is required to rigorously conduct a realist synthesis is significant, and

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therefore the greater the scope of the review focus, the less likely a realist synthesis is to be feasible. However, if the review objective is reasonably focused, and the question at hand is about causal processes in the context of social complexity, the realist synthesis approach may well be the best option for a review team.

Chapter 8: Two outlooks on the promotion of evidence-informed policymaking

Introduction

Seeking to understand the relationship between the worlds of academic research and public policy has long been a preoccupation of social scientists (Lindblom & Cohen, 1979; Lynd, 1939; Merton, 1949; Weiss, 1977). While the popularity of the subject has waxed and waned over the decades, the study of whether, how and why policymakers make use of research evidence in their work is showing signs of a resurgence of sorts (Oliver et al., 2014a), most notably in health-related fields (Verboom & Baumann, 2020). Mirroring (perhaps even driving) this academic development is the increasingly accepted imperative in (at least some) public policy circles to "follow the science." Inspired, in part, by movements for an evidence-based approach to healthcare provision, by the turn of the millennium, 'evidence-based policy' had become standard jargon in the halls of government bureaucracies, the pages of think tank reports, and the rhetoric of politicians, suggesting that research evidence had garnered substantial purchase at the highest levels of power. While the rhetoric of the movement has evolved over the years, from 'evidence-based' policy early on, to its now dominant expression as 'evidence-informed' policymaking (Davies, Nutley, & Walter, 2008; Humphreys & Piot, 2012), the agenda remains very much the same: ensuring that the systematic and transparent consideration of the best available research evidence is a central feature of public policymaking (Oxman et al., 2009a). This thesis is firmly situated within these academic and practical developments.

In this closing chapter, I discuss some of the most important substantive lessons from this thesis, weaving together findings from a thematic synthesis on the factors affecting evidence use (**Chapter 4**), a realist synthesis on the institutionalization of evidence-informed policymaking (**Chapter 5**), and a realist case study of the West African Health Organization's knowledge

transfer and mobilization strategies (**Chapter 6**). In doing so, I present two highly distinct points

of view on the prospects for the evidence-informed policymaking ideal.

From one standpoint, the findings of this thesis provide much reason for optimism.

Several factors – related to research evidence (and researchers), policymaking (and

policymakers), and their interactions – were consistently found to influence whether and how

policymakers apply evidence to their work in a systematic fashion. Knowledge of these factors,

in combination with stakeholder perceptions and insights about the circumstances under which

capacity building interventions are likely to be effective, may help to support the targeting of

strategies to increase policymaker demand for research, to support knowledge transfer and

exchange between the research and policy worlds, and to encourage the application of evidence

to policy decisions. Additionally, related evidence on the mechanisms underlying efforts to

institutionalize evidence-informed approaches to policymaking – a topic hitherto given relatively

little critical research attention – offers insights about how such improvements might be

sustained over the long term, for instance through formalizing processes of evidence collation

and appraisal, embedding researcher-policymaker dialogical forums within policymaking bodies,

and exerting top-down pressure in the form of rhetorical encouragement, mandates and the

transformation of organizational cultures.

An alternative (more critical) reading of the results of this thesis yields less optimism for

the prospects of promoting evidence-informed policymaking. While it may be tempting to

interpret the inventory of key factors affecting evidence use identified in **Chapter 4** as a menu of

intervention options, these in fact represent interconnected parts of a complex system of

research-policy relations, not fully independent and distinct "determinants" of evidence uptake

that can each be targeted in isolation (see **Chapter 7**). Moreover, as I explain below, many of

these factors were found to be "double-edged": they were associated both with conventionally desirable forms of evidence use (e.g., as a tool for problem solving and improving program effectiveness), and with more undesirable uses of evidence (e.g., the distortion of research findings for political gain). In a similar way, there are two sides to the findings of the realist synthesis on institutionalizing evidence-informed policymaking. Under the right conditions, formalizing and embedding – and, to a lesser extent, normalizing and mandating – processes of evidence generation, appraisal and application, has been shown to generate desirable improvements in researcher-policymaker relations and evidence "uptake." However, the synthesis also uncovered a number of possible unintended consequences of evidence use institutionalization, ranging from the relatively mild (e.g., the selective mobilization of research findings to meet minimum procedural requirements) to the potentially more severe (e.g., threats to the democratic legitimacy of policy processes).

The bulk of the discussion presented in this chapter is therefore divided into two main sections: an optimistic view, followed by a more cynical view, regarding the prospects for promoting evidence-informed policymaking. Before turning to this discussion, I provide a brief summary of the headline findings of this thesis.

Summary of substantive findings of this thesis

The substantive findings generated by this thesis emerged from the conduct of three distinct, but interlinked research projects. First, I presented a thematic synthesis of qualitative literature to identify and interpret the key factors influencing evidence-informed health-related policymaking. The most important influences on evidence use were found to broadly fall into four categories: 1) characteristics of the available evidence (what is sometimes called the "evidence supply"); 2) the interface between research and policy (including various factors

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related to researcher participation in the policy process); 3) political and policy processes (factors related both to the policy issues and decisions at hand, and the circumstances and challenges often faced by policymakers); and, finally, 4) the organizational and institutional context (including prevailing organizational cultures and the presence or absence of institutional innovations to link evidence with policy).

Building on the thematic synthesis (and, indeed, drawing on much of the same qualitative literature), I conducted a realist synthesis on the more specific topic of evidence use institutionalization, seeking to address the question: how and under what circumstances do deliberate efforts to institutionalize notions and practices of systematic evidence use in policymaking organizations generate improvements in the application of research to policy? Analyzing a purposive sample of the literature against four theoretical propositions, I found partial evidence to support the hypotheses that the formalization of evidence advisory functions and platforms for deliberating over evidence, and the embedding of these within the decision-making apparatus of government, can improve the likelihood of research evidence playing a systematic and instrumental role in decision-making. Less evidence was identified on the value of top-down initiatives that mandate evidence use, and deliberate efforts to normalize evidence as a routine part of day-to-day work in policymaking organizations. These findings were summarized as a refined program theory.

Finally, I examined the specific case of a complex intervention to strengthen evidence use processes, presenting a realist case study of a knowledge transfer platform (KTP) designed and implemented by the West African Health Organization (WAHO) to strengthen individual-, organizational- and institutional-level capacities for evidence-informed policymaking in West Africa's national ministries of health. Applying a realist lens to the interpretation of program

documents and stakeholder interviews, nine social mechanisms were hypothesized as possible causal processes underlying the anticipated effects of the WAHO KTP on improvements in the use of evidence. These mechanisms – which included upstream processes influencing participant ownership and buy-in (e.g., *bespoke tailoring* of the program offerings to suit the country context), downstream processes influencing the intended outcomes (e.g., *top-down pressure* to apply evidence to policy decisions) and implementation support processes to maintain enthusiasm over the multi-year program and to identify and overcome challenges (e.g., *facilitation and strategic accompaniment*) – were summarized as an "initial" program theory for the WAHO KTP, which the organization can subsequently draw upon for planning and evaluation purposes.

In this final chapter, I bring together some of the headline findings from these three projects, and extract practical insights and lessons for those who would attempt to improve relations between research evidence and policy. As with everything in the social world, there is some good news and some bad news to report. The remainder of this chapter is therefore divided into two sections. Starting with the good news, in the first section I take an optimistic view on evidence-to-policy processes, adopting the lens of the evidence-informed policy devotees, and discussing the most promising avenues for strengthening the link between research and health policymaking that emerged from the thesis. In the second, I relay some of the bad news, discussing the key findings of this thesis through a more critical lens, advancing the view that all efforts to improve relations between evidence and policy will generate unintended negative consequences, and that top-down strategies to institutionalize evidence-informed policymaking are likely to be particularly disappointing.

An optimistic outlook on evidence-informed policymaking

This thesis began with a discussion of the ascendant movements for evidence-based and, now more commonly, evidence-informed policymaking in health. In brief, proponents of evidence-informed health policymaking assert that research addressing a variety of policy-relevant research questions – and systematic reviews thereof (Lavis, 2009) – can be drawn upon to inform the range of decisions faced by health policymakers, from setting agendas and developing interventions and programs, to the implementation, monitoring and evaluation of policies (Lavis, Posada, Haines, & Osei, 2004; Lomas & Brown, 2009; Sutcliffe & Court, 2005). The central assumption is that health policy decisions that are systematically informed by the best available research evidence are "better" than they otherwise would be if taken in the absence of such evidence (Chalmers, 2003; Hanney, Gonzalez-Block, Buxton, & Kogan, 2003; Nutley et al., 2007). Several dozen (if not hundreds) of studies have been published in recent decades to elucidate the challenges facing advancement of this agenda (Verboom & Baumann, 2020), many of which were included in the syntheses presented in **Chapters 4 and 5**, and which informed development of the knowledge transfer program that is the subject of **Chapter 6**. In what follows, I distill some of the key general lessons from this thesis to improve the use of research evidence and to advance evidence-informed policymaking in health.

Some of the most common themes from the qualitative literature on evidence use relate to characteristics of "usable" evidence – the types and features of research that are most likely to be found attractive to policymakers. Carol Weiss's pioneering research over 40 years ago found that, when policymakers encounter a piece of research evidence (e.g., a study report) they appraise it for its "truth" value and "utility" value. Weiss and Bucuvalas (1980) found that *truth tests*, which policymakers use to assess the reliability and trustworthiness of a piece of evidence,

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are made based on how they perceive its methodological quality and concordance with their expectations (e.g., compatibility with their values). *Utility tests*, on the other hand, entail evaluating whether a piece of evidence provides useful guidance, and are made on the basis of what the authors called its "action orientation" (the degree to which it demonstrates a feasible course of action) and the extent to which it yields a fresh way of conceptualizing things – whether it offers a "challenge to the status quo." Based on the balance of these assessments, policymakers generate appraisals of the usefulness of pieces of evidence, ultimately deciding whether to accept or reject them.

My findings largely corroborate this model, with one major exception: in my thematic synthesis of this literature, I found little persuasive evidence to support the notion that health policymakers are generally concerned with methodological rigor. While several studies (Frey, 2010; Jewell & Bero, 2008; Mbachu et al., 2016), which drew primarily on interviews, concluded that research quality was an important factor for policymakers, a close reading of these studies and their supporting data seems to indicate that various (supposed) proxies for research quality – most notably, the reputation of academic institutions, funders and publication venues, the perceived relevance of the research, and the perceived credibility and charisma of researchers themselves – are actually being discussed under the banners of "quality" and "rigor."

Thus, the thematic synthesis found that the more a piece of research (or body of evidence) is perceived by policymakers as *practical* (as opposed to theoretical and arcane), *settled* (not marked by significant scientific uncertainty), *actionable* (suggestive of action that can be taken on immediate policy concerns), *relatable* (especially when linked to anecdotes or stories) and *stark* or *concrete* (with the implications of the findings, and their importance, easy to grasp), the greater the likelihood it will attract their attention and be applied in decision-making.

This is especially the case when it is presented in a highly *simplified* format and is produced or

published by a source perceived as *reputable*. The implied practical value of findings of this sort

is that academics who want to increase the likelihood of their findings being used by

practitioners should design their research, and their dissemination strategies, to fit these

characteristics. Indeed, full programs of research are devoted to determining the ideal format

(e.g., word and page count) and content (e.g., use of images, level of detail, use of jargon) of

reports or 'briefs' targeted toward policy audiences (Lavis & Panisset, 2010; Lavis, Permanand,

Oxman, Lewin, & Fretheim, 2009a; Vogel et al., 2013).

However, as Lomas (2000a) pointed out in a piece combatting highly simplistic notions

of research-policy relations, the academic world is not a retail store, in which "researchers are

busy filling shelves of a shop-front with a comprehensive set of all possibly relevant studies that

a decision maker might some day drop by to purchase" (p. 141). In other words, for researchers

who are seeking to influence policy, savvy marketing of their findings will get them only so far.

As this thesis has demonstrated, the factors influencing evidence use are much broader

than the circumstances surrounding the encounter between individual policymakers and pieces of

research. Other findings from this thesis locate the challenge of using evidence not in

characteristics of the research itself, but in the knowledge and skills of policymakers, the

capacity of policy organizations to support their engagement with research, and the broader

decision-making culture in a given policy context. No less important are the strength of the

relationships between policymakers and researchers, and the quantity and quality of

communication and interaction between research institutions and policymaking organizations.

Indeed, many of these recurrent themes – the importance of evidence use capacity (both

individual and organizational) and researcher-policymaker relationships, in particular – seem to

have inspired features of the cascade of programs designed to foster evidence-informed health policymaking that have emerged in recent years (Green & Bennett, 2007; Haynes et al., 2018; Punton, 2016; Vogel & Punton, 2018), notably the proliferation of "knowledge translation platforms" in Sub-Saharan Africa (Adu, Gyamfi, & Martin-Yeboah, 2021), including the WAHO KTP (Sombie et al., 2017b), which is the subject of the realist case study presented in Chapter 6. Designers of the WAHO KTP understood consistent and systematic use of research evidence in health policymaking as only realistically achievable following the convergence of a number of factors: improved supply of policy-relevant research, strong and trusting relationships between the region's researchers and decision-makers, and sufficient improvements in multiple domains of capacity (individual, organizational and institutional). Consistent with previous research (Nutley, Davies, & Tilley, 2000a), program stakeholders placed a great deal of emphasis on the interdependencies and hypothesized synergies between interventions at the organizational and individual levels. The observation that neither organizational nor individual capacity building is sufficient, and that both are necessary for sustained change, is also echoed in the findings of **Chapter 5**'s realist synthesis.

An additional defining aspect of WAHO's approach was designed to address what program architects saw as a major shortcoming of other strategies to link evidence with policy, and one that had previously been identified by other researchers of evidence use (Hawkes et al., 2015; Parkhurst, 2016; Punton, 2016): the lack of attention to improving capacity at what they termed the 'institutional' level. In the absence of institutional change – for instance, the shifting of norms, the modification of professional and political incentives, and improvements in leadership – the full potential of interventions designed to improve individual and organizational capacity is not likely to be realized. In the words of one of the WAHO officials at the centre of

the program's design, "if you do not work at the institutional level, you will not change anything."

WAHO's principal institutional-level intervention – a region-wide ministerial resolution endorsing the importance of research evidence and mandating its use in national health policymaking – was understood by stakeholders to provide the top-down pressure needed to motivate individual policymakers to apply the skills, and mobilize the organizational resources, provided by other aspects of the program. While the evidence use resolution in West Africa was designed to apply pressure from on high, the realist synthesis revealed a number of other strategies through which the institutionalization of evidence-informed policymaking might be achieved. I found that institutionalization efforts, which I divided into the four functional categories of formalization, embedding, mandating and normalization, work to support sustained evidence uptake through a diverse array of social mechanisms.

Of particular note, *formalizing* processes of evidence generation, review, appraisal and deliberation, and *embedding* these functions within institutions of government, were often found to be conducive to sustained instrumental use of evidence. For example, when an evidence advisory body operates with "official" status – that is, when it is buoyed by the normative authority and financial support that comes with high-level political endorsement – its findings and recommendations are both more likely to be easily accessible to policymakers, and more difficult for them to ignore or dismiss without incurring political or professional costs. This finding may go a long way to explaining the commonly observed tendency for policymakers to prefer to rely on *informal* (i.e., unofficial and off-the-record) advice for highly politicized issues, as opposed to conferring official status on evidence advisory committees, whose advice they may later feel compelled to follow regardless of whether it supports their preferred course of action

(Barker & Peters, 1993). While the evidence available on the effects of *mandating* the use of research evidence and efforts to *normalize* a central role for evidence in policymaking was comparatively thin, both of these approaches were found to be effective under some conditions.

The aim of evidence-informed policymaking – to "ensure that decision making is well-informed by the best available research evidence [and that] access and appraisal of evidence as an input into the policymaking process is both systematic and transparent" (Oxman et al., 2009a, p. 4) – is an ambitious one. An optimistic reading of the headline findings of this thesis is suggestive of a few key principles to support researchers and would-be reformers in their efforts to improve the uptake of evidence in policymaking:

- Academics and other evidence producers should design their research to address the immediate, practical challenges faced by policymakers and, where possible, such research should be co-designed and co-produced by teams comprising both researchers and policymakers.
- Findings should be communicated to policymakers in simplified form, using relatable stories, with emotionally salient aspects emphasized and concrete impacts highlighted, for instance, through the use of compelling visuals and personal anecdotes.
- Practitioners and others seeking to increase the use of evidence should target their efforts at multiple levels of policymaking systems, improving, where necessary, the capacities of individual policymakers (to locate, appraise and apply research), policy organizations (to institute appropriate procedures, guidelines and incentives to support their staff to use research), and the broader institutional environment (to nurture political and policy cultures in which evidence is valued).
- Researchers and policymakers should be provided with ample opportunity for interaction and relationship-building, and the knowledge and skills of both groups should be improved as needed: the capacity of researchers to engage with the dynamic, fast-paced, political environments that characterize modern policymaking should be developed, as should the capacity of policymakers to understand both the potential value and likely limits of research evidence in policymaking.
- Political and policy leaders should seek to institutionalize norms of evidence use by publicly endorsing the principles of evidence-informed policymaking, instituting codified, systematic procedures for evidence review, deliberation and application, and altering professional and political incentives through the judicious use of mandates, as well as the allotment of explicit responsibility within their organizations for accessing and appraising evidence and maintaining close connections with academic institutions.

However, as promised, there are two sides to the story that has emerged from this thesis. In the section that follows I provide a more critical take on my findings, presenting a less optimistic outlook on the prospects for successfully promoting the ideal of evidence-informed policymaking.

A cynical outlook on evidence-informed policymaking

One of the principal contributions of this thesis was the interpretive generation of an inventory of the key factors influencing the use of evidence by health policymakers (**Chapter 4**). The conceptualization of findings as 'factors' – which, in the literature on evidence use, both in health-related policymaking (Verboom & Baumann, 2020) and healthcare practice (Estabrooks, Scott-Findlay, & Winther, 2004), are often framed as "barriers" and "facilitators" – is commonly interpreted as an invitation to treat such findings as catalogues of intervention options. In the case of barriers and facilitators reviews, for instance, findings are often explicitly framed by review authors as lists of factors to be either overcome or amplified in pursuit of desired outcomes (Bach-Mortensen & Verboom, 2020). Indeed, I invoked this line of thinking in the published protocol for the thematic synthesis (Verboom et al., 2016) when I asserted that "[d]esigning interventions to encourage the appropriate use of evidence by public health policymakers requires an understanding of the processes through which bureaucrats and politicians access, assess and use evidence, including *the technical factors (i.e. barriers and facilitators) related to evidence uptake*" (p. 2, emphasis added).

In the preceding section of this chapter, I illustrated how this might work in relation to some of the research-related factors identified in **Chapter 4**. But do findings of this sort really provide helpful guidance, either for researchers seeking to garner policy attention for their findings, or reformers aiming to change policymaker behaviour?

Reading these results through the lens of complex adaptive systems (Hawe, Bond, & Butler, 2009) leaves little room for optimism. These factors should not be interpreted as discrete, isolated phenomena. It may be conceptually useful to draw artificial distinctions between them, but these factors represent interconnected components in a dynamic social system and, as such, intervening to change one can be expected, almost inevitably, to generate unanticipated (including undesirable) effects on others. Brennan et al. (2018) made this case in their discussion of barriers to the uptake of clinical practice guidelines, arguing that "[s]olving barrier A may exacerbate barrier B, solving barrier C might create unintended consequence D, introducing facilitator E might be crushed by impediment F," and that therefore "barriers are not [things] to be ticked off and torn down one at a time" (p. 5).

Of course, this problem is generic to all thematic "factors reviews" (and 'barriers and facilitators' research more generally), and not specific to the challenge of promoting the use of evidence. However, an additional problem – specific to my findings – casts further doubt on the practical usefulness of these factors. One of the principal overarching findings to emerge from the thematic synthesis was the observation that many of the factors affecting evidence use are akin to "double-edged swords," by which I mean, they were found to be associated with increases both in "desirable" uses of evidence (e.g., systematic, instrumental uses to solve policy problems) and "undesirable" uses (e.g., uncritical, selective application of evidence to bolster pre-determined political positions).

This is well illustrated by the findings from a study of the influence of research evidence on early childhood intervention policies in Australia (Bowen et al., 2009), which contributed to the analytical theme "starkness" in the thematic synthesis. Bowen et al. (2009) found that the pieces of evidence that were most attractive to decision-makers were communicated (or

communicable) as "killer facts": pithy, punchy, easily-visualized points that incite emotion (e.g., by powerfully illustrating harm to children) or concretize impact (e.g., by quantifying predicted cost savings from an intervention). Findings like this imply that, to increase the likelihood of their evidence being taken up, researchers should endeavour to package their findings in simple and compelling summary points that are emotionally salient and imply "easy wins" in terms of impact. However, Bowen et al. (2009) themselves hit on the main problem with this, albeit only in passing: "'killer facts' drawn from research evidence may have significant influence. […] This may be the case *despite limited critique [on the part of policymakers] of the facts themselves, and how they were derived*" (p. 27, my emphasis). In other words, while increasing the attractiveness of a piece of evidence is likely to increase its uptake by policymakers, this may also inadvertently decrease the extent of critical interrogation to which they subject it.

More generally, increasing policymaker access to, interest in and uptake of a piece of research evidence does not guarantee that its implications will be taken on board and implemented faithfully. Evidence that is perceived as "usable" is usable for whatever purpose the user sees fit. This fact is almost never acknowledged in the literature on evidence-informed policymaking.

A related set of results, concerning the role of academics as active participants in policy processes, revealed that researchers are most likely to garner policy attention for their findings when they are perceived as reputable experts, when they can communicate their work in a persuasive, charismatic fashion, and when they are knowledgeable about how policy processes work (including the features of evidence that policymakers perceive to be usable, as discussed above). To the extent that academics are motivated to achieve – and, indeed, *to be seen to be achieving* – "policy impact" (Boswell & Smith, 2017), the implied prescription is clear. As

argued by Cairney, Oliver, and Wellstead (2016), to better inform policymaking, researchers should prioritize not just working to improve the supply and quality of evidence, but also to reduce what they called "policy ambiguity" by engaging in strategic processes of persuasion. Among other strategies, they recommend "[c]ombin[ing] facts with emotional appeals," and "[t]ell[ing] simple stories that are easy to understand [and] help manipulate [policymakers'] biases" (p. 401).

While this posture may serve the immediate professional interests of individual academics, there is no reason to assume that it is particularly informative for policymaking. Researchers themselves have their own biases, political preferences and pet interests: they are not neutral custodians of academic knowledge. Who is to say that the evidence that is most readily communicated in simple form, and that is advocated by the most savvy and charismatic academics, is the "right" evidence for policy? More fundamentally, it seems obvious that the wholesale adoption of this stance would not bode well for a healthy and independent academy. Indeed, as Boden and Epstein (2006) argue, in contemporary neoliberal polities, "the chief source of legitimacy for ruling elites is 'objective knowledge' that has to be supplied by 'research'" (p. 233-4), an imperative that has significant implications for university researchers, most notably "a constriction of the research imagination […] [including] the[ir] capacity to ask big questions rather than those with an appropriate 'shelf life'" (p. 234). As May (2005) pointed out (writing about Britain), in the context of "an increasingly activist state that seeks information it can *use* […] sociologists [and, by extension, other social scientists] might now find themselves amongst the outsourced civil servants of the evidence-based state" (pp. 526-7, emphasis in original). To lean on some well-worn clichés, the uncritical pursuit of "policy impact" under the banner of evidence-informed policymaking may result in academics "serving power" as much as

– or instead of – "speaking truth to power," a move that might be considered a betrayal of what Chomsky (1967) called the "responsibility of intellectuals," namely "to speak the truth and expose lies" (p. 16).

The possible downsides and unintended consequences of the evidence use institutionalization strategies on which I focused in **Chapters 5 and 6** – another issue rarely discussed in the evidence-informed policy literature – should also be noted. All strategies to improve the fate of evidence in policy processes – like all purposive social action (Merton, 1936) – can be expected to generate unanticipated effects, including harms. Take, for example, the imposition of top-down mandates and incentives to engage in evidence-informed policymaking. As discussed above, the available evidence on the effects of mandates on evidence use is relatively thin: in the previous section I argued that, while mandates have promise, more research is needed to identify the circumstances in which they are most likely to improve research use practices, and to understand the mechanisms through which this might occur. Here, I urge further caution, based on findings from the realist synthesis indicating that imposing top-down evidence use requirements on decision-makers can prompt various deceptive tactics through which actors find "short-cuts" in order to technically fulfil the *letter* of a mandate's requirements, while resisting meaningful behaviour change in concordance with its *spirit*. This is analogous to the phenomenon that, in program evaluation circles, has come to be known as Campbell's Law. In 1979, Donald T. Campbell observed that "[t]he more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor" (Campbell, 1979, p. 85). Examples of this phenomenon have been observed in law enforcement (Eterno & Silverman, 2017), health care (Poku, 2016), and even in the reporting of COVID-19 statistics by

the United States government (Best, 2021). It should not be surprising if efforts to incentivize –
and, crucially, to monitor – policymaker behaviours related to evidence use generates deliberate
evasion, distortion and the "gaming" of systems.

The regional ministerial resolution mandating the use of evidence in West Africa, and
broader sets of efforts to institutionalize norms of evidence use more generally, might be
expected to generate similar tactical responses from policymakers. From the standpoint of a civil
servant, such performative marshalling of evidence – for instance, the strategic citing of
academic research as "window dressing" within policy documents – might be considered a
perfectly rational response to top-down pressures. Indeed, Newman (2017), among others, has
suggested that top-down endorsements of rational decision-making may themselves be designed
to serve mainly symbolic purposes – both functioning "as an effectively uncontestable political
slogan" (p. 213) and "signify[ing] a general desire for reform or improvement, as opposed to a
specific set of techniques or activities" (p. 214). This analysis echoes patterns long understood by
organizational theorists (Feldman & March, 1981), namely that information routinely functions
equally as a source of intelligence for policy organizations, on the one hand, as well as "signals
and symbols," on the other.

A final reason for pause – which applies to most of the deliberate efforts to
institutionalize systematic procedures for evidence-informed policymaking investigated in this
thesis – concerns the potential effects of these measures on the role of creativity, intuition and
human judgement in the practice of policymaking, and the attendant implications for both the
democratic legitimacy of policy processes and the effectiveness of policy outputs. Suppose, for
example, that systematic protocols for retrieving, appraising and applying research are
successfully institutionalized in a policymaking body. How might the adoption of such practices

influence the relative weight ascribed to other forms of knowledge, including for instance, professional wisdom, local expertise and the values and preferences of constituents?

One of the core organizational-level interventions developed by WAHO's MEP Project was the development of a comprehensive "evidence-based policymaking guidance" (Uneke et al., 2020), a 77-page document that sets out no fewer than 14 recommended steps that can be followed in order to generate (and obtain endorsement of) an "evidence-based" policy (WAHO, 2019). Similar initiatives designed to systematize processes of evidence collation, appraisal and application to health policy decisions (Bosch-Capblanch et al., 2012; Lavis et al., 2012; Lewin et al., 2012), using approaches akin to those popularized in clinical medicine, have come in for their share of criticism. Peters and Bennett (2012), for example, highlight their tendency to adhere to rigid evidential criteria that, while perhaps appropriate for addressing highly discrete, technical questions, are incapable of accommodating the complexity of social (e.g., policymaking) systems. They add that the assumption that synthesized "global" research in the form of systematic reviews is the "best" type of evidence for the effectiveness of policy options – a clear feature, for example, of WAHO's regional evidence-based policy-making guidance – is not necessarily sound, pointing out that "one could argue that the best evidence is that which is experienced, learned and acted on by key stakeholders *in their own setting*" (Peters & Bennett, 2012, p. 2, my emphasis).

Setting aside the impossibility of designing simple criteria to prescribe which research evidence (indeed, *whose* research evidence) should count and when, rigid step-by-step protocols offer little support for the myriad questions faced by policymakers for which science has no easy answers. As Head (2008) has argued, most policy processes involve negotiated, rather than technical, forms of problem-solving; in addition to scientific knowledge, both political know-

how and practical wisdom (for instance, professional judgement) are indispensable in public policymaking. Put another way, "there is not one evidence-base, but several bases" (Head, 2008, p. 7).

Therefore, because public policymaking by its very nature involves highly complex, non-empirical concerns – chiefly, value judgements, ethical considerations, and political questions – systematized approaches to evidence-informed policymaking that either eliminate or subordinate the role of human judgement are liable to produce worse, not better, policy outcomes (Hammersley, 2005). They are also not likely to be well received by professional policymakers – or "bureaucrats" (Rishel, 2012) – who, far from the obedient automata envisaged in the most inflexible, mechanized protocols for evidence-based policymaking, come to their work with their own biases, convictions and motivations. As Michael Marmot (2004) has observed, "[s]cientific findings do not fall on blank minds that get made up as a result. Science engages with busy minds that have strong views about how things are and ought to be" (p. 906). Consequently, while "[a] simple prescription would be to review the scientific evidence of what would make a difference, formulate policies, and implement them […] this simple prescription, applied to real life, is simplistic. The relation between science and policy is more complicated." (p. 906).

The first section of this chapter concluded with recommendations for researchers, policymakers and others concerned with strengthening the impact of research evidence on policymaking. In this section, I have relayed some of the reasons why their efforts may be for naught, producing at best small improvements in evidence use practices, and at worst doing more harm than good. However, in recognition of the fact that this argument is unlikely to dissuade evidence-informed policy devotees from pursuing their goal, instead of appealing for these

efforts to be abandoned, I close this section by offering some basic guidance on how the

potential unintended harms of promoting evidence-informed policymaking might be minimized:

- When promoting their research to decision-makers, researchers should take care to ensure that their findings are understood in all their complexity – what the research *does not* say is equally important as what it does. Oversimplification and manipulative communication should be avoided. Researchers should speak out against and correct the misuse of their findings by policymakers – publicly, if necessary.
- Academic experts in policy-adjacent applied social science fields who aim to generate evidence to inform policy (to "serve power") should not relinquish their right (arguably, their responsibility) to use their expertise and professional platforms to critique policy (to "speak truth to power").
- Strategies, organizational procedures and decision support guidelines should be designed with minimal rigidity to support, rather than prescribe, courses of action. The more complex the policy question, the less rigid the standards of evidence should be. The systematic application of research evidence to decision-making processes should not be read as a substitute for public values and preferences, knowledge of local conditions, professional judgement, and imaginative problem-solving.
- Encouragement from political and policy leaders to normalize a role for research in policy deliberations is welcome, but mandating a role for research and rigidly monitoring its use should be avoided for all but the most technical questions (e.g., drug efficacy). Tying evidence use requirements to rewards and punishments should also be avoided, lest this generate perverse incentives for policymakers to engage in performative uses of evidence that legitimate, rather than inform, their decisions.

Closing

In this chapter, I have summarized the key findings from the three original research

contributions that make up this thesis, a thematic synthesis on the factors affecting evidence use,

a realist synthesis on the institutionalization of evidence-informed approaches to policymaking,

and a realist case study on the knowledge transfer strategies of the West African Health

Organization. I discussed some of the practical implications of this work for the pursuit of

evidence-informed health policymaking, describing two competing interpretations: an optimistic

outlook and a cynical outlook on the evidence agenda. In doing so, I have provided guidance

both for the evidence-informed policymaking believers, who seek to maximize the impact of

research evidence in policy processes, and the evidence-informed policymaking critics, who strive to keep its destructive effects to a minimum. I hope both camps find it informative.

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Appendices

Appendix A: Sample search strategy for systematic review

MEDLINE (Ovid)

(Search run on 20 January 2019)

#	Searches	Results
1	Evidence Based Practice/ or ("research evidence" or "evidence based" or "evidence informed" or "knowledge translation" or "knowledge transfer" or "knowledge exchange" or "knowledge broker*" or "knowledge mobili?ation" or "using evidence" or "using research" or "using knowledge" or "using information" or "using science" or "using scientific" or ((evidence or research or knowledge) adj3 (use* or utilis* or utiliz* or uptake or diffus* or disseminat*)) or ((systematic review* or evaluation* or Technology Assessment* or HTA*) adj2 (use* or utiliz* or utilis* or uptake or diffus* or disseminat*))).tw.	208317
2	exp Public Policy/ or exp Policy Making/ or exp Government/ or Decision Making/ or Policy/ or Politics/ or Administrative Personnel/ or Government Employees/ or (health* policy* or health* policies or (health* adj2 planning) or (policy* adj2 decision*) or (political adj2 decision*) or (policy* adj2 develop*) or (policies adj2 develop*) or (policy* adj2 formulat*) or (policies adj2 formulat*) or policy mak* or policymak* or public policy* or public policies or policy* process* or policy* change* or legislat* or politician* or bureaucrat* or governance or (government* adj2 agenc*) or (government* adj2 policy*) or (government* adj2 policies) or (government* adj2 decision*)).tw.	499193
3	exp Health Policy/ or exp Health Planning/ or Health Services/ or Public Health/ or Health Promotion/ or (health* policy* or health* policies or health system* or healthcare system* or health care system* or health service* or (ministr* adj3 health*) or (department* adj3 health*) or (health* adj2 planning) or public health or population health or health promotion or health sector).tw.	828448
4	1 and 2 and 3	9619
5	Qualitative Research/ or Interview/ or (theme$ or thematic).mp. or qualitative.af. or Nursing Methodology Research/ or questionnaire$.mp. or ethnological research.mp. or ethnograph$.mp. or ethnonursing.af. or phenomenol$.af. or (grounded adj (theor$ or study$ or studies or research or analys?s)).af. or (life stor$ or women* stor$).mp. or ((emic or etic or hermeneutic$ or heuristic$ or semiotic$).af. or (data adj1 saturat$).tw. or participant observ$.tw.) or (social construct$ or (postmodern$ or post-structural$) or (post structural$ or poststructural$) or post modern$ or post-modern$ or feminis$ or interpret$).mp. or (action research or cooperative inquir$ or co operative inquir$ or co-operative inquir$).mp. or (humanistic or existential or experiential or paradigm$).mp. or (field adj (study or studies or research)).tw. or human science.tw. or biographical method.tw. or theoretical sampl$.af. or ((purpos$ adj4 sampl$) or (focus adj group$)).af. or (account or accounts or unstructured or open-ended or open ended or text$ or narrative$).mp. or (life world or life-world or conversation analys?s or personal experience$ or theoretical saturation).mp. or ((lived or life) adj experience$).mp. or cluster sampl$.mp. or observational method$.af. or content analysis.af. or (constant adj (comparative or comparison)).af. or ((discourse$ or discurs$) adj3 analys?s).tw. or narrative analys?s.af. or heidegger$.tw. or colaizzi$.tw. or spiegelberg$.tw. or (van adj manen$).tw. or (van adj kaam$).tw. or (merleau adj ponty$).tw. or husserl$.tw. or foucault$.tw. or (corbin$ adj2 strauss$).tw. or glaser$.tw. or interview*.tw. or case stud*.tw.	2269232
6	4 and 5	3855
7	(("research evidence" adj5 (policy* or policies or govern* or politic*)) or (("use* of evidence" or "evidence use*" or "utili?ation of evidence" or "evidence utili?ation" or "uptake of evidence" or "evidence uptake" or "using evidence" or "utili?ing evidence") adj7 policy*) or (translat* adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or ("role of" adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or ("relation* between" adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or (apply* adj3 (evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*)) or (impact* adj2	2427

	(evidence or research or science or scientific or knowledge or findings) adj3 (policy* or policies or govern* or politic*))).tw. or ((evidence and (policymak* or policy-mak* or public policy* or public policies or health* policy* or health* policies)) or ((evidence or science or scientific or research or knowledge or findings or information) adj3 ("in policy*" or "in health* policy*" or "in policies" or "in health* policies" or "in govern*")) or ((evidence or science or scientific or research or knowledge or findings or information) adj3 ("into policy*" or "into health* policy*" or "into policies" or "into health* policies" or "into govern*")) or ((evidence or science or scientific or research or knowledge or findings or information) adj3 ("*to policy*" or "*to health* policy*" or "*to policies" or "*to health* policies" or "*to govern*")) or (("evidence based" or "evidence informed" or "research evidence" or (evidence adj2 use*) or (research adj2 use*) or (knowledge adj2 use*) or (research adj2 utili?ation) or (evidence adj2 utili?ation) or (knowledge adj2 utili?ation) or "using evidence" or "using research" or "using knowledge" or "utili?ing evidence" or "utili?ing research" or "utili?ing knowledge" or "knowledge translation" or "knowledge transfer" or "knowledge exchange" or "knowledge broker*" or "knowledge mobili?ation") and (policy* or policies or govern* or politic*)) or (researcher* adj2 (policy* or policies or govern* or politic*))).m_titl.	
8	6 or 7	**5822**

Appendix B: Quality appraisal instrument for thematic synthesis

Assessment of study quality – Augmented CASP form

Reviewer:
Date:
Record (Author, year):

Assessment questions	Response (circle)		
1. Was there a clear statement of the research question(s) and/or the aim(s) of the research?	Yes	No	Unclear
2. Were a qualitative approach, and the specific research design, appropriate for addressing the research question?	Yes	No	Unclear
3. Was there congruity between the stated philosophical perspective and the chosen research methodology?*	Yes	No	Unclear
4. Was the sampling/recruitment strategy appropriate for addressing the research question?	Yes	No	Unclear
5. Were the methods of data collection appropriate for addressing the research question?	Yes	No	Unclear
6. Were the data analysis methods sufficiently rigorous and appropriate for addressing the research question?	Yes	No	Unclear
7. Is there a statement locating the researcher(s) culturally and/or theoretically?*	Yes	No	Unclear
8. Has the relationship between researcher and participants been adequately considered?	Yes	No	Unclear
9. Are the participants and their voices adequately represented?*	Yes	No	Unclear
10. Have ethical issues been adequately taken into consideration, and is there evidence of ethical approval from an appropriate body?	Yes	No	Unclear
11. Is there a clear statement of findings?	Yes	No	Unclear
12. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?*	Yes	No	Unclear

*Item adapted from JBI-QARI qualitative critical appraisal instrument (The Joanna Briggs Institute, 2014)

Overall methodological rating (High, Moderate, Low):

Rationale and comments:

Appendix C: Letter of invitation from WAHO Director General

WEST AFRICAN HEALTH ORGANISATION
ORGANISATION OUEST AFRICAINE DE LA SANTE
ORGANIZAÇÃO OESTE AFRICANA DA SAÙDE

Ref.: Prog-A27-DPRIS-ProgRecherche/D/146/18/cos

21 February, 2018

Professor Irene Akua Agyepong
MB Ch B Dr RH FGCPS, PI COMCAHPSS
Public Health Physician, Ghana Health Service
Research and Development Division
Ghana College of Physicians and Surgeons

Dear Professor,

Subject: Benjamin Verboom's Request to Conduct a Study at WAHO as a PhD Candidate

I hereby acknowledge receipt of the above-mentioned request and thank you for Mr. Benjamin Verboom' expressed interest in WAHO as part of the PhD Thesis he is preparing in collaboration with COMCAHPSS project.

Consequently, I wish to convey to you my approval to welcome Mr. Benjamin Verboom at WAHO.

He will work with the Principal Professional Officer in charge of Research and Health Information.

While hoping that this work/research will further strengthen the collaboration between our two Institutions, please accept, Madam, my best regards.

Dr. Xavier CRESPIN
Director General

WAHO HEADQUARTERS/OOAS SIEGE – 01 BP 153 BOBO 01 – BURKINA FASO
Tel: (226) 20 97 57 75 / 20 97 01 00 / 20 97 00 97 – Fax: (226) 20 97 57 72 – E-mail: wahooas@fasonet.bf – Site Web: www.wahooas.org

Appendix D: Sample interview topic guide for case study

Question or question structure	Notes
Welcome, introduction, and thanks for participation	
Can you tell me about your specific role with WAHO's work in knowledge translation (KT) and promoting evidence utilization?	Early introductory question(s) to build rapport, get them talking, and begin exploring ideas around evidence and policy
Much of WAHO's work is focussed on improving evidence use in West African ministries of health. How do you think policymakers in national ministries of health *should* engage with and use evidence?	
What do you think it means for policy to be "evidence-based" or "evidence-informed"? Is this something policymakers should strive for? What does "evidence" mean to you? Is it different from "research?"	
Tell me about the goals of this work – what are the intended outcomes? Do you think WAHO achieves these outcomes?	Questions about *outcomes*, including to identify intended and unintended outcomes, whether outcomes have been achieved, differential outcomes across locations and subgroups, and possible harm of WAHO's work.
Do you think [insert outcomes] have been achieved differently across different groups of policymakers? Who has benefitted most and least, and why do you think this is the case?	
What about across different countries or ministries? Tell me more about the countries where WAHO has been most successful in achieving improvements and others where there might be room for improvement.	
Are there any other outcomes that we haven't yet talked about that are important to WAHO's KT work?	
Do you think these efforts to improve evidence use could have had any accidental consequences? Or even negative outcomes?	
It's important to identify the outcomes of the work WAHO does, but I am also very curious about *how* these outcomes are achieved. In general how do you think WAHO is able to promote evidence use in ministries of health?	Questions about program *mechanisms*, including identifying mechanisms and breaking mechanisms down into program resources and participant reactions to resources.
Please explain how you think [insert component of WAHO's KT work] causes, or contributes to causing, the outcomes we talked about earlier. [Repeat as necessary for different programming components; and repeat for different outcomes as needed.]	
How do you think [insert group/type of policymaker or other stakeholder group] changed their ways of thinking as a result of being exposed to WAHO's work [or specific programming component]? Do you think this contributed to achieving the outcomes?	
I wonder if WAHO [and/or specific programming component] has been more effective in some places than in others. What do you think about this? More specifically, have some ministries been more able than	Questions related to *context* (institutional and

Question or question structure	Notes
others to make use of support and resources offered by WAHO? If so, why do you think this is?	national): how it affects generation of outcomes, and program implementation; and what aspects of context may impede successful achievement of outcomes.
Can you tell me a bit more about how [program component] was implemented? What was it about how it was implemented [in context] that led to the (un)desired outcomes? [Repeat as necessary for different aspects of programming.]	
What is it about WAHO that makes it an effective (or potentially effective) organization in the region to promote the use of evidence and translation of knowledge from research?	
If you had unlimited resources and you could change anything about how WAHO's KT work operates, what would you change?	
What else should I know about WAHO, your work with the organization, and [insert relevant program component(s)] that might help with the evaluation?	Final question to cover any territory not previously discussed
Thanks and closing	

Appendix E: List of studies included in systematic review

This appendix presents references for the 319 studies included in the systematic review. This list represents the sampling frame for both the thematic synthesis and realist synthesis.

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