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Proofs and Politics

Re-assembling evidence-informed health policy in global health as a matter of and for care

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Thesis submitted for the degree of

Doctor of Philosophy (PhD)

April 2019

I hereby declare that the work presented in this thesis is my own. References to the work of others have been duly cited and indicated throughout.

Nele Jensen London, April 30 2019

Acknowledgements

Writing this thesis would not have been possible without the encouragement and support of a great many people. Words are not enough to express how thankful I am. Whereas their support has sustained me throughout, the responsibility and risk are mine only.

My most heart-felt gratitude is due to my interviewees for generously sharing their time and insights, and for reminding me why good science matters.

A special thank you also to Marsha Rosengarten and David Reubi for supervising this thesis with an abundance of encouragement, advice and care.

I would also like to thank Monica Greco and Dan Neyland for thoughtful and stimulating comments on earlier chapter drafts; Vera Ehrenstein for many inspiring discussions, feedback and encouragement; Uli Beisel for, among other things, telling me to read *The Body Multiple* as a crestfallen medical student – who would have thought!; Kerry Holden as a generous interlocutor and host; Francisca Gromme and Sveta Milyaeva for feedback and fun; Bridget Ward for always knowing the right answer; members of the Science Studies Africa Reading Group and the Goldsmiths Centre for Invention and Social Process (CISP) for their inspiration; the Department of Geography (and especially Tim Brown) at Queen Mary, University of London, for first opening up this opportunity; the Department of Global Health and Social Medicine at King's College London for providing a second (and new) home; and the UK Economic and Social Research Council for awarding me a much-appreciated studentship. A big thank you also to the Anthropology Department at the Amsterdam Institute for Social Science Research for generously hosting me as a Visiting Scholar in 2016 (with a special thanks to Rene Gerrets (and Dirk), Tjitske Holtrop, Justine Laurent, Filippo Bertoni, Swasti Mishra, Tait Mandler and my fellow newbies Harley Bergroth and Joana Zózimo);

The boundaries are fluid, but I am immensely grateful to the many other friends who have shared their unceasing love, encouragement and brilliance, especially: Helen Cammock, Lisa Panting, Vanda Playford, Irene Revell, Aaron Tan, Marco Donadon, Henri Gunkel, Renzo Baas, Eline McGeorge, Yv Nay, Karo Heckemeyer, Anne Tetzlaff, Beatrice Dillon, Ben Hogan, Steffi Stein, Felix Wolf, Kerstin Linne, Jens-Michael Cramer, Lena Schilström & Anders Caringer, and Robert Stahl.

Lastly, this journey has only been possible due to the invaluable support of my family. Thank you: Gerhard, Beate and Lennart Jensen – words cannot express my love and gratitude; my grandmothers, Wiebke Schmeing and Ingeborg Standel, for supporting me in writing the PhD that I wanted to write; and, especially, Malin Ståhl – for so much and the quiet ways of turning this life into an adventure.

Abstract

Demands to ground policies and practices in objective scientific proofs have become ubiquitous in global health. This thesis problematizes such demands as they are articulated in efforts to foster evidence-informed health policymaking (EIHP) in the Global South. With an empirical focus on the World Health Organization (WHO)-backed Evidence-Informed Policy Network EVIPNet and its 'country node' in Uganda, I show that Ugandan health professionals strive for EIHP yet face conflicting requirements for evidence that is both globally excellent and locally relevant. Rather than critiquing EIHP as a hegemonic 'evidentiary regime' or debunking the desire for trustworthy scientific evidence, this thesis carefully engages with concerns for EIHP while examining the problematic questions articulated by demands to link proofs presumed by evidence-making processes and politics in practice.

Based on archival research, document analysis and ethnographic methods, this thesis seeks to re-assemble EIHP as a matter of and for care. I show that current EIHP frameworks focus on circulating global scientific evidence on 'what works' and its adaption to local contexts. By purporting to *integrate* objective evidence with subjective local values, however, these frameworks must insist on the *separatedness* of facts and values, of proofs and politics. I argue that in assigning to science the role as rational solution provider, EIHP frameworks pay insufficient attention to the many concerns and questions that emerge with the situated dimensions of a policy problem – and thus risk failing to link proofs and politics.

Drawing on the work of Isabelle Stengers, Maria Puig de la Bellacasa, and Helen Verran, among others, I propose that what may be called for is the conceptualisation of evidence-making as a situated and contingent achievement; that is, for a careful and generative critique not *against* evidence, but *for* possible re-formulations of what 'good' evidence may be and how it may come (in-)to matter.

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List of Acronyms

ANT	Actor-Network Theory
COHRED	Council on Health Research for Development
BMJ	British Medical Journal
DALY	Disability-Adjusted Life Year
EAC	East African Community
EBM	Evidence-based medicine
EBP	Evidence-based policy
EIHP	Evidence-informed health policy
EIP	Evidence and Information for Policy unit
ENHR	Essential National Health Research
EVIPNet	Evidence-Informed Policy Network
GBD	Global Burden of Disease
GMC	General Medical Council
GRADE	Grading of Recommendations Assessment, Development and Evaluation
HSS	Health System Strengthening
IDRC	International Development Research Center
IHME	Institute for Health Metrics and Evaluation
INCLEN	International Clinical Epidemiology Network
MakCHS	Makerere College of Health Sciences
MDGs	Millennium Development Goals
MoH	Ministry of Health
MRC	Medical Research Council
IMF	International Monetary Fund
PHC	Primary Health Care
RCT	Randomized Controlled Trial
RPC	Research Policy and Cooperation department
REACH	Regional East Africa Community Health (Policy) Initiative
REF	Research Excellence Framework
STS	Science and Technology Studies
SWAPs	Sector-Wide Approaches
TEHIP	Tanzanian Essential Health Interventions Project
UNHRO	Uganda National Health Research Organisation
WDR1993	World Development Report 1993
WHO	World Health Organization

Introduction: Critiquing Global Health and its Evidentiary Regimes

It was towards the end of her tenure as Director-General in 2003 that Gro Harlem Brundtland declared the World Health Organization (WHO) a vanguard of an ineluctable "movement towards basing health policy development and advice on rigorous scientific evidence" (*Foreword*, Murray and Evans 2003). Indeed, it was under Brundtland's headship that WHO emerged as a vocal champion of evidence-for-policy approaches, and that it set up its first unit explicitly tasked with producing and disseminating evidence to guide global and national health policies. Today, demands to better link scientific proofs and politics have become ubiquitous.

In the field of global health, objective evidence is often presented as a prerequisite for a more rational approach to the global governance of health and diseases, as well for improving healthcare delivery especially in resource-poorer countries of the Global South. As such, demands for evidence are said to have grown in tandem with pressures to justify and monitor the success of international health programs with the help of statistical, epidemiological and economic methods, or even their a priori configuration as Randomised Controlled Trial (RCT) models of research-interventions (Nguyen 2008; Adams 2013; Storeng and Béhague 2014; Chabrol 2014; Fan and Uretsky 2017). At the same time, WHO and others have urged especially poorer countries to improve the use of evidence in national strategy and policy decisions (e.g. WHO 2000; WHO 2003; WHO 2012c).

Efforts in the name of 'evidence-based' or 'evidence-informed' practices and policies are thus far from homogenous, as I further discuss below. Still, most arguably share in the modern dream for objective knowledge of an external reality as a precondition for accountability, rationality and future predictability. The consequence has been a proliferation of rules and tools to produce, collate and present evidence that can attest to this reality and to transfer it to those tasked with making healthcare decision – in the hope that this evidence cuts through the messiness of the world, settle potential uncertainties about

the best course of action, and make those making healthcare decisions more accountable for whatever it is they decide.

But precisely why and how did demands for more evidence in global health emerge? What are the sort of concerns that drive demands for more evidence-based/-informed policies and practices? What is considered 'good' evidence to guide healthcare decision-making, and what are the evidentiary rules and tools to elicit this evidence? Can the quest for objective evidence indeed bring more order to our messy worlds and, importantly, what may be the implications and costs of trying? Finally, could we re-formulate the problems that evidence-based/-informed approaches are meant to address – and start thinking *with* rather than *against* the world's messiness – to foster possible alternative imaginations of what 'good' proofs may be and how they may link to politics? These are some of the questions at the heart of this thesis.

Global health and evidence(s)

More or less in parallel with the bourgeoning of calls for scientific evidence to undergird health practices and policies, the 1990s/2000s also saw the flourishing of another "obscure object" (Fassin 2012: 95). Over a similar period of time, 'global health' proliferated as a term used in academic publications, conferences, policy documents and university courses, as well as emerged as a field for study, research and practice for an ever-growing number of new actors, enterprises and initiatives. According to one popular (if contested, see below) definition, global health is a successor project to more country-focused endeavours in the name of public and international health, and emerged from a growing understanding that both health problems and their solutions increasingly exceed the boundaries of nation-states (Koplan *et al.* 2009). In other words, global health is made up of, and developed in response to, the increasingly transnational flow of people, pathogens, funds, and biomedical technologies.

In contrast to such rather propitious depictions, social science engagements with global health could be said to have been characterised by a weariness of overly enthusiastic promises of (a) global health, as well as a concern for how associated frameworks, programs and interventions (re-)shape the material

realities of those meant to benefit from them. Notably, much of this scholarship acknowledges the emergence and expansion of global health as a – albeit somewhat indistinct – field. What tend to be contested, however, are proclamations of global health as a field preordained by new challenges and opportunities. As such, analytical orientations often echo wider social scientific interrogations of triumphant modernisation and globalisation narratives that highlight how ideas of linear and homogenous betterment and progress are often shadowed by inequalities, betrayed hopes, cut off peoples and decline (for a highly selective reading, see e.g. Massey 1994; Ferguson, Inda, and Rosaldo 1999; Harvey 2000; Appadurai 2001; Larner and Walters 2004; Sparke 2006; Ferguson 2006; Vessuri 2015).

Social science scholarship on global health issues is both extensive and highly diverse, which is why I wish to limit myself to a brief discussion of two prominent, if frequently overlapping, bodies of literatures with relevance to this thesis: on the one hand, studies concerned with what can be broadly characterised as issues of global health governance; on the other hand, scholarship concerned with the effects of efforts pursued in the name of (a) global health on populations and individuals in Global South countries. In terms of the former, a bourgeoning number of studies have examined how global health is constituted and managed. Such studies have, for example, emphasised a decisive shift from international to global health as rooted in very specific historical and political contexts (e.g. Brown, Cueto, and Fee 2006) and associated with new assemblages of ideas, actors, and technologies (e.g. Ong and Collier 2005; Harmer 2011; Brown, Craddock, and Ingram 2012). A particular focus has been on the role of Global North-dominated international institutions and private and/or philanthropic actors – and their policies, concepts or new forms of reasoning – in governing and (re-)configuring global health spaces (e.g. Nguyen 2008; Brown and Bell 2008; Elbe 2010; Ingram 2010; Lakoff 2010; McGoey, Reiss, and Wahlberg 2011; Reubi 2013; Wahlberg and Rose 2015; Reubi 2017). Implicitly or explicitly, much of this scholarship could be said to have employed a broadly Foucauldian-inspired approach to highlight how particular knowledges, technologies and practices are implicated in the 'making' of global health and

how this, in turn, makes visible and is productive of distinctive problems, spaces, populations and subjectivities – while obscuring others. In other words, global health is argued to be less about new problems and their solutions, but about what Fassin (2012) argues are new 'problematizations', "[…] that is, new ways of describing and interpreting the world – and therefore transforming it" (Fassin 2012: 113).

While frequently overlapping, a second comprehensive body of, often anthropological, global health studies can be distinguished by its focus on the effects of increasingly globalised biomedical research and treatment/prevention endeavours on local health care structures and peoples. Usually based on empirical fieldwork in Global South contexts, these studies highlight how efforts to improve global health regularly disregard local realities and/or impact on them in ways that may be unintended but frequently adverse (e.g. Nichter 2008; Biehl 2008; Nguyen 2008; Petryna 2009; Lock and Nguyen 2010; Biehl and Petryna 2013; Crane 2013; Geissler 2015). As a consequence, or so it is often argued, global health initiatives and architectures may replicate and even reinforce existing worldwide asymmetries in health, wealth and power. To expose such asymmetries, scholars have proclaimed the need for more explicitly "critical" global health studies (Biehl and Petryna 2013: 1) that are grounded in anthropological fieldwork and can reveal the actual impacts of global health-associated initiatives on "real persons" and their "imperiled lives" (ibid: 2).

Much of this 'critical' scholarship is undoubtedly motivated by good intentions and concerns for social justice. Yet, as Clare Herrick (2017) points out, such 'critical' commitments to expose suffering and oppression have also come with their own blindspots, including a limited attention to global health spaces of flourishing, liveliness, and hope. Similarly, a number of recent anthropological studies of biomedicine in Africa have cautioned that narratives of biomedicine as a 'Western' hegemonic system pay too little attention to the expertise, commitment and creativity of African health professionals and researchers (Wendland 2010; Chandler *et al.* 2012; Crane 2013; Mika 2016). What these latter studies have aimed to highlight instead is the passion and care of those often at the forefront of implementing global health research and

treatment programs, even as they may frequently grapple with the tensions arising from healthcare needs that exceed the capacities of debilitated infrastructures, a rhetoric of international partnerships that obscures unequal collaborations, and global biomedical standards that may seem unsuited to socio-material conditions 'on the ground'. I will return to this point below when I lay out how I was prompted to re-consider my own initial 'critical' approach for this project. But first I want to briefly turn to the emergence of – and social science responses to – demands for evidence-based/-informed policy approaches in global health.

In the light of on-going concerns with the visibilities and invisibilities in and of global health, it is not surprising that recent years have seen a bourgeoning of studies concerned with the expansion and role of new 'evidentiary regimes' (Biehl 2016) in global health. A common narrative links these developments to the imperious rise of evidence-based medicine (EBM). In the late 1980s/early 1990s, a group of doctors and epidemiologists based at Canada's McMaster University began to vociferously demand the more widespread application of scientific evidence to guide clinical practice; today, EBM principles dominate the way clinical medicine is practiced, evaluated and taught in many parts of the world. Indeed, when calls for an 'evidence-based' global health proliferated from the mid-1990s onwards (Jensen 2017), proponents were quick to argue that such approaches were the 'natural' and common-sense extension of EBM to the policy arena (e.g. Murray and Evans 2003) – an assertion clearly aimed at legitimising the aims of and claims to 'objective' policymaking in the name of scientific progress. Conversely, social science critics often point to the links with EBM to denounce the progressive expansion of a new 'regime of truth' (Fan and Uretsky 2017) in global health, a regime that is said to re-configure global and national health policies and practices with often unintended and/or negative implications for local ways of knowing and doing health and healthcare (Adams 2013). I will return to these literatures in Chapter 1.

Critiquing evidentiary regimes

With the aim to contribute to these debates, I first initiated my research into evidence-for-policy approaches in global health in 2014. As a key gap in the

existing literature, I had identified a lack of attention to the specific empirically-grounded processes of how and why demands for global health evidence emerged. My aim was thus to trace the emergence of evidence-for-policy approaches at WHO as the starting point for a wider critique of the rise and impact of new evidentiary regimes in global health.

This desire to *critique* evidence-based/-informed approaches partly derived from my reading of the 'critical' global health literature. But it was also linked to my own career path. As a clinician by first training, I was a medical student in the early 2000s when EBM slowly found its way into German medical schools and clinical practice. At that time, the actual terms 'evidence-based medicine' or 'EBM' were not yet as commonplace in Germany as they are today. But during the practical stages of my training, I experienced how daily medical practice became increasingly shaped by what I perceived as an ungraspable mix of standardised guidelines and treatment flowcharts, paperwork, coding systems and 'case mix' considerations. With an ever-growing emphasis on standardisation and documentation, time and attention seemed increasingly diverted *away* from individual patients and their particular needs. In other words, I was among those clinicians who Timmermans and Berg (2003) describe as (needlessly, see Chapter 1) concerned with the progressive replacement of the situated ability to care with a 'cookbook medicine'. Once qualified, I decided to step away from clinical practice to instead pursue my growing interest in the politics of health and healthcare. After completing a degree course focused on the question of 'justice' in health and national and international healthcare structures, I worked as a researcher on a number of global health consultancy projects. Whereas these projects differed, they shared a critical perspective on existing conceptualisations of and governance frameworks for global health and how these may obscure and perpetuate existing inequalities that determine how and by whom global health is 'done' – with the understanding that many efforts in the name of 'global' health take place in the Global South but are shaped by institutions, researchers and funds from the Global North (cf. Crane 2013). These experiences undoubtedly influenced my initial research agenda for this project. Indeed, evidence-for-policy approaches in global

health appeared to be a perfect research object to explore the expansion of Western hegemony in the name of objective and value-free science.

Whereas I conducted my initial research on the emergence of evidence-based policy approaches at WHO in the context of a pre-PhD research (MRes) degree, this has also served as the starting to point for my PhD research project. Based on a research methodology that aimed to combine archival research, document analysis and ethnographic methods, this research was designed to study the politics and practices of evidence-informed health policy (EIHP), with an empirical focus on WHO's Evidence-Informed Policy Network (EVIPNet) and its fostering of EIHP efforts at its 'country node' in Uganda.

Based on this design, my initial research protocol comprised a number of questions, including: 1) what is EIHP and what are its key underlying assumptions, concerns, methods, rules and tools?; 2) what is the EVIPNet network, what are the expertises, frameworks, rules and tools, and evidence(s) that are meant to circulate along it, and what are the infrastructures that enable this circulation?; and 3) how are EIHP frameworks and their evidence(s) adopted/adapted in national/local contexts and to what effects? As noted above, based on these questions, I imagined producing a critique of WHO's promotion of EIHP. More specifically, I aimed to critically interrogate how the expansion of particular 'objective' methods and types of evidence are increasingly re-shaping the design of healthcare practices and policies.

Amid my growing engagement with the topic, however, I decided to adjust my research approach. I retained my original research aims and questions and the following chapters draw together key concerns, frameworks, methods and infrastructures that undergird EVIPNet efforts for the circulation of global research evidence on 'what works' and its translation into local policy decisions. But as my research progressed, a number of other additional questions and concerns emerged, which I shall briefly sketch in the remainder of this introduction. Many of these are directly linked to my own role as a storyteller and the question of what difference it makes how I approach EIHP as my object of study; or, put differently, how to account for the consequences

of my own knowledge practices. This has included a growing concern with the possible implications of *critiquing* EIHP.

The perils of critique

One of the first challenges I encountered arose from my own early research findings. These suggested that – at least at WHO – the emergence of evidence-for-policy approaches has been anything but linear and uncontested; and further, that these evidence-for-policy approaches did not emerge as a straightforward extension of the EBM movement. As Chapter 3 will argue, the set of practices first promoted as evidence-based policy (EBP) at WHO derived from efforts to map a 'global burden of disease' as evidence to set global and national policy priorities. As such, evidence-for-policy approaches at WHO emerged not simply as a result of the expansion of EBM's 'regime of truth' to the global health arena. Rather, EBP at WHO initially comprised a very particular set of concerns and tools that were closely linked to wider problematisations around a 'global health' and how it could be measured, mapped and managed.

Moreover, since the early-/mid-2000s onwards, WHO's evidence-for-policy approach has also significantly changed. In connection with the establishment of the Evidence-Informed Policy Network or EVIPNet, WHO began emphasising a more 'bottom up' evidence-for-policy approach. Expressed in a rhetorical shift from evidence-*based* to evidence-*informed* health policy (EIHP), this has involved encouraging countries to find high quality 'global' research evidence and appraise its applicability to local contexts (Hamid *et al.* 2005; WHO 2015). Conceived as a global-local 'social network' to build links between international and national EIHP/knowledge translation experts, researchers, policymakers and organisations, EVIPNet has specifically focused on fostering EIHP for health system strengthening in Global South countries. Co-founded and advised by a group of international evidence specialists closely associated with McMaster University, this shift towards EIHP has more recently led to a broader alignment with EBM in terms of concerns, rules and tools.

As these findings emerged in the early stages of my research, they raised a number of important questions. Are global health's new 'evidentiary regimes'

indeed as monolithic as they are frequently made out to be in the accounts of both proponents and critics? In how far was it going to matter if I chose to emphasise evidence-for-policy approaches as a hegemonic project or as a fairly contested terrain? How *could* I account for my own role in making things matter? And how was I going to decide how to assemble EIHP as my object of study? These questions and concerns gained further salience the more I engaged with existing scholarship on evidence and evidence-based approaches (see Chapter 1). But their significance made itself felt even more during my fieldwork at the EVIPNet country node in Uganda, as my own critical view of EIHP was confronted with the enthusiasm and commitment of Ugandan practitioners engaged in EIHP efforts.

EVIPNet's 'country node' in Uganda had emerged as a promising candidate for a case study on EIHP/knowledge translation efforts in practice for a number of reasons. Uganda's relative political stability over the past 30 years and its reputation as a 'donor darling' (Jones 2009) have contributed to the country's status as an important location for foreign-funded global health research and development programs (Crane 2013). Against this background, it also did not come as a surprise when a contact at EVIPNet singled out the Ugandan EVIPNet team at Makerere University's College of Health Sciences (MakCHS) as among the best-established and most active country arms of the network's Africa presence. Nevertheless, on my first of two fieldtrips to Uganda in January 2016, I struggled to find Uganda's EVIPNet team, as it occupied a single small office in the College's main building, which itself is a rather unassuming presence amidst Kampala's expansive Mulago Teaching Hospital complex. Space is notoriously short in supply at Mulago. Yet, it seemed telling that EVIPNet Uganda's set-up was so inconspicuous amongst the expansive hospital grounds and biomedical infrastructures, where outward appearances so clearly reflect the size of foreign interests and coffers.

Nestled into the Mulago Hills just North of the city centre, the Mulago complex is a sprawling and somewhat eclectic congregation of dusky clinical wards and laboratories, shiny new specialist research and treatment institutes, and crowded academic buildings. Founded in 1913, Mulago has been a key site for the advance of modern medicine in Uganda and, more recently, for

Uganda's growing integration into global health networks and collaborations. Traces of these lingering pasts and accelerated presents are visible everywhere – from the medical school library that still bears the name of Mulago's British missionary founder, to handwritten notes advertising the translation of consent forms into Luganda for the latest clinical trial, and the countless buildings, 4x4s and office doors bearing the emblems of international collaboration or partnerships. Indeed, just opposite the unimposing and somewhat bedraggled MakCHS building, the gleaming Infectious Disease Institute (IDI) was completed in 2002 as the first new building in 30 years with the help of a generous donation from Pfizer. In the same year, Johns Hopkins University had opened an imposing Family Care Centre across the street as the highpoint of its 20-year relationship with Makerere in the field of HIV research and care. And on top of Mulago Hill, a new US-funded three-story cancer research and treatment facility testifies to global health's growing attention to Non-Communicable Diseases.

In many ways, the contrast between these high-profile infrastructural projects and the small EVIPNet-associated EIHP/knowledge translation unit at MakCHS seemed illustrative of what critics have long argued to be global health's enduring focus on 'vertical' or disease-focused biomedical research and treatment initiatives at the expense of more holistic or 'systemic' support for resource-poor countries (Marchal *et al.* 2009; Hafner and Shiffman 2012; McCoy *et al.* 2013). As such, it also made it easy to appreciate the appeal of EIHP frameworks that promise to improve the translation of global health research findings into tangible local health benefits. Indeed, after only a few days of fieldwork, I had to acknowledge that my own rather critical views contrasted significantly with the enthusiasm for and commitment to EIHP among Ugandan EIHP experts/knowledge translators and policymakers.

As a consequence, this quickly put into doubt my project's original aim of critiquing EIHP. How could I justify such a strategy, if those who I had imagined to ultimately produce my critique for – Ugandan health professionals whom I had pre-conceived as at the receiving end of globalised and hegemonic evidentiary regimes – were in fact highly dedicated to fostering EIHP efforts in Uganda? Did my own expectation of critically exposing

suffering and oppression threaten to blind me to the concerns and achievements of these Ugandan health professionals, and to the hopes they invested in science? Would a framing of EIHP as a hegemonic 'evidentiary regime' imposed on Global South countries like Uganda not re-enact the same power imbalances that I had aimed to expose, and re-make narratives of a science-less Africa (cf. Verran 2001; Wendland 2010; Crane 2013)?

During two consecutive fieldwork trips to Uganda, I learned that all of Uganda's EVIPNet knowledge translators are highly trained medical doctors, researchers and public health specialists. Whereas most had undertaken at least parts of their training abroad, many were also explicit about their wish to work in Uganda and make a difference in their home country. For these researchers, fostering EIHP seemed to promise to harness science's potential to improve healthcare and health in Uganda, a country where access to healthcare remains highly uneven (WHO AFRO 2017). Furthermore, for many Ugandan EIHP/knowledge translation experts, their efforts were explicitly motivated by a desire to make more transparent, accountable and independent healthcare decision-making processes that they perceived as both capricious and vulnerable to external influences – not least to the priorities of foreign funders and donor organisations. And yet, Ugandan EIHP/knowledge translation efforts have also been faced by a plethora of challenges. This has included a struggle for sustainable funds to keep up these efforts. But also, or so I will argue, tangible tensions that emerge at the intersection of often conflicting demands for evidence that is both globally excellent and locally relevant.

Rather than critiquing EIHP as a hegemonic 'evidentiary regime' or debunking the desire for trustworthy scientific evidence, this thesis has thus been guided by a commitment to pay attention to what matters to these Ugandan EIHP/knowledge translation experts, while also examining the problematic questions articulated by demands to link scientific proofs and politics in practice. As such, my empirical engagements have prompted me to shift the focus of this thesis from what I had originally assumed Ugandan health professionals were struggling *against*, to an approach that hopes to, as Isabelle Stengers puts it, "add new dimensions to the issues they struggle *for*"

(2015: 142). In other words, this thesis works towards a new form of engagement with EIHP and the problems that it articulates, which may be generative of novel ways to conceive of the link between scientific proofs and politics. This is expressed in the aim of re-assembling EIHP as a matter of and for care.

A careful and generative critique

Whereas evidence-based/-informed approaches in global health have only recently achieved more sustained attention, the study of the making and circulation of (scientific) facts has long been a key focus in Science and Technology Studies (STS). This thesis builds on insights produced in this field, while also aiming to contribute to on-going debates concerning the theoretical and methodological challenges in the study of knowledge practices.

As such, I have drawn inspiration from a number of scholars, but especially Isabelle Stengers, Maria Puig de la Bellacasa and Helen Verran, whose work I identify with a shared commitment to knowledge not as a disinterested representation of a mute reality but knowledge-making as an active and always situated intervention in the on-going becoming of the world. In their diverging ways, all three scholars cultivate modes of engagement that avoid 'debunking' or 'deconstructing' others' knowledge claims in favour of generative accounts that carry with them the speculative (see Chapter 2) possibility for the co-existence of diverging knowledge practices. As such, each of their accounts points to a possible response to Bruno Latour's provocative claim that STS critique has "run out of steam" (Latour 2004b: 225).

There are multiple possible genealogies that could be traced to highlight the specific theoretical and methodological concerns that (each of) these scholars try and make resonate in their works. Chapter 1 (Literature Review) and Chapter 2 (Methodology) provide one such narrative, albeit one that is situated by my own concerns that, in turn, evolved through both my engagement with the empirical and with existing literatures on evidence and evidence-based practices. In short, thinking with Stengers, Puig de la Bellacasa and Verran as I grappled with EIHP as my object of study has

taught me that empirical inquiry, including my own, is a generative and never innocent world-making practice.

One of Isabelle Stengers' long-standing concerns has been to defend a conception of science that is neither totally realist (science reads off the one and only reality) nor totally constructivist (science invents reality). With a focus on experimental science, she insists on the need to at once defend the concerns and achievements of experimental sciences, and to reject the claim that any one science and its methods could provide privileged access to an 'objective' and discoverable reality. As such, she works towards the possibility of what she calls an 'ecology of practices' (Stengers 2005a), the peaceful co-existence of diverse knowledge-making practices each characterised by their diverging concerns, commitments and particular ways of paying attention to what comes (in-)to matter. Stengers' work has encouraged me to take seriously the concerns of EIHP advocates for trustworthy evidence, while staying alert to the consequences of their knowledge practices as they built on a modern conception of the world split into facts and values. As such, this thesis does not seek to denounce the appropriateness of key EIHP methods – such as RCTs or Systematic Reviews (see Chapter 4) – per se, or claim that they must fail to achieve what they set out to do. But it proposes that neither these methods nor the findings that they generate should be disassociated from the particular situation to which they seek to respond. In other words, I insist that the answer to the question of what the 'best' evidence is cannot be separated from the question of what this 'best' evidence is evidence for.

These insights have also shaped the way I conceive of my own evidentiary practices. By drawing together material from archival research, document analysis and fieldwork in Uganda, this thesis re-assembles EIHP as what Maria Puig de la Bellacasa calls a 'matter of care' (Puig de la Bellacasa 2011, 2017). Chapter 2 discusses this methodological orientation in detail. But in short, treating EIHP as a matter of – and for – care seeks to account for my non-innocent role in assembling EIHP as my object of study, my commitment to paying attention to what matters to those who support EIHP, and my speculative hope to carefully re-present EIHP in ways that may engender

alternative formulations of what 'good' evidence is and how it may come (in-)to matter.

Whereas being 'careful' involves an acknowledgement of the costs of a corrosive critique of EIHP, it also entails my insistence that it matters that Ugandan knowledge translators are caught between conflicting demands for evidence of global excellence and local relevance. In other words, it is precisely because my Ugandan interviewees care for EIHP and for a science that can make a difference that my treatment of EIHP as a matter of and for care also involves a *careful and generative* critique of currently dominant formulations of EIHP and a problematization of the demands they articulate.

As such, a central argument in this thesis is that presuming to *integrate* objective scientific evidence with subjective values and preferences in particular decision-making processes, EIHP approaches rely on and perpetuate modern dualist frameworks that separate the world into objective facts and subjective values, matter and meaning. A key consequence, or so I shall argue, is the proliferation – and expansion to other fields in the name of objectivity and rational decision-making – of scientific methods that promise global proofs of 'what works', at the same time that local contexts all-too-often remain conceived as problematic barriers to scientifically proven interventions. Based on my case study of EIHP efforts in Uganda, I problematize such conceptions and ask whether these EIHP approaches are indeed able to pay attention to the many concerns and questions that emerge with the situated dynamics of a policy problem. As noted above, this thesis therefore does not aim at a corrosive critique *against* evidence and EIHP, but at a careful and generative critique *for* the possibility to imagine alternative ways to conceive of the link between proofs and politics in global health.

I borrowed the notion of 'generative critique' from Helen Verran who describes this as an ethos of telling stories capable to

> "re-present the world in ways that are generative for the people and practices that the stories are about" (Winthereik and Verran 2012: 37).

My hope then is that this thesis may indeed be generative for those Ugandan EIHP experts/knowledge translators who have so generously offered me their time and insights – and whose commitment to and hopes for science have

been so generative for the kind of questions this thesis has been challenged to ask.

Assembly steps

Chapter 1 (Literature Review) and Chapter 2 (Methodology) serve to further situate this thesis by expanding on key literatures mentioned above, as well as my own concerns as they developed through my engagement with both this scholarship and the empirical material. Through a 'diffractive' reading of a range of existing social science literatures, Chapter 1 seeks to tease out new insights and questions related to evidence and evidence-based practices. A first section centres on the concept of a 'gold standard', a notion I argue to be key in debates about both perceived strengths and faults of evidence-based healthcare. Experimenting with what it might mean to treat EIHP as a new standardisation practice, I ask what the consequences of such an approach might be, what questions it would allow to ask, but also what such an approach might fail to take into account. This is further elaborated in a second section, which discusses STS efforts aimed at emphasising the emergent and contingent character of entities and worlds, but which I also suggest pose new questions about both the specificity and constraints of how scientific practices and methods bring (a) world(s) into being. Chapter 2 describes the range of materials and methods I have drawn on and elaborates how I developed my methodological approach in dialogue with topical theoretical/conceptual debates within Science and Technology Studies (STS). Narrated through an account of a series of challenges and moments of crisis in my project, this chapter seeks to illustrate the iterative process of developing my methodology as I sought to learn from/with the situation(s) at hand, in parallel to learning from and experimenting with the theoretical/conceptual tools available in the social science literatures.

Chapter 3 traces the emergence and transformations of evidence-for-policy approaches at WHO, with a specific focus on what I highlight as the shift from evidence-*based* (EBP) to evidence-*informed* health policy (EIHP) associated with the establishment of WHO's Evidence-Informed Policy Network EVIPNet in the early/mid-2000s. By accentuating these shifting and even competing conceptualizations of evidence-for-policy, this chapter seeks to challenge

narratives of one coherent 'evidentiary regime' in global health. As such, it also reiterates that it matters how we engage with what we seek to study: emphasising the 'liveliness' and contingency of evidence-for-policy approaches, I suggest, may contribute to opening up a space for further re-formulations.

Chapter 4 discusses in more detail some of the central tenants of 'global' EIHP/knowledge translation frameworks promoted through WHO and EVIPNet. It shows that these EIHP frameworks have indeed adapted key evidentiary rules and tools from evidence-based medicine (EBM). As such, these EIHP frameworks centre on the circulation of global research evidence on the effects of targeted policy options/intervention, and its integration with judgments, values and preferences to enable context-sensitive decisions. Whereas this chapter seeks to acknowledge the involved concerns for trustworthy evidence, it also points to the problematic questions that are articulated as these frameworks' demand to separate objective evidence from subjective values and preferences.

Chapter 5 describes how EIHP efforts materialized at the EVIPNet 'country node' in Uganda. I show how the set-up of this node at Makerere University's College of Health Sciences was enabled through an EVIPNet-associated international research project aimed at plugging the Ugandan 'know-do gap', the perceived gap between existing research findings and their uptake in policymaking. But this chapter also highlights that Ugandan evidence-to-policy efforts in fact reach back much further and even predate EVIPNet. In tracing these efforts, I argue that, in Uganda, ambitions to better link proofs and politics have emerged in response to a whole range of entangled concerns – concerns that far exceed the problem as articulated by the notion of a 'know-do gap' and the demand for the 'best' global evidence that is so key to global EIHP/knowledge translation toolkits.

Chapter 6 examines in more detail the practice of 'knowledge translation' for evidence-informed policymaking (EIHP) at the Ugandan EVIPNet 'country node'. Focussing on the production of a so-called Policy Brief, I point to the limitations of the simple EIHP formula of integrating the best 'global' research evidence on 'what works' with 'local' evidence on modifying factors, and with

stakeholder values and opinions. I highlight that, in practice, this formula induces a whole number of tensions and challenges, especially for Ugandan knowledge translators tasked with articulating ‘objective’ facts with the situated concerns of Ugandan policymakers.

The concluding Chapter 7 summarises and reviews key findings from previous chapters, before proposing to re-conceptualise evidence-making as a situated and contingent achievement as the basis for a re-imagination of the link between proofs and politics.

Chapter 1: Gold Standards & Difference

In recent years, social science scholarship on the politics and practices of evidence-based healthcare approaches has bourgeoned. The chapter is divided into two sections. The first section takes as its starting point the notion of a 'gold standard' as a term that has become inextricably linked to ideas of an evidence-based healthcare. On the one hand, proponents have promulgated both evidence-based medicine (EBM) and evidence-informed health policy (EIHP) as new and systematic approaches to decision-making based on a series of distinct 'gold-standard' methods and procedures for the production, synthesis, evaluation and integration of the 'best' scientific research evidence. On the other hand, such claims to 'gold-standardness' have also been a key target for critics concerned with the expansion of new 'evidentiary regimes' across geographical and disciplinary boundaries and their negative impact on healthcare delivery systems. Experimenting with what it might mean to treat EIHP as a new standardisation practice, I ask what the consequences of such an approach might be, what questions it might allow to ask, but also what such an approach might fail to take into account.

This is further elaborated in the second section of this chapter. Linked to critiques of earlier Actor-Network Theory (ANT) studies, I suggest that more recent efforts in Science and Technology Studies (STS) have aimed to study scientific practices in ways that can better account for – or even (analytically) engender – difference. I point to the notion of 'enactment' as a key analytical tool that has been used to highlight the emergent and contingent character of entities and worlds, but that also poses new questions about both the specificity and constraints of how scientific practices bring (a) world(s) into being.

It should be noted that my – or indeed any – engagement with the work of other scholars necessarily condenses and abstracts from what are in fact a plethora of concerns, research objects and approaches. As such, this chapter does neither aim nor claim to deliver a neutral synthesis and review of the literature on evidence-based healthcare. It rather engages in a form of "diffractive reading", described by Karan Barad (2007: 200; but borrowing the concept of diffraction from Donna Haraway 1997) as the conscious reading of

different literatures through each other to tease out new insights. In the sense that I consider the process of deciding on, combing through and thinking with relevant literatures as usually diffractive, never disinterested, and always partial, my use of this term does not aim to signpost a particularly innovative way of engaging with the literature. Nonetheless, it does serve to deliberately distinguish my aim from those who proclaim the primary aim of literature reviews to be that of eradication and subtraction (see Chapter 4). In contrast, my mode of engagement has been guided by the motivation to think with the work of other scholars in order to generate new relevant questions about what is at stake in the debates about evidence-based/-informed healthcare practices and policies.

Gold standards

As noted above, this section takes as its starting point the idea of a 'gold standard'. Understood as a benchmark against which everything else should be measured (Timmermans and Berg 2003) or a recognised paragon of quality, within the health field the notion of a 'gold standard' has become inextricably linked to ideas of an evidence-based healthcare. Indeed, a simple search in Pubmed, the US National Library of Medicine's database and a key biomedical evidence source, returns more than 50.000 articles that include the term "gold standard", with the number of publications rapidly increasing after 1992. Conceivably not by chance, 1992 was also the year that an article in a US medical journal proclaimed evidence-based medicine (EBM) as a new 'paradigm' to link science and medical practice (EBM Working Group 1992). Indeed, the insistence on gold standard rules and tools for eliciting the highest quality scientific evidence has undergirded the EBM paradigm, as well as later efforts in the name of evidence-informed health policy (EIHP). But it has also become a primary target for social science critiques.

The Pubmed search also shows that the gold-standard label has been applied to a whole range of evidence-related 'things'. When EBM was first pronounced, its originators declared Randomized Controlled Trials (RCTs) and Systematic Reviews as the "gold standard" methodologies to elicit the 'best' evidence on the effects of biomedical interventions (Sackett 1996: 72). With some modifications, these methodologies continue to be perceived as

gold standards to elicit the most "trustworthy" evidence in EBM (Djulbegovic and Guyatt 2017: 416), and play a key role in global EIHP frameworks as sources of high quality 'global' evidence on solutions to policy problems (Lavis *et al.* 2006; Lavis *et al.* 2009; STP5; SURE 2010a; see Chapter 4). But furthermore, the gold standard label has also been applied to particular interventions, procedures or protocols (Sackett *et al.* 2000), or even to the evidentiary 'paradigms' themselves. Wikipedia, for example – although admittedly a much more contested evidentiary source – refers to EBM as the "gold standard of clinical practice" (Wikipedia 2018, *online resource*).

The boundaries between these gold-standardly things are necessarily fluid, considering that in many cases an intervention may be considered the gold standard precisely because it has been shown to 'work' in a (series of) RCTs. Nonetheless, in the first part of this chapter I shall retain this three-fold distinction – between gold-standardly methods, interventions, and 'paradigms' – as a way to organise the social scientific literature. This allows discerning specific concerns of social scientists in relation to each of these gold-standardly 'things'. At the same time it serves to highlight what I argue to be a cross-cutting concern in these literatures, namely the perceived expansion of evidentiary gold standards in health across geographic and disciplinary boundaries.

Gold-standard experiments

As a distinct experimental approach to test the efficacy of treatments, RCTs became a key feature of institutionalised medical sciences in the US and the UK in the second half of the 20th century (Marks 2000a). Based on the random division of trial participants into treatment/intervention and control groups, RCTs are key methodologies to test pharmaceuticals, but have also been increasingly used to study a wider range of interventions, including more complex policy interventions[1]. When EBM emerged as a self-proclaimed paradigm in the early 1990s, its originators placed RCTs at the pinnacle of 'best' evidence hierarchies to guide clinical decision-making (e.g. Sackett

[1] They have also become increasingly popular in other areas, including education (Hammersley 2001) and for the evaluation of 'what works' in international aid programs (Lancet 2004; for critiques see e.g. Deaton 2010; Donovan 2018).

1989; Sackett 1996; Djulbegovic and Guyatt 2017). And yet, the increasing consolidation of the gold-standard status of RCTs has also been accompanied by growing criticism.

As Will and Moreira (2010) point out, much critique about RCT methodologies emerged from within the trial and medical communities themselves, often linked to concerns with biases in the reporting or interpretation of trial results (cf. Chapter 4). But concerns with RCTs and its gold-standard status have also been raised from a variety of other disciplines. Rather than a comprehensive review, I want to briefly point to two of the most prominent sets of critiques, aimed at RCTs epistemological foundations and at their perceived increasing hegemony. In terms of the former, philosophers of science have offered sustained critiques of the methodological gold standard status of RCTs. On the one hand, scholars have rejected proponents' claims that techniques such as the randomization of trial participants can eliminate all biases and prove the 'true' effects of interventions (Worrall 2007; Cartwright 2007). On the other hand, these scholars have also challenged the epistemological basis for claims that RCT results can travel beyond the experimental situation and be generalized to 'real world' populations and contexts (Cartwright 2008, 2011, 2013; Worrall 2010). These are important critiques that I will return to in Chapter 4. For now, it suffices to say that they have arguably done little to unsettle the status of RCTs as gold standard experimental methods that undergird EBM proponents' self-proclaimed "pursuit of truth" (Djulbegovic and Guyatt 2017: 416). But nor have such critiques of the science behind evidentiary claims had much import on social science critiques of evidentiary gold standards.

Indeed, a key contentions of this chapter is that whereas the 'pursuit of truth' in the name of science has undergirded many of the claims and aims of both EBM and EIHP efforts at WHO, much empirical social science scholarship has arguably eschewed debates about evidentiary epistemologies – or chosen to remain 'agnostic' about formal epistemological claims (cf. Montgomery *et al.* 2017). In some ways, this may be unsurprising, considering that the insistence on the 'best' scientific methods to produce objective, rational, and value-free evidence is often seen as entirely out-of-synch with

the ‘post-positivist’ credo said to be widespread in the humanities and critical social sciences (Goldenberg 2006; Greenhalgh, Howick and Maskrey 2014). As such, much scholarship in anthropology and Science and Technology Studies (STS), for example, has arguably either categorically rejected the perceived expansion of evidentiary gold standards and/or focused on the actual and situated instantiations of particular gold standards and their effects as they are expanded to other fields and locales. I will further elaborate on these strategies – and on the questions they raise – below.

In regards to social science engagements with RCTs, this has included a bourgeoning body of literature concerned with the increasing globalisation of experimental trial methodologies to Global South contexts. Anthropological work, by Petryna (2006; 2009) and Biehl (2013), for example, has detailed the impact of ‘off-shored’ pharmaceutical RCTs on already disadvantaged communities and strained national healthcare systems, especially where these are conducted by pharmaceutical companies striving for new research subjects and consumers for their biomedical products. Other scholars have pointed to the growing uptake of RCT methodologies in global health, arguing that as treatment and research aims increasingly intertwine, new research standards fundamentally transform local healthcare infrastructures, protocols and therapeutic relationships (Nguyen 2008; Adams 2013; Crane 2013). What these studies share is a focus on the tensions that emerge ‘on the ground’ as trials may bring opportunities – such as access to life-saving treatments or international research networks – yet also profoundly impact on existing research and treatment structures. But moreover, these studies could also be said to treat RCTs as a standard that is part of a much wider and increasingly globalised system for the governance of (biomedical) knowledge production.

Gold standard governance tools

Results of what is often referred to as the first modern medical RCT were published in 1948 in the *British Medical Journal* (BMJ) (Randall 1999). Conducted by the UK *Medical Research Council* (MRC), the trial’s primary purpose was to assess the effect of Streptomycin in the treatment of pulmonary tuberculosis (MRC 1948). But it had considerable political salience as well. At the time, TB was considered a key public health concern in the UK,

yet Streptomycin was only produced in sufficient quantities in the US and subject to rigid export controls. As a result, public pressure was high to make the drug more widely available – despite what many physicians held to be inconclusive evidence of its benefits (Randal 1999). From early on, RCTs were thus assigned a role much beyond that of a gold standard research methodology, as they offered the promise of at once straddling and keeping apart science and politics.

From the 1960s onwards, the number of RCTs conducted in the UK and the US quickly increased. In the UK, the then-director of the MRC's *Epidemiology Unit* Archie Cochrane advocated the use of RCTs to evaluate all treatments supplied through the UK National Health Service (Cochrane 1972). In the US, the Thalidomide scandal catalysed a number of law changes that made the provision of RCT evidence a pre-condition for the regulatory approval of drugs from 1962 onwards (Timmermans and Berg 2003). When EBM originators placed RCTs at the top of their evidence hierarchies, the purpose of RCTs arguably expanded from pharmaceutical and administrative regulation to bedside decision-making, from drug testing to the evaluation of therapeutic interventions, and from a monitoring standard to a normative standard that promised to ensure the best clinical care. As such, RCTs have been key to their proponents' claims that EBM allows the application of science to clinical practice and make decision-making more "rational" (e.g. Djulbegovic, Guyatt and Ashcroft 2009: 166; Djulbegovic and Guyatt 2017: 419; see Chapter 4). In turn, EBM proponents have attributed the success of EBM precisely to its ability to integrate scientific evidence into clinical practice (Djulbegovic and Guyatt 2017).

In contrast, social scientists often highlight the more mundane reason for the undisputable success and of evidence-based approaches and their methods. As such, scholars have, for example, linked the increasing prominence RCTs in post-war US and UK contexts to its role in a much wider shift towards more uniformity and regulatory order. According to Porter (2000) and Bothwell *et al.* (2016), the success of RCTs can primarily explained by its role as a regulatory standard, driven primarily by drug regulatory authorities aiming for a more streamlined regulatory decision-making process. Similarly, Marks

assigns the success of RCTs to their ability to reconcile the interests of a whole range of stakeholders, not just regulators, researchers, doctors and pharmaceutical companies, but also patients and the public more broadly (Marks 2000a, 2000b). What these accounts could thus be said to share is that they are primarily interested in what Marks calls the "social meaning" of RCTs (Marks 2000b: 345), as well as their political role. In other words, they are less concerned with the scientific claims that undergird the RCT gold standard status, but instead with their role as standardised governance tools that allow mediating between a range of social actors and interests in the name of consensus, efficiency and order. Similarly, in their study of EBM as the new gold standard in healthcare, Timmermans and Berg (2003) argue that EBM's success has largely been due to very practical reasons, such as presenting the medical profession with an opportunity to maintain their professional authority and governments, and insurers with an opportunity for more control of primary care and its costs.

In more recent years, social scientists have become increasingly concerned with a perceived expansion of particular 'evidentiary regimes' (Biehl 2016) or a 'regime of truth' (Fan and Uretsky 2017) to the field of global health. In a field traditionally dominated by anthropologists, an ever-growing body of empirical studies has thus focused on particular instantiations of evidentiary standards across a variety of settings (see below). Much less attention, however, has been paid to how or why such 'evidentiary regimes' proliferate in Global South contexts. More often, such regimes are primarily treated as an expansion of a set of EBM rules and tools disseminated via Global North-dominated global health infrastructures. Adams, for example, warns of an "epistemic transformation" (2013: 54) of the global health field due to the impact of EBM, causing a move away from situated care-giving towards the management of experimental populations. Storeng and Béhague (2014), on the other hand, suggest that the diffusion of EBM to the field of global health contributes to the "homogenization and technocratic narrowing" (2014: 262) of a global health field increasingly constructed around audit procedures. On both accounts, these developments are thus framed as the expansion of – either scientized or pseudo-scientific audit – standardisation regimes that are

diffused to, or even imposed on, Global South countries. Moreover, both critique the expansion of such regimes for their increasing hegemony, as well as their "homogenising forces" (Storeng and Béhague 2014: 264) and failure to pay attention to "particularity" (Adams 2013: 86) and "vast differences and contexts" (ibid.: 61).

Whereas such accounts are valuable in highlighting wider shifts in the global health field, they arguably also risk re-making the stability and coherence of evidence-based approaches while making divergence, frictions, gaps and contradictions invisible. Further, by automatically linking these developments to the expansion of EBM, such critiques may pay too little attention to the specificity of what 'evidence' actually is, who produces it, how it emerges, and how it travels. Lastly, by (often implicitly) suggesting that 'evidentiary regimes' are primarily diffused through Global North-dominated global health infrastructures, such critiques also risk paying too little attention to the expertise of Global South health professionals and their role in practicing, promoting and fostering evidence-based approaches. I return to the questions this raises below.

Gold-standard standards

The arguably largest, most diverse, and most rapidly growing body of literature I want to discuss comprises studies that have focused on evidence itself as it is circulated as standardised biomedical knowledge in the form of drugs, guidelines and disease models. As Fan and Uretsky (2016) note, as a new 'regime of truth' is perceived to take hold in global health, anthropological studies have become increasingly concerned with the questions of "who is setting the standards for measuring health and how these forms of knowledge circulate" (ibid.: 157). The mounting number of studies concerned with the global flow of knowledge and standards has undoubtedly been further fuelled by the growing engagement of Science and Technology Studies (STS) scholars in global health, as well as the uptake of STS ideas and concepts among critical global health scholars (cf. Montgomery *et al.* 2017). Before introducing some of these studies, I shall therefore briefly summarise some key STS scholarship on the production and dispersion of standards and standardised scientific objects.

Standards and networks

In contrast to accounts that treat standards as regulative or authoritative tools (e.g. including some of the scholarship mentioned above, but also more specifically e.g. Jacobsson and Brunsson 2002; Ritzer 2011; Ponte, Gibbon, and Vestergaard 2011), the study of standards in STS could be said to have been mainly concerned with their role in the coordination of (scientific) knowledge and management of difference across distinct social worlds. In other words, a key focus has been on what standards actually do in practice. As such, seminal work – such as Star and Griesemer's (1989) concept of 'boundary objects', Fujimura's (1992) notion of 'standardized packages', and Bowker and Star's (1999) account of classification systems – studied both how standards are designed to coordinate and manage heterogeneity, but also how standards actively co-construct and re-define difference. In other words, rather than as passive tools or intermediates, standards are conceived as having (often unanticipated) world-building capacities. Bowker and Star's (1999) study of WHO's International Classification of Diseases (ICD), for example, purports to show that standardised disease classifications automatically make some things visible while obscuring others, with often far-reaching consequences for how healthcare is managed. As a seminal study that examined how EBM standards impact on clinical practices, I will discuss Timmermans and Berg's *The Gold Standard* (2003) in more detail below.

Based on shared concerns for the role of immutable (scientific) objects in the coordination and diffusion of knowledge and ordering of the world, there have also been productive exchanges between STS scholarship on standards and especially earlier constructivist accounts of scientific knowledge production under the name of Actor-Network Theory (ANT). Indeed, both sets of studies could be said to have grown out of similar aims, namely to explain the successful construction and coordination of scientific knowledge without recourse to 'nature' as the explanatory frame (Fujimura 1992). As such, for both sets of studies a key (initial) goal was to describe how scientific knowledge flows between different actors yet "retains its integrity across time, space and local contingencies", as Star and Griesemer (1989: 387) put it.

ANT is usually proposed as a versatile method or even sensibility, rather than a prescriptive theory with standardised elements (e.g. Latour 1991; Callon 1999a; Latour 2005; Mol 2010). Nonetheless, especially earlier ANT studies shared certain features, including the 'following' of scientific actors and tracing of their network-building and boundary-setting activities, the assumption of non-human agency, and a focus on empirical descriptions rather than explanations. The result has been a great number of studies that tracked a variety of scientists – from Latour's triumphant Pasteur (Latour 1983, 1993) to Callon's scallop-protecting biologists (Callon 1986) – to produce detailed empirical descriptions of the material-semiotic work involved in constructing and disseminating scientific knowledge.

For many early ANT studies, it was the laboratory that served as a privileged place of knowledge production from where new newly constructed facts were transported into the world in the form of scientific objects and along ever-growing networks of heterogeneous actors (Latour and Woolgar 1986; Latour 1987). These studies proposed that, by traveling from the laboratory into the world, scientific objects could tie together different (human and non-human) actors and localities. While the network metaphor thus accounted for the complex spatial arrangements that materialised through the interaction of these different actors, scientific certainty and universality were argued to emerge as the achievements of the work and practices of these actors. As part of this, the stabilisation and diffusion of scientific facts was argued to depend on their 'inscription' in standardised objects such as graphs and tables. According to Bruno Latour, such 'immutable mobiles' (Latour 1987: 227) – mobile entities that remain unchanged as they traverse different contexts and spaces – were key to transport, generalise and stabilise knowledge by allowing for the articulation of ever-longer networks. At the same time, and partly because they contributed to the linking of different actors and the building of networks, immutable mobiles were also argued to become actors themselves, with the ability to actively contribute to the crystallisation of material realities (Latour 1987). As such, ANT studies aimed to show that rather than being representations of an objective and discoverable reality, scientific facts are constructed through situated socio-

material practices. As Latour (1987) put it, the question was thus no longer whether scientific facts were true or not, but how well they were made, how well they travelled, and what they did. As such, actor-networks served as a powerful methodological tool undergirding constructivist accounts of the world.

As already mentioned above, despite (often explicitly argued, see e.g. Star 1991; Fujimura 1992) differences between STS work on standards and ANT approaches, both sets of literatures thus shared a number of significant concerns. As such, and in turn, both continue to significantly inform (STS-informed) social science scholarship on the circulation of knowledge, including several studies aimed at analysing the role of particular evidence-based standards in coordinating and shaping healthcare practice.

One of the most wide-ranging and influential of these studies has been Timmermans and Berg's *The Gold Standard* (2003), which aims to examine how EBM has reshaped clinical practice in US/European contexts. Whereas *The Gold Standard* purports to study EBM as 'movement' more broadly, Timmermans and Berg largely focus on a number of particular EBM standards. Indeed, it could be said that this reflects their overall analytical strategy, to precisely not focus on where medical standards come from but where they go: what is being standardised, by whom and how, how medical standards link different actors together, and the impact standards have on medical practice. As such, Timmermans and Berg largely bracket concerns about the epistemological underpinnings of RCTs or scientific evidence more widely. In an effort to avoid "enlightened master narratives" that link EBM's success to the validity of its scientific claims (ibid: 8), Timmermans and Berg argue that this success has been contingent on very practical reasons, including the ability of EBM standards to coordinate practices across time and space (ibid.: 56). Consequently, Timmermans and Berg's study primarily focuses on how research results are formulated into standardised evidence-based guidelines and protocols, how they circulate, and on the profound effects that such standardisation efforts have on clinical practice. In terms of the latter, Timmermans and Berg's key aim is to show that EBM standards in fact create particularity and difference as they are implemented and adapted in particular contexts. This leads them to argue that despite EBM's focus on

standards – and in contrast to concerns of its critics – it does not automatically lead to the "McDonaldization of medicine" (Timmermans and Berg 2003: 216).

Subverting the gold standard

In many ways, Timmermans and Berg's argument follows what has become a key trope in ANT and STS studies more broadly, namely that even where "norms have been set, 'normalization' does not automatically follow" (Mol 2010: 262–263). Indeed, whereas I suggested that much of the above-mentioned scholarship on RCTs and evidence-based global health has been concerned with how these gold standards impose new rules and orders, a key achievement of STS- or ANT-inspired approaches, like that of Timmermans and Berg, is that they highlight the contingency of standardisation processes in healthcare. Not only does it require a lot of effort to make particular standards travel and work. But moreover, gold standards in healthcare may entail new norms that threaten the curtailing and homogenising of practices – when implemented, however, they may actually engender novelty and difference, not least as attempts to standardise healthcare is often met by fierce resistance.

A classic example of such a subversion of biomedical gold standards is Epstein's (1995) work on the role of US AIDS activists in challenging the standards of evidence-making in HIV research in the 1980s. Similarly, a number of US/European-based STS studies have shown how those affected by particular diseases increasingly claim a stake in the debates of what counts as valid evidence to guide the management of their conditions (Callon 1999b; Callon and Rabeharisoa 2008; Epstein 2008; Laurent 2011; Akrich 2009; Rabeharisoa, Moreira, and Akrich 2014). In other words, whereas above-mentioned critiques of evidentiary regimes tend to emphasise their hegemonic and homogenising forces, much STS scholarship could be said to instead emphasise how demands for evidentiary standards may in fact democratise science and engender difference.

Nevertheless, STS-influenced studies focused on the globalisation of biomedical evidence standards have arguably remained concerned with how these standards collide with and negatively impact healthcare practices 'on the ground'. Often based on ethnographic fieldwork conducted in Global

South countries, such studies regularly focus on the instantiation of such standards in local contexts, and how they are adapted – or indeed fail. Lakoff (2005), for example, shows how 'global' evidence-based diagnostic and treatment standards for psychotherapy were met with resistance by Argentinian doctors unwilling to subscribe to the underlying biomedical disease model. Similarly, Chandler and colleagues (2012) describe the mismatch between global evidence-based diagnostic standards for malaria and the much more nuanced triage approach of Cameroonian clinicians. Arguably in a similar fashion, a number of other studies have aimed to highlight how Global South healthcare practitioners struggle to reconcile the demands posed by global evidentiary rules and standards with demands posed by their local realities (e.g. Uretsky 2016; Lorway 2017). In other words, in contrast to Timmermans and Berg's focus on the successful diffusion of EBM standards in US/Europe and the engendering of difference, much scholarship focused on the global flow of evidentiary healthcare standards could be said to continue to emphasise the contestations and frictions caused by such evidentiary standards – often to explicitly challenge what are perceived as science's universalist aims and claims.

I further tease out below the tensions between conceptualising evidentiary approaches as processes of closing down or opening up of opportunities to imagine and intervene with the world. Before doing so, I want to briefly summarise key points in the literature that I have so far introduced, and discuss some of questions these literatures raised at the beginning of my project in regard to my own approach to the study of evidence-informed health policy (EIHP) promoted through WHO's EVIPNet network.

EVIPNet and EIHP – gold standards traveling along networks?

In the first part of this chapter I sketched different bodies of literature that have critically examined 'evidence-based' approaches to healthcare, not only in US/European contexts but also their perceived expansion across disciplinary and geographic boundaries. My starting point was the notion of a 'gold-standard', which I argued has been used by both proponents and critics to refer to RCTs as the benchmark methodology to produce evidence; to EBM and evidence-based/informed health policy approaches as increasingly

pervasive ‘paradigms’ or ‘evidentiary regimes’; and to evidence itself as it circulated in the form of evidence-based standards to guide healthcare decisions and practices.

Bearing in mind the risks that come with such a coarse-grained way of classifying diverse bodies of scholarship, I want to propose that the above highlighted three broad analytical orientations in the literature. First, scholarship that associates the rise of evidence-based paradigms and/or their gold-standardly rules and tools with new governance logics in the name of new ‘evidentiary regimes’, standardisation movements and/or regulatory structures. Second, empirical (often anthropological) scholarship focused on the negative impact of the imposition of such regimes and/or their rules and tools in global health, and their effects on local healthcare structures, practices and populations. And third, STS-influenced scholarship concerned with the circulation of evidentiary standards and how they become adapted, resisted and/or subverted in situated local practices. As such, these accounts could be said to share a concern for the expansion of evidentiary gold standards across disciplinary or geographic boundaries. A key tension, however, is between studies that emphasise the hegemony of ‘evidentiary regimes’ and their tools and their homogenising power, on the one hand; and, on the other hand, studies that instead emphasise situated instances of and possibilities for adaption, subversion, resistance and difference in practice.

I aim to further tease out this tension in the next section. But before, I want to highlight a number of questions that my ‘diffractive reading’ (Barad 2007) of these literatures raised at the beginning of this project in regard to my own theoretical and methodological approach. Should I, for example, treat EIHP as part of a new evidentiary regime promoted through the WHO and disseminated to Global South countries? Or should I – similar to Timmermans and Berg’s study of EBM – focus on EIHP in global health as a set of standardisation practices aimed at streamlining health policymaking? Indeed, the conception of EVIPNet as a network to allow the circulation of knowledge and expertise seemed to lend itself to an approach that could trace this network to ‘follow’ the flow of evidentiary standards (such as evidentiary rules and tools or a particular guideline) from the ‘global’ level at WHO to a ‘local’

context of their application or implementation. At the same time, however, both of these options seemed to raise a number of problematic questions. As noted in the Introduction to this thesis, my own initial research had already suggested that 'evidentiary regimes' in global health may not be as uniform and coherent as both proponents and many critics seemed to imply. Furthermore, would a strategy that followed the assumption that evidence-for-policy approaches emerged in the Global North and are expanded to Global South countries not in fact rehearse centre-periphery models of the diffusion of science (see also below)?

Equally disconcertingly, Timmermans and Berg's analysis of what EBM standards do (or not do) seemed to mirror *too well* what both EBM and EIHP architects propose that their approaches should (or should not) achieve. Key EBM architects recently reiterated that – even though it comprises a set of standardised rules and tools – EBM does not in fact aim to standardise practices as it integrates scientific evidence with situated judgements, values and preferences (Djulbegovic and Guyatt 2017). Similarly, EIHP frameworks centre on set of standardised rules and methods to facilitate the circulation of global research evidence on intervention effects; but these frameworks, too, insist on the need for global evidence to be adapted – or 'contextualised' – for local settings. But if both proponents and analysts of evidence-for-policy/practice approaches converge in their proposals that a proliferation of evidentiary rules and standards will/should not lead to a homogenisation of actual practices and worlds, what are the consequences for social science analyses? Indeed, there seemed to be significant overlaps between key analytical concepts used in STS to describe the production and diffusion of knowledge, and terms and ideas used EIHP frameworks. This includes the network metaphor. But also notions such as 'translation', which is not only a key ANT term but also used in the EIHP literature – in both cases denoting processes that allow the transfer of research findings 'out of the laboratory' and across different geographies, scales and disciplinary boundaries. How could I deal with this apparent confluence of vocabularies and metaphors, of self-descriptive terms and analytical concepts? What would an account of EVIPNet dissemination infrastructures and Ugandan adoption/adaption efforts

add, in order to eschew the risk that my analysis may become "reduced to restatement, to repetition, to generating reflexive modernity's 'doubles'", as Annelise Riles (2000: 5) put it[2].

Escaping this threat seemed to demand an answer to the question: does it not *matter* that specific evidentiary rules, methods and standards not only expand to other disciplines, practices and locales, but also that they do so in the name of scientific objectivity, progress and rationality? After all, is a constituent assertion of EIHP (and EBM) not precisely that certain evidentiary rules and methods – and resulting evidence-based findings – *should* travel in the name of science? Conversely, would an analytical focus on the resistance, adaption, subversion or failure of evidentiary rules and tools in practice not risk denying that there is indeed anything special about science – and, as a consequence, refute the hopes and commitments of 'local' practitioners, like the Ugandan evidence-for-policy experts I interviewed for this project? Would the opposition to such scientific claims not close down opportunities for a constructive dialogue with EIHP proponents that might carry hopes for alternative formulations?

These are some of the questions that emerged at the beginning of my project and that have shaped my own approach to EIHP as an object of study, as I further discuss in Chapter 2. In the reminder of this chapter, however, I want to further elaborate on some of the tensions highlighted in the previous section, with a more specific focus on how these have been dealt with in STS. Starting from critiques of earlier ANT studies and their emphasis on stability, I briefly discuss STS engagements with the question of difference in science/medicine, and conclude by pointing out why this issue has particular salience in regards to my own research project.

Difference

As suggested in the previous section, in STS, descriptions of actor-networks emerged as a powerful methodological tool undergirding constructivist

[2] As Riles notes, the ubiquity of some concepts or imaginations such as the network metaphor pose distinct analytical challenges: when people already understand themselves as part of a network, "discovering a network can no longer evoke the surprise of uncovering a hidden analytical truth" (Riles 2000: 4).

accounts of the world. I proposed that a key concern in early ANT studies was to show how scientific facts are stabilized and made durable through ever-growing networks of heterogeneous actors. In other words, a key underlying claim was that the more extensive the network and the more (and more heterogeneous) actors enrolled, the more likely the success of science becomes. This analytical strategy, however, led some critics to suggest that actor-networks themselves can be 'colonising' (Lee and Brown 1994; Law 1999; Anderson and Adams 2007).

This charge has come in a number of shapes, including claims that the network metaphor overemphasises the free flow of knowledge/science along emerging networks while disregarding power dynamics and structural factors that might shape this flow; that the network metaphor rehearse centre-periphery models of the diffusion of science; that the emphasis on stability in ANT accounts make them at once colonizing and blind to the spaces outside of networks; and that one of ANT's key tenets – to 'just' follow the actors – in fact re-produces dominant narratives of scientific progress at the expense of marginalised actors and voices. While these critiques are per se independent of the scale of actor-networks, they seem particularly pertinent to the study of global knowledge flows. Indeed, some of the fiercest critics of especially early ANT accounts have been scholars like Warrick Anderson, who demand a better engagement of STS with postcolonial studies in order to show

> "the localness of technoscientific networks, the situated production of 'globality', the transnational processes of displacement and reconfiguration, the fragmentation and hybridity of technoscience (Anderson 2002: 651).

In the following, I discuss some of these specific critiques in more detail to argue that they have contributed to a more recent emphasis in constructivist STS accounts on the fluidity of space and mutability of scientific objects. I propose that these recent developments have at least partly served to better account for – and even (analytically) enable – difference in science, but also suggest that this raises new questions about the role of methods and the singularity of scientific practices.

Colonising networks

Despite different trajectories, the network metaphor in ANT could be said to have co-evolved with wider scholarly conceptualisations of space as emerging and relational (Hetherington and Law 2000; Murdoch 2006). In contrast to approaches in other disciplines that often assumed certain driving forces behind global space-making projects (e.g. Massey 1994; Harvey 2000), however, a key feature of early ANT approaches was an insistence on the need to avoid *a priori* assumptions regarding actors' world-building activities in favour of empirical descriptions of how these activities unfold (e.g. Latour 1999). As one consequence, especially earlier ANT accounts often comprised descriptive studies on the successful diffusion of science.

As a result, however, some scholars accused ANT accounts of reproducing narratives of the "unconstrained expansion of sovereign networks" (Anderson 2009: 392). In order to avoid this, Anderson and others have demanded a better engagement of STS with postcolonial studies in order to remain sensitive to what they argue to be the often uneven global flows of science and technology (Anderson 2009: 392; see also Anderson and Adams 2007; Anderson 2009; Seth 2009; Harding 2011). Against what they propose to be ANT's attribution of scientific success to the heroic work of individual actors and the stability of networks, these scholars have stressed the need to account for historical and current structural factors that influence by whom, on what and where science is produced, as well as where it travels and who benefits from it. Many of these critics have also rejected the perceived tendency in ANT studies to follow Western scientists producing Western science that then successfully diffuses to all corners of the world (Anderson 2009). As Anderson argued, ANT's dual strategy of rejecting science's privileged access to an objective reality while accounting for the successful diffusion of scientific facts had simply displaced one modernist discourse (enlightened scientific progress) with another (globalisation) (Anderson 2002).

This claim may seem rather polemical. Yet, the way Anderson poses the problem – dramatized by contrasting Bowker and Star's (1999) too "nuanced" refusal to treat international disease classifications as an imperialist tool with Sundar Rajan's (2006) "retro-Marxist" analysis of the expansion of biocapital

(Anderson 2009: 396) – could be said to indeed point to a serious challenge in the study of 'global' science projects. To dramatize this further in regard to my own project: how could I avoid a narrative that puts too much emphasis on the coherence and hegemony of 'evidentiary regimes', while retaining a critical sensitivity to past and present inequalities that continue to shape the flow of evidentiary knowledge and objects? Indeed, this arguably remains an enduring tension in existing STS-influenced studies on the global circulation of evidentiary standards.

Anderson himself has issued a number of programmatic calls for a field of explicitly postcolonial STS better able to trace the "co-production of identities, technologies and cultural formations characteristic of an emerging global order" while also revealing "the patterns of local trans- actions that give rise to global, or universalist, claims" (Anderson 2002: 643). Similar demands for new forms of critical analyses in the study of transnational science projects have been made by a number of other scholars (e.g. Tsing 2004; Choy 2011). These demands of involve proposals for an analytical strategy that juxtaposes universalist claims with global phenomena: whereas the former are presented as based on flawed aspirations, the latter are rendered open to ethnographic exploration – to be then shown to emerge as the, always partial and contingent, outcome of connections based on local practices[3]. Yet, such efforts also point to an analytical conundrum, as highlighted by Anderson's plea quoted above: should we examine – and thus accept the existence of – an 'emerging global order', or argue that there are only globalising claims? But more so, are 'global claims' in fact the same as 'universalist claims'. In the following, I will examine these two points one after another to tease out some of the questions they pose.

[3] As such, these proposals could be said to draw on the work of postcolonial theorists who have argued that common discursive spatial metonyms such as the 'Orient' or 'the West' (Said 2003), the 'Third World' (Escobar 1995), or 'Africa' (Mudimbe 1988) lack ontological stability but are constantly (re-)shaped.

The local global

Anderson's call above could be said to echo a wider trend of treating the 'global' itself as the object of ethnographic explorations and as the outcome of local practices. What this is often argued to allow is to discern that 'global' projects not only involve the making of 'global' links with distant others, but also imply the drawing of boundaries and the articulation of difference *at the same time* (cf. Mol and Law 2008). In regards to global health, one recent STS-influenced account that could be said to have employed such a strategy is Joanna Crane's (2013) long-term study of a bourgeoning research network between a US university and an HIV clinic in Uganda. As Crane argues, the success of global scientific networks often hinges on the mobility of some entities – such as donor funds, Global North researchers, scientific standards and quantifiable data – while other things have to remain anchored in place – including treatment-perceptible African bodies, but also Ugandan researchers who often remain unequal participants in global health arrangements (Crane 2013). In other words, what Crane's study convincingly shows is that (a) 'global' health is as much about making successful connections as it is about disconnections and exclusions.

Moreover, STS scholars also developed conceptual tools as alternatives to actor-networks that could account for the situated production of 'globality', while avoiding an emphasis on uniform diffusion and stability in favour of complexity, contingency and difference. One such tool has been the notion of topology (Mol and Law 1994; see also e.g. Law 1999; Hetherington and Law 2000; Michael and Rosengarten 2012). Based on a study of anaemia, Mol and Law (1994) use the notion of topology to distinguish what they describe as fluid and non-Euclidian spaces from networks that link stable entities across distance. In contrast to networks, Mol and Law propose, topology captures the relational emergence of a 'global' as a result of the circulation of scientific entities that are multiple, mutable and contingent. Central to their argument is the proposal that anaemia in a Dutch hospital is ontologically different from anaemia in a Mozambican village (but also from a Dutch laboratory, etc.). Mol and Law argue that it is possible to move between these different anaemias and that – through this movement fluid – spaces are

performed or *enacted* (ibid.). In other words, both the 'object' anaemia and the space it traverses emerge *with each other*, each transforming the other in the process (Mol and Law 1994). As such, Mol and Law's key argument is that, on the one hand, entities perform or enact spaces. But on the other hand, "topological presuppositions" (Mol and Law 1994: 641) may also determine how entities are performed or enacted. As such, Mol and Law argue, such presuppositions allow the "performance of social similarity and difference" (ibid.: 642).

Mol and Law's account could be said to hint at a number of important conceptual shifts or 'methodological turns' that have taken place since the success of early ANT studies. On the one hand, the network metaphor has been complemented with analytically more fluid spaces to better account for 'topological multiplicity' (Law and Mol 1994). That is, in contrast to the emphasis in earlier ANT accounts on the stabilisation and ordering functions of ever-expanding networks, latter ANT accounts have increasingly focussed on the contingency of relational space always in the process of becoming. On the other hand, Mol and Law's (1994) account extends this ontological multiplicity to entities for arguably similar reasons. In contrast to Latour's earlier conceptualisation of 'immutable mobiles' – standardised objects stable enough to circulate through space and connect different actors in emerging networks – Mol and Law's anaemia study added to STS accounts that have shown that not all things travel easily (Star 1991), or that they travel precisely because they are mutable (see also e.g. de Laet and Mol 2000). Their account shows that the same entity can be 'ontologically different' at the same time but in different locations. Both analytical concepts, the notion of topology and the multiplicity of entities, thus rest on the assumption that entities and realities are enacted in practice.

While similar to the Latourian notion of construction in their shared rejection of things pre-existing their representation (cf. Woolgar and Lezaun 2013; see also Methodology Chapter 2), enactment has become a widely used term in STS to highlight the "continuing practice of crafting" (Law 2004: 56). As Law (2004) suggests, whereas construction talks of stabilisation, closure and durability, the notion of enactment serves to highlight that entities and realities

are fragile, contingent, and constantly changing even after they are first brought into being. As such, many of these latter analytical approaches could be said to have emerged, at least partly, from growing theoretical and methodological concerns with accounting for – and even analytically enabling (see Chapter 2) – difference.

Undoubtedly, these developments have introduced a whole range of new valuable analytical tools and strategies for the study of the global flows of science. However, I would also suggest that they have also raised new questions, not least in how far analytical approaches that conceive of 'global' spaces and entities as emergent and contingent are transferable to the study of science and scientific objects. Below, I further highlight this problem by returning to Anderson's above-mentioned programmatic call for STS to study how local practices give rise to "global, or universalist, claims" (Anderson 2002: 643) – which I already indicated points to a tension between notions of globality and universality. I return to the notion of 'enactment' in the following Chapter 2 to address this problem from a slightly different angle.

The local universal?

The 'global' and the 'universal' are usually understood as distinct concepts. Whereas the former refers to techniques, information, concepts or objects that in their materiality have the capacity to spatially diffuse, the later is characterised by its appeal to values and transcendence (e.g. Baudrillard 2002). One of ANT's principal aims, however, has arguably been to precisely unsettle this distinction between universal values and materiality. As proposed above, the network metaphor not only served to describe complex spatial arrangements, but also as an important tool to challenge the exceptionalism of scientific knowledge. As such, Latour argued to conceive of universality not as the *reason* why scientific objects travel, but as an achievement. In other words, universality was argued to emerge as the outcome of longer and more stable networks (e.g. Latour 1983). On this account, the concepts of universality and globality are therefore effectively collapsed – something is universal due to its 'global' reach.

I want to argue that in their study of EBM standards, Timmermans and Berg similarly conflate globality and universality. Analogous to Latour's early work,

their key aim is to show how well EBM standards diffuse. Whereas Latour emphasised the importance of immutable mobiles for the transport of scientific facts, however, key to Timmermans and Berg's account is that EBM standards are mobile and stable – but that they are also adapted and changed in their practical use. As such, Timmermans and Berg can argue that medical standards link global networks through local articulations to achieve 'local universality' (Timmermans and Berg 1997). In other words, their approach allows them to discern global flows of standardised knowledge to propose that universality emerges from local practices, at the same time that they can argue that universality is productive of difference as global standards are adapted and made workable in particular local contexts.

And yet, I want to argue that this treatment of medicine and science like any other standardisation effort, and of universality/globality as situated achievements, also raises a number of problematic questions. On the one hand, it raises the question if efforts to re-present modern medicine as a field of multiplicity and difference rather than unity (cf. Berg and Mol 1998; Mol 2002) not also fail to pay sufficient attention to the appeal to 'scientific truth' that is inherent in debates about science and evidence. In other words, whether it is sufficient to examine how scientific standards produce difference, without paying critical attention to what counts as rational and scientific knowledge that can be standardised – and what does not (cf. Mykhalovskiy and Weir 2004). Conversely, it also poses the question if such efforts pay enough attention to the specificity of science and its achievements. To elucidate this further, I will introduce a last body of literature that could be said to deal more directly with the tensions between universality and difference in the study of science.

Colonising science

The complicity of science and technology in the colonial project has been a focus of much scholarship (e.g. Fanon 1965; Vaughan 1991; Arnold 1993; Appadurai 1993), as has been the question of the role of colonialism in the emergence of 'Western' science. In terms of the latter, a number of historical studies have, for example, shown that Western science and medicine were co-constituted with colonialism – whereby this has not been limited to the

socio-economic exploitation of colonies for resources that enabled the ascent of a 'Western' science, but also the appropriation of 'local' knowledges (Cook 2007; Seth 2009; Tilley 2011). Helen Tilley (2011), for example, argues that rather than produced in a British laboratory and simply imposed on colonies as a way to allow the management and control of local populations, scientific knowledge and infrastructures were profoundly shaped by the colonial encounter – colonial Africa, Tilley argues, was the "living laboratory" (ibid.: 1) that gave birth to much of modern science. For similar reasons, other scholars have contested the strict separation between a coherent and stable 'Western science' and 'indigenous' knowledges, or even challenged the dichotomy itself as at best bogus and at worst 'Eurocentric' (e.g. Hobson 2011).

I cannot aim to achieve to discuss the many questions this poses in detail here, although I shall return to some of them over the course of this thesis. Instead, I want to briefly discuss the work of Sandra Harding and Helen Verran as two scholars who draw on philosophy of science and postcolonial critiques to grapple with the question of difference in scientific knowledge. These scholars arguably share a rejection of science's universalist claims, an interest in the situated and distributed processes of knowledge production, and the effort to formulate a critique that takes seriously the issue of difference. Yet, I will also argue that their accounts also diverge in their theoretical and methodological assumptions in ways that resonate with some of the questions I have raised above.

As a self-proclaimed proponent of an explicitly postcolonial STS, Sandra Harding draws on postcolonial and feminist critiques to propose a strategy of debunking Science's universalist claims by juxtaposing them with the particular practices of situated knowledge production. Echoing both Said's point that Western science has failed to recognise its self-righteousness (Said 2003: 116) and Haraway's call for situating science (Haraway 1988; see also Harding 1993), Harding argues that

> "Western sciences have been epistemologically underdeveloped, as they lacked the resources necessary to recognize their own locations in social relations and history" (Harding 2011: 3).

As such, she calls not only for undoing universalist scientific claims by situating them, but to also use this strategy as the first step in a normative program to develop a better – more pluralist and thus more objective (Harding 1993) – science. Her efforts to defend a notion of objectivity while arguing for a science that incorporates difference arguably distinctly differentiates her work from many of the constructivist approaches discussed in this chapter. As she argues, the notion of objectivity should be retained since it provides

> "a way to think about the gap that should exist between how any individual or group wants the world to be and how in fact it is" (Harding 1993: 72)

As part of what she calls 'standpoint epistemology', Harding insists on the singular achievements of scientific practices while also insisting that objectivity could be "maximised" (Harding 1993: 69) by including the perspectives of more diverse groups, and especially groups of marginalised peoples. Elsewhere, she expands on this by arguing that this 'better' science should reject epistemological monism in favour of a knowledge system that explicitly recognises and includes both 'Western' and 'non-Western' sciences (Harding 2008, 2011). As she argues, the assimilation of other knowledges into Western sciences should be resisted, as it would lead to the "tragic destruction and suppression of fruitful cultural diversity in knowledge systems" (Harding 2011: 10)

Harding's call for the recognition of multiple sciences could be said to partly resonate with my own concern for a co-existence of diverse knowledge practices, as does her aim to defend a notion of objectivity (see next chapter). At the same time, however, her work has arguably a tendency to redraw the boundaries between a 'Western' Science and 'non-Western' indigenous knowledges. I want to suggest that this partly follows from her insistence – as suggested in the quote above – on diversity in science a matter of 'culture'. Indeed, Harding's standpoint theory seems to build on an understanding whereby scientific research is imbued with "social interests and values" (Harding 1993: 57). As such, her claim for a better, more objective science seems to largely be based on the demand to include more and more diverse

standpoints or 'perspectives'[4]. But this arguably raises the question in how far her approach enables the practice of difference, or not indeed risks essentialising it.

To elucidate this further, I want to turn to Helen Verran's *Science and an African* Logic (2001), in which Verran reflects on her own encounters with a variety of ways of 'doing numbers' as a maths teacher of Yoruba children in Nigeria. One of Verran's key arguments is that science's, including social science's, particular *ontological* commitments close down opportunities for productive engagement with multiplicity and difference. Offering multiple tellings of her ethnographic encounters, Verran charts how she came to reconsider her initial strategy to present universal numbers as the "imperial expression of the Enlightenment" aimed at legitimising attempts to bring development/progress to the "primitive" other (Verran 2001: 25). She recounts her realisation that such a strategy would have in fact remade/re-instated "the naturalness of colonizing power relations through opposition" (ibid.: 31). The claim that universal numbers are – or can be differently – socially constructed relies, according to Verran, on a universalist ontological framework separating the world, (socially-constructed) representations of the world, and observers/knowers. Furthermore, she proposes that, by trying to defend epistemic difference between Western and Yoruba calculating logics, she herself would (re-) enact and essentialise this difference while simultaneously making any practice of difference impossible. This last point is perhaps the most difficult to understand but also the most valuable: Verran argues that any insistence on different epistemes at work also makes the existence of these epistemes remain premised on their demarcation from the respective other. As a result, Verran proposes that her initial relativist strategy had the consequence of closing down the possibility for communicating across or with difference, no "possibility of arguing/negotiating towards futures different from past" (ibid.: 36).

As an alternative strategy, Verran argues for an account of numbers as emerging as situated and multiple objects as they are being used to designate

[4] Although Harding herself tries to distance standpoint epistemology from perspectivalism (e.g. Harding 1993).

different embodied ways of relating to the world (ibid.: 35). Numbers are as real as other entities, she argues; yet, space, time and matter are not given and must be represented, but they are "just a particular way of telling the outcomes of acting" (ibid.: 233). On the one hand, Verran's account thus echoes Law's and Mol's strategy of treating entities as the multiply enacted outcomes of practices. But on the other hand, she highlights that different enactments follow from the making of different connections with, or interferences in, the world. In other words, different methods – including her own – bring entities and realities into being differently.

Conclusion: a question of method

In the second part of this literature review, I elaborated on some of the questions raised in the first part concerning the tensions between accounts that emphasise the coherence and uniformity of biomedical standards and accounts that stress their contingency. Starting from the critique of earlier ANT accounts, I proposed that ANT 'after networks' (Law 1999) has been more sensitive to the unintended consequences of a focus on the successful stabilisation and ordering functions of actor-networks. I also introduced alternative analytical strategies developed by STS scholars that have emphasised more fluid spaces and the multiplicity of scientific entities. A key argument in this second section was that many of these latter approaches have been concerned with accounting for or even (analytically) fostering contingency and difference. But, as such, I also argued that these accounts risk eliding the question of what is indeed special about science.

A key term that I introduced in this chapter is the notion of 'enactment'. In both Mol and Law's (1994) anaemia study and Verran's (2001) account of numbers in Nigeria, the term serves to describe how the same entity may be different according through the process by which it is enacted. In other words, in both accounts, particular enactments are the result of particular practices and methods. Yet, I also suggested that these accounts differ in the way they consider if/how there are constraints to such enactments of entities and worlds. Specifically, in Verran's account, particular enactments are the result of what she calls diverging 'ontological commitments' among diverging groups of people. As such, I read her account as an attempt to highlight that

divergent practices and methods contribute to the emergence of (a) different world(s), but without either relativizing the emergent knowledge nor essentialising difference by referring to either as ‘just’ cultural and social.

What this chapter has aimed to achieve is to point to some of the questions and concerns that emerged for from my ‘diffractive reading’ of different literatures and to highlight their importance to my own project. It is not by accident that this chapter has ended on the question of method(s). Indeed, this question has loomed behind many of the issues raised in this chapter, not only in regards to the way scholars have conceived of the ‘doings’ of medicine or science, but also the way that I explored how scholars themselves ‘enacted’ their objects of study. I will thus continue to discuss both these issues – and how they link together – in the next Methodology Chapter 2.

Chapter 2: Coming (in-)to Matter

This chapter describes how I engaged with evidence-informed health policy (EIHP) as my object of study. It comprises two parts: in the first part, I describe the range of materials and methods I have drawn on; the second part further elaborates how I developed my methodological approach in dialogue with topical theoretical/conceptual debates within Science and Technology Studies (STS).

As already indicated in the Introduction to this thesis, this project developed in response to and was re-shaped by what could be said to have been a series of moments of crisis. The first section of this chapter describes some of the difficulties I encountered during an early-stage visit to the World Health Organization (WHO) Archives and Library in Geneva. It also elaborates on challenges I encountered during my fieldwork in Uganda. I describe how, in response to these difficulties and the sense of crisis they evoked, I not only adapted my methods to the situation(s) at hand; but more so, treated these challenges as entry points to explore some of the problematic analytical and ethico-political questions they raised in regard to my own research project. In doing so, this chapter seeks to illustrate the *iterative* process that has undergirded the development of my methodology.

My use of the term 'iterative' here does mean to imply "doing something again and again, usually to improve it" (Cambridge Dictionary 2019). On the contrary: rather than refining one particular approach, developing my methodology involved a continuous process of recalibration and adjustment to my original approach in response to the empirical and analytical challenges I encountered as I engaged with EIHP as my object of study. A more suitable term to describe this process would be the German word 'herantasten'. Its English translation as 'to feel one's way towards something' retains the sense of a movement towards something that can be met, but arguably captures less well the sense of both material encounter and careful yet exploratory reaching out that is conveyed by the German word 'tasten'. In terms of the latter, I consider 'herantasten' to resonate with Alan Pickering's description of knowledge-making as a 'dance of human and non-human agency', a transformative encounter between humans, instruments and the material

world that is characterised by a “dialectic of resistance and accommodation” (Pickering 1995: 65). In other words, this chapter illustrates how I iteratively tuned my practical and theoretical/conceptual tools as part of being committed to think with and learn from the empirical situation(s).

I elaborate on the need to acknowledge what Pickering calls ‘resistance’ as a constraint on scientific – including social scientific – practices in the second part of this chapter. To do so, I return to the notion of ‘enactment’ introduced in Chapter 1. I reiterate that notions of enactment and performativity have served as effective tools in Science and Technology Studies (STS) to challenge assumptions that good methods, including social science methods, are those that ‘objectively’ represent a mute reality. Whereas these tools thus successfully highlight how methods intervene in the situation(s) to which they attend, I also discuss how I found them to nevertheless pose a number of challenging questions for both the way I conceive of others’ knowledge practices, as well as my own. If, as John Law has suggested, truth is no longer the gold standard (Law 2004: 13) – who, what and how determines which reality/ies are enacted or performed? What would the consequences be in terms of how I could engage with those practitioners for whom objectivity, facts and trustworthy proofs indeed matter? What would the consequences be for my own evidentiary practices? Section two describes how in grappling with these difficult questions I started thinking with Isabelle Stengers’ notion of an ‘ecology of practice’ to formulate a more careful way to conceive of the ways that divergent knowledge practices contribute to how things come (in-)to matter.

As Stengers proposes,

> “a good craftswoman does not know only how to use her tools. She is the one who will not envisage a situation in terms of the demands of the particular tool she is used to but rather envisage the fitness of this tool for this situation” (Stengers 2011a: 4).

A key aim of this chapter is thus to illustrate my own effort to become a good craftswoman as an iterative process of learning from/with the situation(s) at hand, in parallel to learning from and experimenting with the theoretical/conceptual tools available in the social science literatures. Through

an account of how I came to undertake this process, this chapter seeks to make evident how I situate myself in the research.

Materials & Methods

The empirical material that I draw on in this thesis was assembled during different research periods and across different settings. This comprised research at the World Health Organization (WHO) Archives and Library in Geneva, the gathering and close reading of a large amount of published articles, policy documents, technical guidelines and toolkits, and two shorter periods of fieldwork in Uganda. Employing a heterogeneous array of methods was required in order to be able to engage with EIHP across the different settings of its instantiation. But my modes of engaging with EIHP also further developed as a necessary response to a series of difficulties that I encountered as part of my research.

One early challenge presented itself during a research trip to the WHO's Archives and Library during the initial stages of my research. Originally, this research was intended to involve the analysis of historical documents as the basis for an account of the emergence of demands for 'evidence' and 'evidence-based policy' at WHO. Such an account, in turn, was to provide the foundation for a critical analysis of how global health politics and practices are progressively transformed by a new "evidence paradigm" (Lambert 2007: 17). What initially seemed like a reasonably straightforward research plan, however, was quickly faced with a number of practical and conceptual challenges. Rather than simply providing a 'factual' basis for my subsequent investigations, it has been the difficulties experienced during the first phase of my research, as well as my efforts to tune my own methodology to address them, that have significantly informed my engagement with evidence-for-policy approaches as my object of study. I therefore discuss some of these challenges and my responses in detail below, before elucidating how this has informed my methodological approach.

Sourcing documents

I visited the WHO Archives and Library for five days in the early summer of 2014 in what was initially planned as a scoping trip, with a longer trip projected to take place a month later. Based at the organisation's

headquarters in Geneva, its Archives and Library manage and preserve current and historical documentation relating to WHO's work. Whereas the WHO Library provides physical and digital access to WHO publications – including reports, periodicals, technical documents, official records such as Executive Board decisions, and press releases – the WHO Archives preserves and manages "historically valuable documents" (WHO 2014b, *online resource*). These include original memos, correspondence records, draft reports and meeting summaries produced by WHO units and their staff, which have been collated in fonds, catalogued in an electronic inventory, and are made available to researchers upon request through a reference service. Hoping to source documents from both the Archive and Library collections, I had aimed to treat documents as both, sources of data as well as instruments of bureaucratic organisation (cf. Riles 2006). That is, by examining both their content and what kind of documents had been archived, who had produced these documents and for what purpose, I had hoped that these documents would at once reveal the history of evidence-for-policy approaches at WHO, and be able to show how these documents served as mechanisms through which particular rationalities were made practical and technical at the organisation. Perhaps unsurprisingly, however, my first discovery in the summer of 2014 was that documents are not just sitting there, waiting to be exposed and analysed.

My initial broad and largely internet-based research had suggested that the late 1990s/early 2000s represented an important period for the emergence of evidence-for-policy approaches at WHO, linked to the establishment of WHO's first official Evidence and Information for Policy (EIP) Unit in 1998 under new Director-General (DG) Gro Harlem Brundtland. Yet, in a response to my written request for access to the WHO Archives, I was cautioned that a 20-year confidentiality period would limit my access to any archival records predating 1994. Undeterred, I arrived at the Geneva Archives a few weeks later, but only to be informed by one of the WHO archivists that an inventory search for the keywords 'evidence' and 'evidence-based' in the pre-1994 archival fonds did not retrieve any relevant records. In subsequent conversations with the very helpful archivist, I also learned that the WHO

archives were only professionalised at the end of the 1990s. Until then, it had been the responsibility of the WHO Registry to archive and chronologically file those documents that were passed on and deemed historically relevant by individual staff members and/or WHO units. As the archivist further pointed out, the previous lack of harmonised archiving procedures had also affected regular clearances performed by archival staff. Over time, such clearances had disposed of large numbers of previously archived documents no longer deemed relevant. These conversations highlighted an unforeseen challenge to my original research plan: how could I (re-)construct a history of evidence-for-policy approaches at WHO from documents if the document trail was seemingly unreliable and patchy? More so, how did these archival practices themselves shape what kind of histories could be told? In contrast to my initial hope of discovering some of the 'real' drivers of evidence-for-policy efforts at the WHO, my first day at the WHO Archives seemed to have revealed the role of documents, documenting practices and archives themselves as part of an 'apparatus of reality-production' (Law 2004: 34).

The challenges posed by the fragmentary nature of archival records were further reinforced by the fact that WHO Archives' database searches are keyword rather than full-text based. As such, the archivist's observation that a database search for 'evidence' had failed to return any relevant results for the period before 1994 did not mean that the term 'evidence' did not feature in any of the archived documents. Rather, it simply indicated that no records were catalogued linked to this specific keyword. The archivist, undoubtedly sensing my growing despair, kindly revealed that the first record filed under the keyword 'evidence' was created in 1998, a period covered by the 20-year confidentiality period. The coming into being of 'evidence' as a keyword for archiving in 1998, the year Gro Harlem Brundtland took office as WHO-DR, is arguably highly significant, and seemed to affirm the growing importance placed on evidence during her tenure. And yet, the intricate and shifting nature of WHO archiving procedures raised a plethora of challenging methodological and epistemological questions. How would I source records relating to the history of evidence-for-policy approaches if archived documents were not indeed filed under the keyword 'evidence'? How could I account for

the fact that both the selection of documents for archiving and the way they were categorised and made 'find-able' were not the result of an 'objective' method but of contingent decisions in particular contexts? Who had decided, and how, which documents are 'valuable' enough to be preserved? How could I engage with particular archival documents in ways that would eschew the risk of treating them simply as 'found' and representative of factual phenomena, but as 'artefacts' (Riles 2006) generated within particular contexts and situations? And lastly, how could I account for my own engagement, and for the choices I would necessarily have to make in selecting and analysing documents?

This last question presented itself as a very practical challenge as well: at the same time that I did not have access to archival records linked to the keyword 'evidence', I was confronted with a vast amount of publicly-available documents managed by the WHO Library. WHO Library Services electronically store official WHO publications in a database that, in contrast to the WHO Archives, operates based on full-text queries. In 2014, a search for the term 'evidence', even when filtered for publications produced by WHO headquarters only, returned 9,160 results; the term 'evidence-based' retrieved 2,410 records. Sifting through such an enormous amount of documents – ranging from short press releases to 1000-page long reports – was clearly unfeasible. But how should I decide which documents to look at, where to start, and what to include? More so, what did it actually mean to write a 'history of evidence-for-policy approaches' at the WHO'? Should this be a history of a term, a concept, a particular epistemology, or a tool?

Faced with these difficult questions, I decided to change my initial methodological strategy. My early research had suggested that evidence-for-policy efforts at the WHO under Brundtland had been heavily influenced by a group of experts who had long promoted what they argued to be a more 'rational' way of setting health policy priorities. Members of this group took up leading posts in WHO's newly established EIP unit and used key publications (e.g. Murray and Evans 2003, see below) to offer their own narratives of the emergence of evidence-based policy efforts and what their contributions to those efforts entailed. As a way to respond to the above-mentioned challenge

of how to select documents while avoiding the imposition of my own assumptions onto my object of study, I thus decided to 'follow' two leading figures of the WHO EIP unit, Chris Murray and David Evans, and their account of the emergence of evidence-based policy. This strategy drew on approaches in Science and Technology Studies (STS) and especially Actor-Network-Theory (ANT) that proposed to 'follow' actors in order to trace their network-building, boundary-setting and 'world-making' activities while assuming non-human agency (e.g. Latour and Woolgar 1986; Callon 1986; Latour 1987; Latour 1991; Latour 2005; Mol 2002). It also built on more recent calls for the application of similar approaches to the analysis of documents as a historicising method (Asdal 2012).

This research was published in a book chapter titled *Producing evidence: a history of evidence-based health policy at the WHO* (Jensen 2017). Taking as its starting point a publicly available WHO report published by WHO's Evidence and Information for Policy (EIP) unit (Murray and Evans 2003), the book chapter closely analysed this report in terms of its performative character (cf. Latour and Woolgar 1986; Latour 1987; Riles 2000). That is, I highlighted a series of rhetorical devices – including presenting a linear narrative of scientific progress, omitting ruptures and controversies, and leaving out alternative histories – through which the document itself constructed 'evidence-based policy' as a stable and coherent entity (Jensen 2017). But furthermore, the chapter also drew on archival documents to expose the controversy rather than coherence at the heart of these evidence-for-policy efforts. Much of the evidence-for-policy work described in the 2003 report built on tools and methods developed ten years earlier, in connection with the World Bank's 1993 *World Development Report* (WDR1993). The WDR1993 had been produced with the input of WHO staff and a corresponding cache of WHO archival records comprised more than 10 folders of chronologically filed letter correspondence, meeting minutes and draft versions related to the production, publication and dissemination of the WDR1993. These records provided a unique insight into World Bank – WHO relations during the production of the WDR1993. A series of subsequent WDR1993 draft versions, for example, highlighted the ever-growing role

accorded to Chris Murray and colleagues' efforts to estimate a global 'burden of illness' based on Disability-Adjusted Life Years (DALYs) – which a few years later became a key pillar of evidence-based policy efforts at WHO. But, furthermore, archived communications between the two organisations also suggested the consternation these developments caused among at least some WHO staff, several of whom used internal and external communications to voice their concerns about the DALY methodology and its use in the WDR1993 to promote a top-down priority setting mechanism (and thought these important enough to submit for archiving; Jensen 2017). As such, these documents also already hinted at something else, namely that even though key components of the WDR1993 methodology were adopted and further developed at WHO with the launch of the EIP unit in the late 1990s, within the organisation itself there remained different visions for what would be the most appropriate information and mechanisms to guide national and international health policy decision-making.

Indeed, this became clear on my last day at the WHO Archives, when the archivist told me that he had taken the initiative to arrange for me to meet with a leading member of staff from the EIP unit's Research Policy & Cooperation (RPC) division. During our long conversation, this RPC staff member showed much interest in my research endeavour. But they also expressed surprise that my research primarily focussed on evidence-for-policy efforts associated with Brundtland's tenure and burden of disease and priority-setting approaches. Instead, this staff member proceeded to present a very different story of evidence-for-policy efforts at WHO, a story that largely took place in the early-to-mid 2000s – after Brundtland and key original members of the EIP unit had left WHO – and that encompassed a wholly different assemblage of reports, conferences, declarations, tools and experts linked to this RPC member's own efforts to establish the Evidence-Informed Policy Network EVIPNet. This latter material did not make it into the above-mentioned chapter (Jensen 2017). Yet, it further sensitised me to the multiplicity of (hi-)stories to be told about the emergence of evidence-for-policy approaches at WHO. Even more so, it made clear my own role as a storyteller in making some of these stories matter more than others (Haraway 1988; Star 1991).

Storytelling to make a difference

Chapter 3 of this thesis draws on the empirical material collected in the context of this early research at the WHO Archives and Library. But it also significantly expands the initial scope of my enquiry into the emergence of evidence-for-policy approaches at WHO to include developments associated with the establishment of the Evidence-Informed Policy Network in the mid-2000s. Restricted by WHO's 20-year confidentiality period, this second phase of my project relied on sourced material that comprised publicly available documents. These included website information, reports and other publications produced by WHO and EVIPNet, as well as articles and EIHP/knowledge translation guidelines published by international evidence specialists associated with EVIPNet. As before, in the selection of material I largely let myself be guided by those I studied, and much of the material that I draw on in Chapter 3 comprises reports and documents that featured prominently on the EVIPNet website and/or were signposted by interviewees. In addition, I also used a snowballing technique that involved searching PubMed for articles on EVIPNet and specific tools (such as GRADE; see Chapter 4) and the cross-referencing of publication bibliographies.

I analysed this material to discern and describe what EVIPNet-associated evidence-for-policy proponents themselves identified as key events that led to the establishment of EVIPNet, as well as how EVIPNet was envisioned according to official documents. Furthermore, documents, such as reports produced on a consensus basis and journal articles as authoritative presentations of research knowledge, can also be used to describe the emergence of an established body of knowledge (e.g. Fletcher 2014). I analysed the retrieved reports and articles to identify recurring terms – such as 'evidence', 'evidence-based'/'evidence-informed' and 'burden of disease' – as well as topics – such as the need for priority setting, the 'know-do gap' and the importance of research as a 'global' endeavour. Tracking these themes across successive documents thus allowed tracing how ideas around evidence-for-policy approaches evolved at WHO over time, but also how particular understandings gradually consolidated.

A specific set of sources that I substantially draw on in both Chapter 3 and Chapter 4 are the so-called *SUPPORT Tools for Evidence-Informed Health Policymaking* (Oxman *et al.* 2009; STP1[5]). The SUPPORT Tools comprise a 'global' EIHP/knowledge translation toolkit that outlines the specific standardised steps, rules and tools required to 'do' knowledge translation and EIHP. The SUPPORT Tools were promoted via the EVIPNet website as a principal EIHP/knowledge translation guide. Furthermore, they were also repeatedly highlighted by my interviewees as a resource at the centre of EVIPNet-associated efforts to foster 'evidence-informed' policymaking in WHO member states. As one former WHO staff member involved in setting up EVIPNet noted, the SUPPORT Tools had been 'absolutely critical' (*EIHP2016_012, Interview, 01/03/16*) as a tool box to support country teams in setting up national or local knowledge translation/EIHP platforms. In Uganda, these tools indeed served as a blueprint for the SURE Guides that were co-developed by the members of the EVIPNet country 'node' as a modified guide for knowledge translation/EIHP in low-and middle-income countries. The SUPPORT Tools are at the centre of Chapter 4, which discusses in more detail some of the central tenants of 'global' EIHP/knowledge translation frameworks promoted through WHO and EVIPNet. Furthermore, together with other material that I sourced as described above, they provide the foundation for an extended analysis how evidence-for-policy approaches emerged and transformed as a matter of concern at WHO. The resulting Chapter 3 offers an account of these developments that emphasises what I frame as a major shift in the way that the demand for evidence-for-policy became articulated in the early-to-mid-2000, encapsulated by what I suggest to be rhetorical shift from evidence-*based* (EBP) to evidence-*informed* health policy (EIHP).

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[5] The SUPPORT Tools comprise a set of 19 supplement articles or sub-guides, which involve multiple but overlapping authors. As such, I added the respective sub-guide number to in-text citations throughout this thesis. STP1, for example, refers to the first guide in the series. The guide numbers are also included in the bibliographic references, in this case: Oxman, A.D., Lavis, J.N., Lewin, S., and Fretheim, A. (2009) 'SUPPORT Tools for Evidence-Informed Health Policymaking (STP) 1: What Is Evidence-Informed Policymaking?' *Health Research Policy and Systems* 7 Suppl. 1: S1.

Whereas Chapter 3 thus draws on and extends initial work for the thesis, I have since chosen to re-present this material in a way that puts less emphasis on the performativity of documents and archival practices as such. Instead, Chapter 3 aims to tease out the active role played by the stories we, as social scientists, tell and the ways these stories may aim to make a difference. In other words, it could be said that a key concern in this chapter is with the performativity of my own descriptions (e.g. Law and Singleton 2000; Law 2004; Law and Urry 2011), although the second part of this chapter will discuss how my growing reservations with the twin concepts of performativity and enactment led me to refrain from using these as analytical tools in this thesis. For now, it suffices to stress that my purpose of Chapter 3 is certainly not to offer simple and innocent descriptions. Rather, it is designed as part of an intervention toward the "cultivation of a different future" (Savransky 2016: 12). As such, a key goal of Chapter 3 is to trouble accounts of the growing emergence of a monolithic 'evidentiary regime' in global health – a narrative that arguably abounds in many of the stories told by both evidence-for-policy proponents and its social science critics – by emphasising instead the differences in the ways that evidence-for-policy demands have been articulated at WHO at different times, involving distinct assemblages of experts, concerns, and tools. Attending to the empirical material in a way that stages or 'dramatizes' (Stengers 2014) these shifting articulations serves to contribute to the un-making of evidence-for-policy approaches as a coherent set of ideas and practices and, as such, to making space for possible alternative formulations. I further elaborate in part two of this chapter how my engagement with my empirical material was guided by a concern for stories that might be able to make a difference that matters.

Fieldwork at the EVIPNet country node in Uganda

A third part of my research project involved a case study on EIHP/knowledge translation efforts at the EVIPNet 'country node' in Uganda. Uganda and Cameroon had been singled out as countries with the most active EVIPNet country nodes in sub-Saharan Africa by a contact at EVIPNet. I eventually decided on Uganda for my fieldwork for largely practical reasons. On the one hand, I was concerned that my at best rudimentary French language skills

would pose significant challenges to conducting research in Cameroon, a country with a majority Francophone population and a legacy of both French and British colonialism that continues to shape present day politics (Konings and Nyamnjoh 1997; Cocks 2018). On the other hand, a colleague of mine who had previously conducted research in Uganda offered to introduce me via email to Professor Nelson Sewankambo, the former Principal of the College of Health Sciences (MakCHS) at Kampala's Makerere University and head of the country's EVIPNet team. When Professor Sewankambo kindly agreed via email to meeting with me, I travelled to Uganda in January 2016 for what I envisioned to be a 3-week pilot trip in preparation for a more substantive fieldwork visit later that year. The pilot trip, I hoped, would allow me to meet members of the Ugandan EVIPNet team, obtain an overview of current activities and make arrangements for what I, at the time, perceived as the 'real' part of my fieldwork, namely a longer-term period of immersive fieldwork to ethnographically study the 'doing' of EIHP/knowledge translation at the Ugandan EVIPNet node.

Sewankambo's email reply had been brief and elided my questions about the current undertakings of his team. Still, information published on WHO's EVIPNet websites suggested that the Ugandan EVIPNet 'node' had indeed been very active indeed. Published material chronicled a range of activities, such the production of so-called Policy Briefs, the organisation of training workshops on knowledge translation/EIHP for researchers and policymakers, and the setting up of a 'Clearinghouse' as a public repository of reports and documents pertaining to knowledge translation/EIHP efforts in Uganda. In first designing my PhD research project, ethnographic research had therefore played a central methodological role. In addition to conducting formal interviews with EVIPNet team members and sourcing relevant documents from the Clearinghouse, I hoped to be able to use ethnographic methods, such as participant observation of the production of Policy Briefs and training workshops, to study the practical doing of knowledge translation/EIHP. Furthermore, I hoped that long-term immersive ethnographic fieldwork would allow building close relationships with Ugandan knowledge translators/EIHP

specialists in ways that may enable gaining a more 'intimate' insight (Gold 1997) into their experiences and views in relation to their work.

With this in mind, I spent my initial time in Uganda setting up a series of meetings with Nelson Sewankambo and, with his approval, a number of individuals that I had identified in my preparatory planning as having been closely involved with the EVIPNet Uganda work. Rather than formal interviews, the primary aim of these first meetings was to introduce myself and my research project and to learn about current and planned EVIPNet Uganda activities, as a way to carefully establish the possibility of 'gaining access' to the field (O'Reilly and Bone 2008).

Instead, however, I learned a number of things that put into question not only my methodological design but also my approach to EIHP as my object of study more broadly. On the one hand, my conversations with Sewankambo's team of Ugandan knowledge translators revealed that while they acknowledged the link to WHO's EVIPNet network, they were equally insistent that their efforts originated from a regional effort to foster knowledge translation/EIHP that pre-dated the establishment of EVIPNet. In other words, more than as an EVIPNet country 'node', key team members identified as part of REACH, the Regional East African Community Health Initiative. On the other hand, however, the Ugandan team's core funding had been provided by an EVIPNet-associated international research project, a project that had since concluded – and with it the team's main source of financial backing. As a consequence, many of what had been the team's core knowledge translation/EIHP activities were, at least temporarily, on hold.

At first, these latter developments seemed like an insurmountable obstacle to my research 'protocol' with its aim of ethnographically studying knowledge translation/EIHP in practice. But at the same time, the more I learned during these first meetings about some of the issues that the Ugandan team had to contend with – the struggle for financial support, the contingency of knowledge translation/EIHP efforts caused by a dependence on foreign funding, and yet an enduring commitment to EIHP – the more evident it was that these issues clearly *mattered*. Put differently, these issues seemed inseparable from how and why EIHP mattered in Uganda – and, as such,

important to include as part of the problem that this thesis set out to respond to. I will further elaborate on this in the last section of this chapter.

In the light of these early findings, I decided to continue my research in Uganda but to modify my strategy to instead predominantly focus on the conduction of interviews and an analysis of the first Policy Brief (see below) that the Ugandan team had prepared in 2010/11. In addition to the ethical approval already obtained from the Research Office of my university, I obtained ethical approval from the Institutional Review Board of Makerere University's Medical School and successfully applied for a research permit from the Uganda National Council for Science and Technology (UNCST) to return to Uganda in July/August 2016 for a further period of five weeks.

Altogether, I conducted 29 in-depth semi-structured interviews with 26 health professionals. Interviewees included the head of REACH/EVIPNet Uganda and (former) members of his team at MakCHS, three of whom I interviewed twice. Furthermore, I interviewed a range of experts that were part of the wider healthcare environment in Uganda and included policymakers, representatives of Ugandan professional health/science bodies and non-governmental organisation (NGO)/civil society organisation representatives. Most of these experts had directly engaged with the EIHP/knowledge translation efforts of the Ugandan REACH/EVIPNet team and were identified through a review of attendance lists of so-called Policy Dialogues that had been organised by Sewankambo's team in connection with the dissemination of Policy Briefs (see below and also Chapter 6), as well as through a snowball or chain referral sampling technique (Berg and Lune 2012). Indeed, in our conversations, (former) REACH/EVIPNet team members regularly identified specific policymakers – or, although less commonly, other members of the wider healthcare environment – who had more actively engaged with the team's knowledge translation/EIHP efforts. I also interviewed a small number of representatives from Ugandan HIV/AIDS-related NGOs[6]. Whereas these

[6] The decision to focus on HIV/AIDS-related NGOs was based on a number of reasons. In Uganda, the HIV/AIDS epidemic is sometimes described as both curse and blessing, due to its devastating impact on the lives of individuals and communities as well as its catalyzing effect on the influx of international support and funding (see Chapter 5). HIV/AIDS-related

had not directly engaged with the REACH/EVIPNet team, I anticipated them to provide further valuable insights into if – and if so, how – their organisation's ability to engage policymakers had changed in the light of what one Ugandan REACH/EVIPNet team member described to me as a growing imperative to base political decisions on available evidence rather than the demands of different lobbying groups (*EIHP2016_002, Interview, 26/7/2016*).

In parallel to these interviews, I collected and reviewed publicly available documents specifically relating to EIHP/knowledge translation efforts in Uganda, as well as to the wider policy environment in which these efforts took place. In addition to reports and documents produced by the REACH/EVIPNet team itself, this material included government policy documents, organisational reports, and journal articles. This largely internet-based search for documents was usually prompted by my interviewees, who identified a specific document or who pointed to particular event as important, which I then used as a starting point for further investigation. The Ugandan 'Clearinghouse' turned out to be conceived as a purely 'virtual' repository; moreover, during the time of my fieldwork the designated website was either offline, or online but unpopulated with content.

Altogether, the corpus of texts (including interview transcripts, articles, reports and field notes (see below)) thus assembled were examined in detail to: identify key actors and institutions involved in EIHP/knowledge translation efforts in Uganda, understand the developments that drove the emergence of EIHP efforts in Uganda and the setting up of REACH and the EVIPNet Uganda 'country node', discern the different activities that had been involved in 'doing' knowledge translation and promoting EIHP as part of the

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NGOs have long played an active role in protecting the rights of those infected and have thus emerged as some of the most visible and vocal 'civil society' organisations in Uganda (Muriisa and Jamil 2011). Moreover, HIV/AIDS has been identified as one of the key areas in Uganda in which 'task shifting', the topic of a particular Policy Brief that I decided to focus on (see below), has been practiced informally (Baine and Kasangaki 2011). As a result, interviewing experts from HIV/AIDS-related NGOs also promised to offer further insights into the wider policy environment into which the 'task shifting' policy brief had been introduced. I was able to establish contact to a key HIV/AIDS NGO through one of my professional contacts. Additional NGOs were identified via the snowball method.

REACH/EVIPNet Uganda team's efforts, elicit the different understandings of and views on evidence-based/informed approaches to policymaking, understand how 'good' evidence was conceived across different settings (e.g. documents versus interviews) and actors (e.g. knowledge translation/EIHP specialists versus policymakers), and the perceived challenges and opportunities for EIHP/knowledge translation efforts in Uganda.

A core activity of the Ugandan REACH/EVIPNet team had been the production and dissemination of so-called Policy Briefs. As a key output of the knowledge translation process, such Policy Briefs were meant to provide a concise summary of a particular issue or problem and the evidence base for possible solutions. Primarily targeted at policymakers and those influencing policy decisions, these Policy Briefs were thus conceived as the key tool to engender evidence-informed decisions. Due to a lack of funding, the production of Policy Briefs by the REACH/EVIPNet team was on hold during the periods of my fieldwork in Uganda. Since I was thus unable to observe the production of such a Policy Brief in practice, I decided to instead examine an existing REACH/EVIPNet Policy Brief on 'task shifting', which had been the first brief produced by the Ugandan REACH/EVIPNet team when it came into operation in 2010. In my early conversations with REACH/EVIPNet researchers, this first brief had been repeatedly highlighted as a milestone. This was due to its status as the first substantial output of the REACH/EVIPNet team. But more so, for key team members, producing the Task Shifting Policy Brief had also served as the principal opportunity for the hands-on learning of key EIHP/knowledge translation processes, steps and tools. Furthermore, writing the brief had been paralleled by the production of a draft version of the SURE Guides as a manual for the production of policy briefs in low-and middle-income countries.

Examining the Task Shifting Policy Brief in detail thus served to gain a better understanding of how evidentiary rules and tools were adopted and adapted in Uganda, but to also tease out some of the challenges associated with the translation of global evidence into local policy recommendations. In addition to my own close reading of the document, one of the (former) Ugandan REACH/EVIPNet team members who had co-authored the report kindly

offered to go through the report with me and explain the different steps undertaken to produce it. Furthermore, I was able to interview a number of participants of two so-called Policy Dialogues that had been organised in 2011 to present the Policy Brief to policymakers and other 'stakeholders'. The fact that these had been one-off events that had taken place five years prior to my visit to Uganda impeded the number of Dialogue participants I was able to recruit for an interview, as well the amount of detail about the Dialogues themselves that those participants I did interview could remember. What these interviews did provide, however, were valuable insights into the wider debates around task shifting that have been taking place in Uganda, as well in regard to the kind of evidences these interviewees drew on to justify their own positions of the topic (see Chapter 6). Lastly, the Ugandan team itself had produced written summaries of each of the two Policy Dialogues, which offered further information on some of the issues that were raised by participants during these Policy Dialogues.

Although the production of Policy Briefs by the REACH/EVIPNet team was on hold during the periods that I visited Uganda, I did also have an opportunity to witness some of these challenges of knowledge translation processes in practice. Following our interview, the Executive Director of a large non-for-profit scientific membership organization in Uganda invited me to join a workshop aimed at training members of the newly established Ugandan National Immunization Technical Advisory Group (NITAG) in the development of evidence-based vaccination recommendations. Facilitated by a Bill & Melinda Gates Foundation-funded initiative to strengthen national-level NITAGs, the workshop took place over a period of three days in a forest lodge outside Kampala. Through a series of presentations, group work and exercises participants were taught the key steps and principles of developing evidence-based recommendations, including the basic standardised steps of conducting a search for research evidence, the critical appraisal of research evidence and the writing of a recommendation. The workshop was unconnected to the work of the Ugandan REACH/EVIPNet team and focused on the translation of evidence for biomedical interventions. Yet, many of the processes and frameworks covered in the three-day workshop mirrored those

promoted in the SUPPORT/SURE Tools and used by the Ugandan REACH/EVIPNet team in the production of Policy Briefs. As my fellow workshop participants and I collectively brooded over how to apply what seemed to be overly rigid guidelines to a series of unruly studies and problems, I thus gained a first-hand glimpse of the questions, tensions and challenges that can arise when standardised frameworks are put (in-)to practice.

Ethnographic sensibilities

Whereas in Anthropology the notion of ethnography remains usually understood as a period of extended fieldwork in one or more particular 'sites', amongst STS scholars the term ethnography has been applied in a much more liberal fashion (Hess 2001; Prainsack and Wahlberg 2013). I will return to some of the possible reasons for this below. Here, I want to briefly discuss how my research sought to bring an 'ethnographic sensibility' (Star 1999; Prainsack and Wahlberg 2013) to data collection and analysis, despite not involving an extended period of time in any particular field site and despite not having been able to, as I had originally hoped, observe EVIPNet knowledge translation practices.

This ethnographic sensibility primarily involved two things: first, a mode of engagement with EIHP that not only looked for meaning in what was immediately accessible (such as the in the official descriptions of documents or the often more polished narratives present in formal interviews). Instead, I tried to stay attuned to how these meanings were embedded within the wider circumstances in which they emerged – circumstances particular aspects of which may surface or be alluded to in these more official narratives but that are ultimately part of an every-day and often more messy "sphere of lived activity" (Star 199: 388). Second, trying to bring an ethnographic sensibility to my research also involved a commitment to not just 'learn about' but 'learn from' my interviewees, as well as from what I at several points perceived as moments of crisis and a threat of 'failure' in regard to my research project. Such a 'learning from' meant adjusting the focus of my research and adapting my methodological approach in the light of the difficulties I encountered both at the WHO Archives and in Uganda – to try and 'stay with the trouble' as

Donna Haraway (2016) put it. But more so, it involved revising, or at least explicitly problematizing, several of the expectations and assumptions that I had initially brought to the field. This included expectations about how Ugandan health professionals perceived the demand for knowledge translation/EIHP, but also about what it actually was that I was trying to analyse, and what the right analytical tools would be that could tease out what it was that seemed at stake. I will elaborate on this first aspect of my 'ethnographic sensibility' in the following, before discussing the second aspect in the reminder of this chapter.

As noted in the introduction to this thesis, my project started off with the aim to contribute to existing critiques of the rise and impact of new evidentiary regimes in global health. Yet, not only did my research on the emergence of evidence-for-policy approaches at WHO suggest that such 'evidentiary regimes' are not as monolithic as they are frequently made out to be in the accounts of both proponents and critics; but more so, I had to acknowledge that my own critical view of EIHP was clearly at odds with the enthusiasm and commitment of Ugandan practitioners engaged in EIHP efforts. Indeed, as briefly alluded to above, several Ugandan knowledge translators that I interviewed had been actively involved in efforts to foster knowledge translation/EHIP efforts even before becoming linked to the WHO EVIPNet network. The biggest challenges to EIHP efforts that they thus identified in our interviews related to funding constraints, as well as a perceived lack of a 'critical mass' of policymakers who appreciated the importance of evidence to undergird decision-making processes.

Reasons for why EIHP mattered to these health professionals were certainly present in our interviews, as well as in some of the documents they highlighted to me as important. For example, the existence of a 'know-do gap' was highlighted as a key impediment to health improvements in the prospectus of the Regional East African Community Health (REACH) Initiative, an important precursor to the establishment of the Ugandan EVIPNet country node. It was also alluded to in several of my interviews with Ugandan knowledge translators. From the early 2000s onwards, the notion of a 'know-do gap', described as a gap between existing scientific advances and

their application (WHO 2004: XV), began to feature prominently in international reports and articles that called for the need to translate research evidence 'into action'. In describing the importance of EIHP/knowledge translation in our interviews, Ugandan knowledge translators reiterated some of the commonly-cited reasons for this gap, such as the unmet need for summary reviews of research evidence that were adapted to policymakers' busy schedules and varying levels of scientific literacy. From these descriptions, knowledge translation/EIHP efforts primarily emerged as a solution to a technical problem, a mechanism that would improve the transfer of research evidence from laboratories and publications into the hands of policymakers.

At the same time that these explanations were perfectly legible, however, they also seemed to elude the question of why EIHP *mattered* in Uganda. As other scholars have pointed out, simply asking someone why an issue is important may not always generate meaningful answers, since – irrespective of how forthright or insightful these answers are – what gives meaning to practices is often outside the immediate scope of the issue or beyond what can be clearly articulated (Prainsack and Wahlberg 2013). Indeed, my interviews with Ugandan knowledge translators hinted at a whole range of other issues that seemingly went far beyond the narrow conception of the problem of a 'know-do gap'. These included concerns about how and by whom Ugandan research and policy priorities were set and influenced, the underfunded nature of national healthcare and research organisations, the dependence on and unpredictability of international funding, the wish for a nationally-owned mechanism to provide independent advice to policymakers, and the need to strengthen public institutions. In fact, the plethora of issues that came up in interviews often felt overwhelming. On the one hand, this was linked to the fact that a more in-depth discussion of most of these issues was simply unachievable within the time-constrained space of a formal interview. But on the other hand, when taken together, the raised issues also pointed to an incredibly complex and messy context against which the push for knowledge translation effort and aspirations to more evidence-informed policymaking in Uganda played out.

Even though the time I spent in Uganda was comparatively short, I hugely benefitted from the kindness and openness of a number of (former) REACH/ EVIPNet team members who not only agreed to follow-up interviews, but who also met me for lunch or dinner, gave me lifts across Kampala, introduced me to family members, and invited me to their family homes outside of Kampala. As I got to know, and like, these knowledge translators, my original aim of producing a critique of evidence-for-policy efforts seemed increasingly indefensible. More so, our informal interactions and conversations, which often involved discussions about topics that were ostensibly unrelated to evidence-informed policy-making, contributed to my better understanding of some of the wider context of evidence-for-policy efforts in Uganda, and of how and why evidence-informed policy mattered to these health professionals.

One former EVIPNet team member, for example, showed me around a private health facility at the outskirts of Kampala that was attached to the teaching institution they had since joined. Intent on making me *see* the stark difference between private hospitals such as this one, with its small exclusive rooms, shaded balconies and state-of-the-art services, and what they described as the often chronically underfunded and dilapidated public healthcare facilities, this former EVIPNet team member also proposed to arrange for me to visit a selection of smaller public healthcare facilities outside of Kampala. This plan had to be eventually abandoned due to their busy schedule and logistical reasons. Nonetheless, what our conversation seemed to speak of – as did discussions with other knowledge translators, their narratives of career decisions, offhand comments about the state of public healthcare facilities, and vented frustrations about current political affairs – was a deep-seated desire to make a difference, and of evidence-informed policymaking as one vehicle for change in Uganda. Such more informal interactions and conversations, but also simply being in Uganda, reading the newspapers, and strolling through the Mulago hospital grounds, helped to ground my understanding of some of the hopes and expectations attached to the 'translation' of research into tangible benefits, as well as the ambition of fostering a culture of more 'evidence-informed' healthcare decision-making.

Nonetheless, although these encounters helped me to gain a much 'thicker' understanding of the context of the push for evidence-informed policy in Uganda, I decided to not make direct use of this material in this thesis for a number of reasons. Many of these interactions and conversations took place outside of formal interview situations or even workspaces, which raised an ethical concern that offering details of these conversations or the contexts in which they took place may violate ethical codes, or at least constitute a betrayal of trust[7]. A further complicating factor was that the (former) core Ugandan REACH/EVIPNet team only comprised a small group of individuals. Disclosing bibliographical details of team members thus posed the acute risk of jeopardizing their anonymity. I perceived it to be important to explicitly situate my case study in Uganda as well as disclose institutional names and affiliations. The trade-off was to make every effort to try and conceal the identity of individual interviewees.

To still be able add contextual depths to my descriptions of knowledge translation/EIHP efforts in Uganda and provide a sense of who those involved in these efforts were, I decided for Chapter 5 on a strategy that utilises publicly available information of the biography and career of EVIPNet/REACH Uganda's founder, Professor Nelson Sewankambo. From being part of the research team that first described HIV/AIDS in Uganda in the early 1980s to later becoming Dean of Makerere's Medical School and Principle of MakCHS, Sewankambo's biography is closely entangled with the more recent history of Uganda's health care and research infrastructures. As an eminent Ugandan researcher, a prominent member of the country's medical establishment and a key driver of and collaborator in countless international research projects, Sewankambo's career trajectory frequently features in both academic and non-academic publications – more so, since he has long been a prominent

[7] Even though ethnographic accounts of scientific knowledge-making practices have become a mainstay in Science and Technology Studies (STS), the 'studying up' (Nader 1972) involved in observing the work of scientists comes with its own set of methodological and ethical dilemmas. This includes the threat of wittingly or unwittingly disclosing information that these scientific experts themselves may perceive as harmful or detrimental for their professional careers (Prainsack and Wahlberg 2013; for a more general discussion of some of these issues in the ethnographic study of elite groups, see e.g. Shore and Nugent 2002).

and vocal advocate for (international) research efforts to not only improve health and healthcare in Uganda but to actively contribute to wider nation-building efforts (e.g. Sewankambo and IJsselmuiden 2008; Mgone *et al.* 2010). His long and illustrious career sets Sewankambo apart from the rest of his team, whose other members tended to be younger and less advanced in their careers. Yet, his outspoken desire for change and his driving role in the forging of scientific networks and initiatives that may contribute to this change also seemed emblematic of many of the hopes and aspirations harboured by (former) REACH/EVIPNet researchers, even if expressed more tacitly. Chapter 5 thus draws on details of Nelson Sewankambo's career as a way to provide a historically-situated account of the emergence of evidence-for-policy efforts in Uganda, but more so to point to some of the wider and highly complex circumstances that have turned evidence-informed policymaking into a matter of concern and care for Sewankambo and his colleagues. Rather than an attempt to provide a linear master-narrative of these developments, this chapter expressly seeks to highlight the complexity of these circumstances, precisely to argue that they far exceeds the narrow explanation that inheres in the catch-phrase of a 'know-do gap'.

There are undoubtedly many different stories that could have been told about the emergence of evidence-for-policy efforts in Uganda. The story I chose to tell in Chapter 5 was guided by the importance that Sewankambo and his team members attached to national and regional evidence-for-policy efforts that preceded the link with EVIPNet, and especially the role of REACH. That does not mean, however, that I relinquish my role as a storyteller. As already noted, storytelling is never an innocent intervention and the stories I tell in this thesis are guided by my hope to contribute to the cultivation of a different future. My recounting of these Ugandan efforts is thus an explicit attempt to provide an alternative to stories – including those I myself risk rehearsing in Chapter 3 despite my attempt at diversification – that frame the drive for evidence-based/informed practices as primarily emanating from Global North actors and institutions. But more than just providing a counter-narrative, Chapter 5 seeks to highlight the need to reformulate what is at stake in the demands to link proofs and politics. Challenging both, accounts that propose

EIHP/knowledge translation infrastructures as a straightforward solution to the simple problem of a 'know-do gap', as well as their easy rejection as new 'evidentiary regimes' imposed in the name of a Global North-dominated global health, thus serves to underline my own concern for a more careful engagement with these demands.

Good methods, careful engagements and speculative hopes

In the following second part to this chapter, I seek to further elaborate how I developed my methodological approach in dialogue with topical theoretical/conceptual debates within Science and Technology Studies (STS). In STS, debates about methods and methodologies are both rich and rife with controversy. Early laboratory studies that aimed to studied the culture and practice of scientific knowledge (cf. Chapter 1) not only helped establish STS as a discipline but also ethnographic fieldwork as one of its preferred modes of inquiry (Knorr-Cetina 1995; Hess 2001; Doing 2007; Asdal 2012). The ambition to study science 'in action' has since yielded a multitude of detailed ethnographic accounts of scientific knowledge-making in settings as varied as microbiology and physics labs (Knorr-Cetina 1999), reproductive clinics (Franklin and Roberts 2006), and research centres dedicated to the production of evidence-based guidelines (Moreira 2007). At the same time, however, STS is also said to have remained "undisciplined" (Daston 2009: 811) and more promiscuous than other disciplines when it comes to its methods of choice. The field's key focus on the changing practices of knowledge production has arguably required an innovative methodological toolbox that is not only able to trace others' knowledge practices across an ever-widening range of locales and settings, but that also reflects the lively debates on how STS scholars' own methodological and epistemological assumptions impact on what, how and where knowledge is produced.

On the one hand, STS scholars have thus long been concerned with selecting methods that 'fit' their objects of study. Hess (2001), for example, argues that earlier laboratory ethnographies with their focus on the production of facts were superseded by studies concerned with the relationship between science and society more broadly, with the consequence that field sites expanded beyond the laboratory and diversified. Similarly, Hine (2007) proposes that in

a world increasingly characterised by global flows, mobility and connections, STS scholars have increasingly adopted a 'multi-sited imaginary'[8] to inform the selection of methods deemed better suited to engage with research objects that are not stable and/or firmly situated but that precisely emerge through "various forms of connection and circulation" (ibid.: 656). Attempts to trace knowledge-making practices across diverse geographies and settings have thus rendered notions of 'fieldwork' and 'ethnography' more open to interpretation: the aim to explore "many points of exposure and triangulation" (Hess 2001: 242) have led STS scholars to observe the work of scientists, but also attend conferences and meetings, interview an ever-widening range of people, work in archives, join online chat communities, read mailing lists and study vast amounts of technical documents.

In part, such demands for a wider range of methodological tools resonate with John Law's proposal to rethink social science methods as 'method assemblages'. As Law argues in his provocatively titled book *After Methods* (2004), to engage with a world that is inherently complex and messy, STS scholars should re-imagine methods that "no longer seek the definite, the repeatable, the more or less stable" (ibid.: 6). In part, this call for less prescriptive and more imaginative social science methods is grounded in Law's shared concern for modes of inquiry that are better "adapted" (ibid. 4) to the study of phenomena whose distributed-ness, complexity and shifting nature may elude more 'conventional' research methods. But more so, it also seeks to challenge what Law describes as the naturalised assumption that certain research methods are better able than others at 'objectively' capturing reality. Rather than aiming at representing a reality 'out-there', Law argues, methods always interfere with and are productive of reality. For us as STS scholars, this means that we should appreciate that our methods can only

[8] A proposal that builds on 'multi-sited ethnography' as an anthropological approach to 'follow' connections across multiple ethnographic field sites to study of geographically-distributed phenomena (Clifford and Marcus 1986; Marcus 1995). But Hine (2007) also insists that 'imaginary' not only captures better the multiplicity of methods that STS scholars have employed to trace their objects of study across different settings, but also the multiple meanings of the fieldwork 'site' beyond geographically and/or culturally bounded locales.

ever be selective and provide a 'partial' picture of world, but also that we play an active role in the "crafting and enacting" (ibid.: 144) of realities. For Law, re-framing methods as method assemblages thus involves an onto-epistemological commitment to modes of inquiry that seek to

> "detect, resonate with, and amplify particular patterns of relations in the excessive and overwhelming fluxes of the real" (ibid.: 14).

As such, the 'goodness' of methods, according to Law, no longer rest on a judgement of how well they represent a reality out there, but equally corresponds to what these methods *do*, what realities they help bring into being.

With a wish to draw on and contribute to these methodological debates in STS, I initiated my PhD project with the aim of applying a 'multi-sited imaginary' to examine how EIHP and evidence were 'enacted' across multiple empirical settings – the documents produced by EVIPNet, 'global' knowledge translation/EIHP toolkits, and the practices of the Ugandan EVIPNet team. I already discussed one challenge to this initial methodological approach, namely my inability to ethnographically study the practice of knowledge translation in Uganda. As I also noted, abandoning my research in Uganda seemed indefensible since the paucity of knowledge translation/EIHP in Uganda clearly mattered, both to the knowledge translators that I spoke with during my first visit to Uganda, but also to the 'object' of EIHP itself. The methods described above thus reflect my attempt to adapt my approach to the situation at hand.

More disconcerting than these practical challenges, however, was the question of how to reconcile my own critical view on 'global' EIHP efforts and frameworks with the enduring dedication to EIHP expressed by my Ugandan interviewees, and what this meant in terms of how I chose to engage with EIHP as my object of study. As part of this, I became concerned that the constructivist notion of 'enactment' as the performance or bringing into being of realities might not be the most suitable tool to guide my analytical approach. For once, I was concerned that this may not enable me to take seriously my interviewees' commitment to evidence-informed policy and would instead risk 'debunking' their believes in science. Furthermore, I

questioned the performative purchase of my own account and what realities an approach that focused on the different enactments of EIHP could indeed 'bring into being'. I elaborate on my concerns with the notion of 'enactment' in more detail in the following section. Afterwards, I discuss how thinking with the work of Isabelle Stengers, Maria Puig de la Bellacasa and Helen Verran has encouraged me to work towards an alternative mode of engagement that takes seriously the challenge of avoiding the 'debunking' or 'deconstructing' of others' knowledge claims as a precondition for the possible co-existence of diverging knowledge practices.

When truth is not a gold standard

Chapter 1 introduced the term 'enactment' (and the related term 'performativity') as an analytical tool that STS scholars have employed to highlight not only the emergent character of (scientific) entities and worlds, but also the active role of socio-material practices or methods in bringing these worlds into being. Whereas the previous chapter discussed the analytical possibilities offered by the notion of 'enactment', I want to discuss here some of the more problematic question this term arguably raises, including in regard to my own project.

To do so, I begin by briefly reviewing how Annemarie Mol explicates the notion of enactment in her book *The Body Multiple* (2002). Here, Mol employs an ethnographic strategy that 'follows' atherosclerosis in a Dutch hospital to study how it is enacted in practice, how atherosclerosis is

> "assembled, put together, and turned into an object that subsequently goes out in the world all by itself" (Mol 2002: 32).

Mol's central aim is to show how atherosclerosis is enacted – and enacted differently – across a variety of clinical settings and through different medical practices: how it *becomes* atherosclerosis as a shadow in an ex-ray picture, as a vessel stenosis laid bare by surgical tools, or as a thickened vessel wall observable through a microscope. Different practices or methods, Mol argues, do not produce different perspectives on the same entity. Rather, they *bring atherosclerosis into being* differently. As a result, she proposes, atherosclerosis is not one but multiple; and without the different methods of making it "visible, audible, tangible, knowable" (ibid.: 33) atherosclerosis

would not even exist as a diagnosable illness at all. In contrast to a conception of entities (and realities) as singular and 'out there' waiting to be found and represented, Mol suggests that they are 'acted out' as the relational, situated and contingent outcomes of knowledge practices – their becoming know-able is inseparable from their becoming. Mol's descriptions of the multiplicity of atherosclerosis offer a hugely engaging account that has provided valuable insights into the variability of and differences between medical practices and the effects they produce. But it also raises a number of important questions. For example, is there an indefinite number of practices that can bring into being an indefinite number of objects of atherosclerosis? Who and how determines if a particular practice to enact atherosclerosis is considered 'medical' or 'scientific', or not? Why does medicine come to consider atherosclerosis as one entity?

To account for the latter problem, Mol uses the concept of 'coordination' to describe how differently enacted entities may co-exist without clashing. As she argues, it is the coordination between multiple enactments – the balancing, adding up, and subtracting between their different realities (ibid.: 70) – that makes the singular entity atherosclerosis possible. Put differently, coordination is important for multiple realities to 'hang together' (cf. Mol 2010), to be multiple and *be seen* as one or singular. Yet, this arguably still evades the question of why most medical practitioners are likely to insist that only certain methods or practices can make atherosclerosis 'known' and not others. Indeed, Mol briefly alludes to modern medicine's "pretence" of a single disease or single reality (Mol 2002: 36). It is not clear, however, how she thinks such assumptions might condition certain enactments rather than others. Neither is it clear if Mol assumes that – beyond such 'pretences' – there are indeed any constrains upon which/how many realities can be brought into being. The question I wish to propose this raises is if biomedical practices – or indeed any knowledge practice, including my own – can just 'make up' the world[9].

[9] For a similar concern with the notions of enactment and performativity see Savransky (2016), who cautions that an overemphasis on the reality-making effects of (social science)

Mol does seem to consider that there may be some constraints, when she proposes that

> "[r]eality used to be a standard to live up to, but given the proliferation of technoscience the question that now needs asking is "what reality should we live with?" (Mol 2002: 165)

Here, Mol seems to suggest that the kind of entities and worlds knowledge-making practices bring into being is primarily a normative question. John Law seems to echo this when he proposes that

> "if truth by itself is not a gold standard, then perhaps there may be additional *political* reasons for preferring and enacting one kind of reality rather than another" (Law 2004: 13; *italics in original*).

Before I examine in more detail the difficult questions such conceptions of the role of practices and methods pose for my own project, I want to therefore briefly discuss the way these STS scholars have formulated the question of politics in and of knowledge-making.

Ontological politics – politicizing ontologies

As STS scholars have increasingly shifted the analytical focus from epistemology to ontology – from the question of how well scientific facts represent reality to how well facts and realities are made – this has indeed raised new questions about what 'well' may mean. In other words, it has arguably further shifted attention to the politics or even ethics of how entities and worlds are made to emerge. Mol and Law, for example, have employed the terms 'ontological politics' (Mol 1999, 2002; Law 2004) or 'ontonorms' (Mol 2013) to highlight that which realities are enacted is a matter of politics. On the one hand, this has intersected with the long-standing aim of revealing the politics embodied in science and technology. On the other hand, however, it has also raised questions, as suggested in the above quote by Law, about what politics should guide 'good' social science methods.

Whereas these are not new concerns, they are said to have gained urgency in STS in conjunction with the focus on the social construction of entities and

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methods risks turning the world into a "receptacle for whatever social scientific practices make to inhabit it" (ibid.: 131).

worlds (Niewöhner, Beck, and Sörensen 2012). Indeed, whereas the 'following' of entities became a popular strategy in Actor-Network Theory (ANT)- influenced strategies to avoid 'meta-theory' and pre-determining what should be studied (Latour 2005; see above), this strategy was also accused of relinquishing analytical responsibility and rehearsing already dominant narratives (e.g. Star 1991), an argument that contributed to the colonising charge discussed in the previous chapter. But it was also accused of mirroring modern science's strive for 'objective' knowledge. As Donna Haraway argued,

> "[t]he story is told by the same story. The object studied and the method of study mimic each other. The analyst and the analysand all do the same thing, and the reader is sucked into the game. It is the only game imagined" (Haraway 1997: 34).

In other words, Haraway argued that her criticism of science's "god-trick" – the claim of disembodied, objective and neutral witnessing of real facts – equally applied to social scientists pretending to be 'modest witnesses' (Haraway 1988). As she argued, it would be insincere of social scientists to try and expose the role of social, ethical and political considerations in the constructions of scientific objects in laboratories, while neglecting how similar considerations shaped their – our – own methods, technologies, theories and stories (Haraway 1997).

In the context of such on-going debates about the need to apply analytical assumptions not only to the study of (natural) science but also to the practices of social scientists themselves, notions such as enactment and ontological politics thus served to undergird new modes of analysis aimed at shedding light on how complex entanglements of knowledge, ontologies, politics and ethics that order the world emerge through practices. But also how these processes can be interfered with. Indeed, the claims that 'reality' or 'truth' no longer hold as gold standards (Mol 2002; Law 2004) were also used to pose the question of how we as social scientists do or could 'enact' entities and realities. As Law and Urry proposed, social science had to "think about the worlds it wants to help to make" (Law and Urry 2005: 390). And yet, such proposals clearly raise challenging questions, including how we should decide on which worlds to help making. The answer to this question seems not

always clear in the STS literature. Mol, for example, notes that instead of asking "is this knowledge true to its object?" the question has become "is this practice good for the subjects (human or otherwise) involved in it?" (Mol 2002: 165). But this arguably still raises the question of what 'good' means – especially if we wish to avoid pre-established ethical criteria to judge goodness[10].

At the beginning of my project this raised a number of difficult questions in regard to my own methodology. How could I have produced a 'good' account of a network that is very prescriptive about the admissible methods for reading off evidence of a presumed singular reality – based on an approach that is not only 'after' networks, but after (prescriptive) method (Law 2004), and 'beyond' representation and transcendental critique (Jensen 2014)? Indeed, as I argue in Chapter 4, global EIHP/knowledge translation toolkits are built on the assumption of a singular reality and real facts, evidence of which can be found and should be used to make decisions (e.g. WHO 2015, *online resource*). Most EIHP frameworks and articles circumvent the question of what evidence actually is, in favour of outlining the right methods to identify, appraise and apply the 'best' research evidence (e.g. Banta and ACHR WHO Europe 2003; Oxman, Schünemann, and Fretheim 2006; Oxman *et al.* 2009; STP1). And yet, what constitutes the best evidence is inseparable from claims that some methods are better than others at "finding the truth" (Haynes et al. 2006: 7). As I argue in Chapter 4, these are foundational assumptions that crucially undergird demands for and claims of EIHP, namely that it uses the best *scientific* methods that elicit the best *scientific* evidence. They also justify the way EIHP frameworks disqualify – or better: relegate – other types of evidences or knowledge practices (cf. Chapter 7).

How was I to engage with EIHP and these associated epistemological frameworks? What would the consequences be of an analytical approach guided by the assumptions that truth is not a 'gold standard', facts constructed

[10] This argument can take a variety of shapes, including that such ethical criteria are universalising, all-too-human, etc.. Or, in line with my later argument, that such criteria rely on a fact-value distinction (for different ways this has been argued, see e.g. Law 2004; Verran 2001; Michael and Rosengarten 2013).

and realities multiple and variously enacted? Would that not involve 'debunking' EIHP's scientific claims by contrasting EIHP proponents' – and my Ugandan interviewees' – "pretence" (Mol 2002: 36) of a singular reality with my own empirical evidence on the multiplicity of realities? Would this, in turn, not turn me into an enlightened analyst free to judge and dismiss the knowledge practices of others? Is there indeed nothing special about science and its methods? What would the implications be for my own evidentiary practices? Conversely, if my methods not just describe but indeed enact entities and realities, how and what should I bring into being? How could I enact evidence-informed health policy as my object of study in a way that makes my enactments 'good'? And 'good' for whom? Notwithstanding Mol's warning (2002: 155), I found these questions quite paralysing, both in terms of practical implementation and their analytical implications.

As alternative approaches that cannot provide definite answers to these difficult questions on the effects of (my) methods but that have encouraged me to approach them in a different manner, I outline in the following how thinking with Isabelle Stengers' notion of an 'ecology of practice' and Maria Puig de la Bellacasa's 'matters of care' have shaped my own approach to the study of EIHP. These scholars, too, conceive as knowledge not as a disinterested representation of a mute reality but knowledge-making as an active and always situated intervention in the on-going becoming of the world. Yet, I also argue that their accounts insist on the possibility for knowledge-making practices to establish relevant connections in and with the world, as well as pay greater attention to the achievements, constraints and risks of failure that inhere in this task.

Coming (in)to matter

A key argument that I develop in this thesis is that WHO's EIHP approach and its conception of the 'best' scientific methods build on a conception of a world that is separated into objective facts and subjective values. In the following I describe how this argument draws on Isabelle Stengers's proposal of a 'bifurcation of nature' that underpins modern science, to then elaborate how this has informed my own study of EIHP.

Borrowing the concept of bifurcation from A.N. Whitehead, Stengers proposes that bifurcation separates the world into two: on the one hand, a realm of objective and measurable facts of a 'true' or real nature; and on the other hand, a realm of perceptions and values as external to entities but related to subjective experience (Stengers 2008). On such a view, Stengers argues,

> "truth lies in a reality external to such subjects and it is the task of science to deliver clear and immediate access to this realm (Stengers 2008: 91).

Following Whitehead, Stengers associates this bifurcation with the birth of modern experimental sciences during the mid-17th century. A central example is Galileo's experiments on the acceleration of bodies and his use of a declined plane, which allowed the removal of him as the scientists from the experimental set-up (Stengers 2000, 2010, 2011). According to Stengers, this ur-experiment established the idea of science's privileged modes of inquiry based on an experimental empiricism that promises access to facts and causes by eliminating subjectivism/the role of the researcher.

The task that Stengers has set for herself is to develop an account that acknowledges the singularity of (experimental) scientific achievements, at the same time that it insists on their situatedness. What this entails, she proposes, is to reject a view of science as totally realist and challenge the claim that science gains access to "objective maters of fact" (Stengers 2008: 93), which would authorise it to speak in the name of 'objectivity' or 'truth'. But it also means to refrain from any attempt to 'debunk' science as 'just' constructivist, or to proclaim that scientists only 'believe' that their practices have any relationship to reality, whereas, in fact, scientific practices involve only 'social' constructions (ibid.: 93). This, in other words, could be said to distinguish Stengers' Whiteheadian approach from the above-mentioned notion of 'enactment' (and performativity) used in constructivist STS accounts. Stengers insists that science cannot be reduced to scientists 'pretending' the existence of a reality that they can gain access to, or 'believing' that their practices discover more than is immediately observable, or that objectivity is indeed possible. For Stengers, knowledge-making does indeed involve creation, in the sense that it involves interventions that have the propensity to

“’add’ something to reality” (2011a: 16), to make a difference. But she insists that this also requires the existence of something that can be ‘added to’. In other words, knowledge practices do not encounter a ‘mute’ reality that they are free to enact and multiply as they wish. Rather, their task is the creation of (partial) connections in and with a world that has the power to put this creation to the test. In other words, it entails “learning how to get relevant access, not renouncing the possibility of any such access” (Stengers 2008: 99).

In regard to experimental sciences, Stengers argues that objectivity is thus indeed possible; however, it is not the common-sense precondition for the production of valid knowledge, but a situated achievement of experimental practices (Stengers 2008). A key aspect of this achievement is, according to Stengers, the construction of what she calls experimental ‘factishes’. Stengers proposes that experiments generate such factishes, hybrids of facts and fetishes – a conceptualisation that aims to resist bifurcation and highlight the constructed character of facts (Stengers 2010). Yet, for Stengers, this construction of facts is not ‘just’ social. Instead, the notion of the factish serves to highlight that any claim has to be “related to the demands that it has to fulfil” (Stengers 2008: 92). Galileo’s ball rolling down the inclined plane could thus be regarded as the prototype for factishes, since it allowed Galileo to ‘objectively’ measure and compare the velocity of a falling body. In other words, his experimental set-up allowed Galileo to withdraw and let nature speak for itself, testified to by the factish (Stengers 2010: 66). As Stengers insists, understood as an achievement of allowing “what was questioned to make an actual, decidable difference (Stengers 2008: 93), objectivity should indeed be defended. As such, she also differentiates these factishes from ‘raw empirical facts’ “like an earthquake or a tree falling on a passerby” (Stengers 2010: 49). The latter are open to interpretation or “any creation of meaning” (Stengers 2010: 50). In contrast, the experimental factish is a creation, but it is a creation that operates as a ”reliable witness for the ‘adequacy’ of an interpretation” (Stengers 2008: 94). This is why Stengers talks of achievements, but as achievements that are always situated and partial. As she notes, the successful constructions of factishes can only ever

> "affirm the truthfulness of the relative, that is, a way of relating the power of truth to a practical event and not to a world to which practices would merely provide access" (Stengers 2010: 24).

According to Stengers, the problem with modern sciences, however, is that they fail to treat objectivity as a situated experimental achievement, but instead use it to undergird the "fairy-tale idea that science gains access to 'objective matters of fact'" (Stengers 2008: 93). In other words, modern sciences built on the claims that, first, scientific facts (or factishes) are not situated achievements but a real representation of an 'objective' reality – of a world that *is* bifurcated into objects facts and subjective values. Second, modern sciences do not celebrate objectivity as a situated achievement, but impose it as a demand: objectivity must be possible (Stengers 2008). This is what Stengers calls, again following Whitehead (1929), the "fallacy of misplaced concreteness" (Stengers 2008: 98)[11].

According to Stengers, to resist 'science's fairy tales' thus does not require debunking science by denying its achievements. Rather, she argues that the task is

> "to characterize the achievement, that is, to specify the rather singular and specific demands it succeeded in satisfying (Stengers 2008: 93).

In this regard, the notion of 'concerns' plays a key role. On the one hand, concerns – such as for the achievement of objectivity in the case of experimental sciences – determine how factishes are made and what they are asked to attest to (Stengers 2010). In other words, they contribute to how scientific practices relate to the world. Or better: concerns contribute to how knowledge practices pay attention to how things 'come (in-)to matter', as Savransky (2016) proposes in drawing on Stengers' work. On the other hand, specific concerns – and rapports made and factishes created as the result of

[11] Stengers refers to Galileo's experiments as the progenitor of modern sciences precisely because they led Galileo to formulate his laws of motion. In other words, rather than celebrated as a situated achievement, his factish was taken to attest to the existence of universal laws of nature, and his experimental methods as the best methods to 'objectively' gain access to this nature (Stengers 2010).

those concerns – also 'make' disciplines or collective (scientific) practices[12]. In other words, they are part of the 'attachments' (Stengers 2005a) that make scientists part of a particular practice. But this also means that these attachments should not be extended beyond their reach, taken as self-evident and imposed on others without giving them the opportunity to disagree or resist. In regards to experimental scientists' concern for objectivity, for example, Stengers argues that this cannot be imposed on other practices, since it entails the disqualification of these other practices through the

> "imposition of a standard that presupposes and enacts silence, the impossibility of objecting or of demanding due attention" (Stengers 2011c: 58).

As such, Stengers' aim is not just to defend the idea that there is indeed something special about science(s). She also insists on the need for a better science – a science that is creative, experimental, and curious and that does not loose itself in claims to conventional notions of objectivity and rationality (e.g. Stengers 2011a; see Chapter 7). As she notes, her aim is to

> "characterize experimental science as an adventure and, in so doing, to free the space for other adventures" (Stengers 2014: 196)

In other words, for Stengers, experimental science is – for all its merits – but one of an 'ecology' of heterogeneous and divergent knowledge practices (Stengers 2005a), and not the master science authorised to destruct all other practices "in the name of rationality, objectivity, and the great divide between nature and culture" (Stengers 2011c: 58). As such, her attempt to uphold the singularity of experimental science and its achievements ultimately serves to allow for the (speculative, see below) possibility of a peaceful co-existence of diverse knowledge practices.

To conclude this brief review, it should be noted that Stengers, too, calls for the need of an 'ontological politics' (Stengers 2016). Yet, her proposal does precisely not involve exposing the politics imbued in facts (see above). The

[12] As Stengers notes, factishes are the "product and the producer of a practice, existing through it and causing it to exist" (Stengers 2010: 80). See Chapter 4 for a discussion of why Stengers herself does not actually perceive of modern medicine as such a practice.

notion of ‘concerns’ that Stengers proposes does not refer to socio-political interests. Stengers insists that sciences are political, but that they are not ‘just’ political (Stengers 2000). In other words, politics do not determine the construction of facts. But once scientific facts leave the situated environment of their construction (such as a laboratory) they do become a political issue. That is, scientists cannot claim the authority of their facts in the name of objectivity; rather these facts have to prove themselves in new – and often messy – environments (Stengers 2000; 2011a; see Chapter 7).

This brief overview can give but a glimpse of Stengers’ on-going effort to both defend and situate the achievements of experimental sciences. But I want to propose that thinking with Stengers’ work opens up new opportunities to engage with the problematic questions raised by the demands for EIHP. As I will further propose in the next chapters, doing so might allow for a more careful engagement with the specific concerns of EIHP experts, and how these translate into specific problematisations, obligations and demands that are considered part of the *doing* of EIHP. But I will also show that it allows examining the problematic questions that are articulated by EIHP demands to link objective global proofs and local policy decisions.

Indeed, as I briefly indicated above and will further discuss in the next chapters, the shift at WHO from evidence-based to -informed policy under EVIPNet has been accompanied by growing importance placed on the circulation, appraisal and application of experimental research, preferably sourced from randomized controlled trials (RCTs). While my own project does not involve the study of experimental trials as such, some scholars have explored how such trials are generative of new entities, actors and relations (e.g. Will and Moreira 2010; Brives 2013; Michael and Rosengarten 2013). In the following chapters, I draw on these insights as I explore what happens to experimental research evidence *after* the trial. What kind of evidence is meant to travel and evidence for what? What happens when evidence is disentangled from its situated emergence and transposed elsewhere? What are the new events that this evidence is part of by becoming mobilised in the drive for ‘evidence-informed’ health policy? What kind of limitations do specific concerns impose on how and what evidence is produced – but also on what it

may be able to attest to? And in how far are concerns for objectivity indeed compatible with the concerns of policymakers? Is it possible to approach EIHP in a way that does not seek to discredit the possibility for and achievements of evidence-making practices, yet insists that the claims attached to these practices are not dissociated from the questions that they are meant to answer? These are some of the questions that this thesis has set out to explore.

Assembling EIHP as a matter of and for care

As already noted in the Introduction, this thesis enlists the help of a number of scholars, including Isabelle Stengers, but also Maria Puig de la Bellacasa and Helen Verran. As I proposed, these scholars share a commitment to knowledge-making as an active and always situated intervention in the on-going coming (in-)to matter of world(s); or better: a world where many worlds fit, as Stengers (2016) puts it. That is, a world not of endless possible multiples, but a world of multiple possibles.

As I noted above, Stengers' notion of an 'ecology of practices' (Stengers 2005a) includes the proposal for a peaceful co-existence of diverse knowledge-making practices each characterised by their diverging attachments and particular ways of paying attention to what comes (in-)to matter. Verran in her work, on the other hand, engages ways to imagine the possibility for practitioners of divergent knowledge traditions to 'go-on together' (see Chapter 7). And Puig de la Bellacasa insists on the need for our own knowledge practices to take seriously what others care about (see below). As such, thinking with these three scholars as I grappled with EIHP as my object of study has taught me that empirical inquiry, including my own, is generative and indeed never innocent in the way that it either contributes to the obstruction or the fostering of a possibility for difference.

This leads back to the question of how I wish to engage with the coming (in-)to matter of evidence-informed health policy as my object of study. As noted above, I do not purport to 'find' EIHP as a ready-made entity out there waiting to be discovered. The stories I tell of EIHP *do* matter. At the same time, however, these stories do not *produce* entities and realities. To return to John Law's proposal for 'method assemblages': my methods are indeed aimed at

‘detecting, resonating with, and amplifying’ – yet, they are not ‘enacting’ realities in this sense of being constitutive of them. I cannot aim to elaborate here on what Stengers’ proposal for ‘relevant access’ might mean in regard to social science methods (for an attempt at such a reconstruction see Savransky 2016). As Savransky (2016: 133) suggests, rather than ‘reality-making’, social science methods may be better conceived as aiming at ‘connection-making’, as modes of inquiry that can

> “become factors in the sustenance and transformation, in the cultivation or decay, of the worlds with which they connect”.

With this in mind, the stories I tell are neither about the discovery and representation of ‘objective’ facts, nor about pure fabrication and fabulation. Instead they are about making new connections with and in the world in order to re-present it, while staying accountable for the connections made.

One scholar whose work has helped me to further think through my own mode of making relevant connections has been Maria Puig de la Bellacasa with her proposal for assembling ‘matter of care’ (Puig de la Bellacasa 2011). ‘Matters of care’ is an analytical proposition that Puig de la Bellacasa develops in response to a number of her own concerns with on-going debates on the role of STS researchers in the becoming of worlds. Yet many of these concerns resonate with what I outlined as key methodological challenges in this chapter. According to Puig de la Bellacasa, the notion of care involves both a ‘doing’ and an ‘ethos’ to guide social science’s engagements with and responsibility for how we assemble our objects of study. As she notes, we “must take care of things in order to remain responsible for their becomings” (ibid.: 90). As a ‘doing’, the careful assembling and re-presenting of things acknowledges that knowledge production is always both generative and partial. That is, it necessarily involves ‘making a cut’ (ibid. 2011) – or, in the words of Stengers (2008: 95), a process of “discarding what does not matter” – since paying attention to some things necessarily involves not paying attention to others. As an ethos, it involves the proposal to remain attentive to – to care – for the effects of how we assemble things.

As such, the notion of 'matters of care' also serves to resist the bifurcation into objective facts and subjective values: what we care for, and how, matters[13]. In addition to a concern for the effects of knowledge practices, however, I also associate assembling 'matters of care' with an attentiveness towards what constrains them. Indeed, Puig de la Bellacasa insists that assembling things as 'matters of care' involves paying attention to the concerns of others and what they care for. In other words, it demands paying attention to how and why things matter to others, even those we might disagree with (Puig de la Bellacasa 2011).

Ultimately, this thesis thus strives to assemble EIHP as such a matter of and for care. By drawing together material from my archival research at the WHO, documents pertaining to EVIPNet and 'global' EIHP frameworks and from my fieldwork in Uganda, I aim to re-present EIHP as an assemblage of diverging concerns, actors, tools, and practices. One the one hand, this serves to situate EIHP as it has been formulated and promoted by WHO in connection with EVIPNet. As already noted, my re-presentation of the emergence of evidence-for-policy approaches at WHO in Chapter 3 not only strives to question narratives of evidence-for-policy approaches as part of linear scientific rationalisation processes, but to also call for more care in social science engagements that critique the expansion of monolithic and hegemonic 'evidentiary regimes'. As such, it also serves to make a more conceptual point that I laboured towards in this chapter, namely that evidence-based/informed approaches in health are not a stable or mute objects. Instead, they are, as Puig de la Bellacasa puts it (2011: 87), 'lively'. This means that rather than discreet objects that can be 'found' and studied, they come (in-)to matter – and may come to matter differently, including as a result

[13] Puig de la Casa thus aims to extend the Latourian notion of 'matters of concern', which he proposes shifts social science's focus from questioning how well matters of fact represent the world to describing which parts of the world go into the assembly of matters of concern (Latour 2004, 2005, 2008). Latour's primary concern, however, is to add to matters of fact in ways that show the "whole scenography" (Latour 2008: 39). While this is in line with his long-term project of democratizing science by showing the many heterogeneous actors needed to make things matter, it arguably also raises similar question to those discussed in Chapter 1 (cf. Puig de la Bellacasa 2011; Watson 2014).

of the way we study and re-present them. As such, this thesis suggests that these approaches are not just (a) regime(s) that we, as social scientists, should set out to debunk or topple. Instead, particular evidence-based/informed approaches involve a plethora of concerns that I suggest we should pay attention to in order to foster more productive engagements with those who support these approaches.

Indeed, it has been an ethico-political commitment to pay attention to the concerns of those health professionals who foster evidence-for-policy efforts that has undergirded my aim of assembling EIHP as a matter of and for care. This has involved, in Chapter 3 and 4, to strive for a careful engagement with the concerns of key WHO-associated evidence-for-policy advocates. But more so, it has involved trying to figure out how to be an 'ally' to those Ugandan knowledge translators who were tasked with implementing EIHP frameworks, and for many of whom their efforts seemed inextricably linked to hopes for a different, better future for their home country. As such, Chapters 5 and 6 also propose that whereas Ugandan health professionals strive for EIHP they have also been faced with conflicting demands for evidence of both global excellence and local relevance. Re-assembling EIHP as a matter of and for care thus serves to acknowledge how these Ugandan knowledge translators cared for EIHP and for the possibility of science to make it difference. But it also aims to develop a careful critique of current formulations of 'global' EIHP/knowledge translation frameworks where these involve claims of the 'best' scientific methods that provide privileged access to the 'true' nature of 'what works' in terms of healthcare interventions. By assigning to science the role as rational solution provider, I will argue, global EIHP frameworks pay insufficient attention to the many concerns and questions that emerge with the situated dimensions of a policy problem – and thus risk failing to link proofs and politics.

That also means that my analytical aim in Chapters 5 and 6 is not to show how evidence or EIHP are 'enacted' or performed differently in the Ugandan context compared to 'global' knowledge translation/EIHP frameworks. To be sure, Chapter 5 does argue that across these settings, EIHP matters differently. My key argument, however, is precisely that as long as Ugandan

knowledge translation/EIHP efforts are orientation towards these global frameworks, they risk being constrained by their narrow conception of the problem and its solution. Similarly, Chapter 6 ends with an account of my gradual realisation that many Ugandan knowledge translators seemed indeed highly attuned to the situated nature of 'good' evidence. And yet, a key aim of Chapter 6 is to show that this attunement seemed at odds with the standardised rules and tools of evidence that these knowledge translators adopted in their production of policy briefs, and with the distinction between objective quality and subjective relevance that these rules and tools insist on. Taken together, these chapters therefore make a case for re-imagining how evidence-for-policy efforts *could be different in the future*. In other words, this thesis does not aim for a deconstructive critique against evidence and EIHP. Instead, my hope is that my re-presentation of EIHP as a matter of and for care may contribute to the possibility of imagining alternative formulations of what 'good' evidence is and how it can come (in-)to matter.

It is this orientation towards 'creating possibles' (Stengers 2010: 12) that makes this thesis a speculative endeavour. In other words, it is my hope that re-assembling EIHP as a matter of and for care may generate new imaginations for futures "that are more than a mere extension of the present" (Wilkie, Savransky and Rosengarten 2017: 2). Futures, in other words, that may be unlikely to imagine from our current grounds, but whose possibility we must insist on nonetheless. At the same time, referring to my efforts as speculative also means that I appreciate the risk involved in developing new proposals and re-framing the problem in ways that may or may not matter for those that it seeks to address (cf. Savransky 2016). Nonetheless, my hope is that my thesis may contribute to re-imagining EIHP differently. As I was reminded by my Ugandan interviewees, good science and its achievements *do* matter. So the task may well be: how can we speculatively re-imagine the challenge of linking proofs and politics – in ways that do not insist on their separatedness?

Chapter 3: Evidentiary Maps and Networks

In tracing the emergence and transformations of evidence-for-policy approaches at the World Health Organization (WHO), this chapter argues that new 'evidentiary regimes' (Biehl 2016) in global health might not in fact be as monolithic as they are frequently made out to be in the accounts of both proponents and critics. Instead, this chapter proposes that there have indeed been multiple 'evidentiary regimes' promoted through WHO, linked to different underlying concerns, networks of experts, methods, and imaginations concerning the role of evidence in policymaking. I specifically focus on what I highlight as the shift from evidence-*based* (EBP) to evidence-*informed* health policy (EIHP) in the early-to-mid-2000s. I argue that the former was predicated on aspirations to measure, map and compare global health problems and their solutions with the aim to rationally determine global and national policy priorities. In contrast, more recent demands for evidence-*informed* health policy involve a whole new set of concerns, rules and tools that foreground the circulation of experimental research evidence on 'what works' and its adaption to local context.

Mapping the 'big picture' of global health

In 1984, a young Harvard graduate walked into the lobby of the World Health Organization (WHO) headquarters in Geneva. Through the grand entrance hall and past the portraits of former WHO leaders he made his way to the elevators leading to the upper floors. Passing the various offices of WHO administrative staff and technical officers, he finally arrived at the door of epidemiologist Alan Lopez. The two men had never met. Nevertheless, Lopez would later amusedly recall the younger man's confidence as he stepped into the small office and announced: "My name is Chris Murray, and everything you've written about mortality in Africa is wrong" (quoted in: Smith 2013: 74).

This anecdote may sound like the beginning of a hero story. Indeed, much has been written about what was to be become an ambitious endeavour to find new ways of modelling and mapping ill-health in Africa and across the world in the form of the *Global Burden of Disease* (GBD) project – and about its single-minded figurehead Chris Murray and his strive to be doctor to seven billion patients (Smith 2015a). It is not easy to evade such hero stories, even if

the danger is of unwittingly rehearsing them through opposition. With this caution in mind, the next section recounts some the key milestones of Murray's *Burden of Disease* efforts below. In doing so, I focus on a development that – despite an excess of existing stories on the GBD project – has so far received little attention, namely that Murray's efforts also, albeit briefly and controversially, provided the central pillars of WHO's early efforts to champion evidence-for-policy approaches to global health.

The big picture

The story goes (Smith 2013; 2015) that, when Murray and Lopez met at the WHO in 1984, they agreed that the way WHO collected and tallied mortality statistics was fundamentally flawed. For many countries, especially in the Global South, the availability of mortality data was fragmented. But there were other issues that, according to the two men, were even more problematic. At the time, WHO largely collected mortality data through individual and typically disease-focused WHO programs, which Murray and Lopez saw as contributing to disjointed efforts and seemingly inconsistent numbers, double-counting of deaths and attribution problems (Smith 2013). In other words, WHO seemed unable to produce comparable numbers to establish which diseases were indeed causing the most deaths. But furthermore, the practice of tallying mortality statistics seemed to neglect non-fatal effects of diseases. As a consequence, at WHO and elsewhere, much attention was directed at recording deaths and the causes of deaths, but this was at the expense of measuring health and the biggest causes of ill-health. Despite being the world's health authority, Murray and Lopez argued, WHO was indeed failing to capture "the big picture" (Smith 2013: 74) of the world's health problems. Being able to provide such a 'big picture', they agreed, demanded the development of a new summary population health indicator capturing the fatal and non-fatal impacts of diseases (Smith 2013). Murray, who would go on to earn a medical degree from Harvard and a doctorate in International Health Economics from Oxford, also became increasingly convinced that any such indicator should not only be used to measure the problem, but also the solution. In other words, it should be applicable in economic analyses to capture the impact of health investments to tackle the reasons for ill-health.

Based on these shared concerns, Murray and Lopez's initial encounter marked the beginning of a longstanding collaborative effort to find better ways to quantify the biggest health problems and their best solutions, a collaboration that would eventually reunite them in the late 1980s/early 1990s as part of World Bank efforts to promote rational priority setting in 'developing' countries (cf. Jensen 2017).

Although they may be at the centre of this story, it is important to note that Murray and Lopez's efforts chimed with and built on decades of work by especially North American researchers to develop new summary population health measures that could combine mortality statistics with morbidity or disability data. The need for such measures was typically framed as a response to newly emerging challenges. On the one hand, demographers and epidemiologists called attention to demographic and epidemiological 'transitions' in 'developing' countries as responsible for a rise in non-fatal chronic diseases and disabilities (Gold *et al.* 2002; Mathers 2007). Whereas these transitions were framed as effecting major new challenges, they also neatly fitted with developmental stage-thinking models that described countries' modernisation from developing to developed nations (Omran 1971; Jamison *et al.* 1993). As a result, attempts to capture population health patterns bourgeoned in the latter half of the 20th century (Wahlberg and Rose 2015). On the other hand, quantifying health was increasingly deemed crucial to determine the 'value for money' of competing medical interventions in a context of growing concern for rational allocation of limited health resources (Gold *et al.* 2002). At the World Bank, these two strands of efforts coalesced at the end of the 1980s in the form of the *Health Sector Priorities Review* project and the subsequent *1993 World Development Report* (*WDR1993*).

The *Priorities Review* project was initiated at the close of a decade during which the World Bank had begun to shift its attention to health and promote health-related investments as key to economic development in 'developing' countries (Ruger 2005). As such, *Priorities Review* was a first major World Bank effort to propose a comprehensive framework for determining both, 'high priority' diseases as the greatest problems for population health in developing countries and their cost-effective solutions. The project gathered a whole

range of non-World Bank experts, including Murray, by now at the Harvard School of Public Health, and WHO epidemiologist Lopez, as well as a number of epidemiologists, medical doctors and economist involved in similar efforts. It was during the *Priorities Review* project that Murray and Lopez started championing the summary population indicator Disability-Adjusted Life Years (DALYs). As a standardised single metric that combined mortality and morbidity data, DALYs aimed to capture the comparative negative impact of different diseases in relation to a state of ideal health. As such, the design of DALYs was not particularly innovative (Gold *et al.* 2002). What was novel, however, was that DALYs were proposed as a standardised 'burden of disease' indicator that could serve as denominator for cost-effectiveness analyses of both clinical and public health interventions. And further, that this was promoted as the 'rational' (Murray 1990; Jamison *et al.* 1993) way of determining priority healthcare intervention-solutions for developing countries. In other words, DALYs were developed as a universally-applicable indicator to determine the comparative value for money of healthcare solutions, which in turn should guide health policy and planning decisions on both international (donor) and national (developing country governments) level. As such, DALYs also became the ideal tool to further operationalize what had become known as *Selective Primary Health Care*, the prioritisation of basic cost-effective healthcare interventions that had been championed by the World Bank and others as an alternative to WHO's *Primary Health Care* approach and *Health for All* strategy[14].

The final *Priorities Review* report was only published in 1993 (Jamison *et al.* 1993) and, as such, became overshadowed by another World Bank publication, the 1993 *World Development Report* (*WDR1993*). Drawing heavily on the *Priorities Review* work, the *WDR1993* involved many of the

[14] The concept of *Primary Health Care* was introduced at the 1987 United Nations' Alma-Ata Conference. It became the foundation of the WHO's *Global Strategy for Health for All by the year 2000*, the WHO's first 'global' strategy aimed at putting health at the centre of international development strategies and a wider struggle for political, social and economic justice (WHO 1981). For a good overview of the debates surrounding this concept and *Selective Primary Health Care*, see Cueto (2004). See Jensen (2017) for how these debates intersected with the uptake of the burden of disease methodology at the WHO.

same key contributors and methodologies. In its extended deployment of DALYs, however, it was even more ambitious than the *Priorities Review* project – as well as more influential and controversial. The *WDR1993* was a landmark report on many accounts. It was the first time the World Bank's flagship annual publication was dedicated entirely to health. As such, it was also the first time that the World Bank had formally invited WHO to collaborate in its production (Jensen 2017). But furthermore, the report also gave currency to an extended use of DALYs: first, as an indicator to provide an overview of the world's biggest health problems; and, second, as the basis for propositions of a number of minimum 'packages' of cost-effective public health and clinical interventions as priority solutions to be chosen from by Global South country policymakers and donors. In other words, drawing on the *Priorities Review* work, the *WDR1993* promoted DALYs as the universally-applicable indicator to determine a set of cost-effective health interventions. But in addition, the *WDR1993* also used DALYs to identify the world's biggest health problems by presenting 'burdens of disease' across a number of health-impairing conditions and populations. In other words, DALYs were used to measure (or better: model, see below), map and compare worldwide causes of ill-health.

The *WDR1993*'s main message was thus simple: priority should be given to those health problems causing large disease burdens and for which cost-effective intervention-solutions were available (WDR 1993: 63). Accordingly, its authors presented the *WDR1993* as nothing short of a blueprint to revolutionise healthcare planning in 'developing' countries. Adopting their recommendations, they argued, would mean that "[m]illions of lives and billions of dollars could be saved" (WDR 1993: 13). As a tool to quantify health problems and their most cost-effective solutions, DALYs were at the heart of these efforts. By offering a novel way to generate a global map of ill-health, DALYs thus promised to provide precisely what Murray had demanded almost 20 years earlier: a way to capture the 'big picture' of global health. The 'global' as a prescribed space had become knowable. But far from just mapping and making visible a global health, DALYs also opened up a new space ready to be intervened upon (Jensen 2017).

Producing global disease burden maps was an enormous data-crunching exercise. It involved reconciling vast numbers of mortality and morbidity statistics – many provided by various WHO programmes. It also required modelling estimates in the many cases of missing statistics and the integration of a whole range of auxiliary assumptions, such as comparable weighting scores to estimate the 'burden' of different health impairments and within different age groups. The enormous time and labour requirements eventually turned the undertaking into a stand-alone project, the *Global Burden of Disease* or GBD study, whose detailed results and complex methods were published in the latter half of the 1990s (Murray and Lopez 1996a; 1996b; 1997; 1998). In the meantime, however, the publication of the *WDR1993* caused significant debate, including concerning the implications of its provocative propositions.

Indeed, the *WDR1993* was heavily criticised for the range of vague estimations and value judgements that were argued to undergird its 'rational' and 'objective' methodologies (e.g. Paalman *et al.* 1998; Gold *et al.* 2002). Furthermore, archival records suggest that at least some WHO staff were concerned that WHO's involvement in the report would mean endorsing the "World Bank's view on disease-oriented epidemiological intervention" and cost-effectiveness calculations, at the expense paying attention to "people's perception of priority problems" (Subramanian 1992, *Archival Source*; see also Jensen 2017). Amidst on-going controversies, *WDR1993* proponents set up of a number of initiatives to test the report's proposition 'in the field', that is in Global South countries (IDRC 1993; see Chapter 5). In other important developments, the WHO set up the *Ad hoc Committee on Health Research* in 1996. Involving Murray and several other *WDR1993* contributors, the committee officially adopted the DALY methodology (but not cost-effectiveness analyses) as one tool to set biomedical research priorities (WHO 1996). Most importantly for the argument of this chapter, however, was an article published by Murray and Lopez in *The Lancet* in 1996 (Murray and Lopez 1996). This article for the first time referred to burden of disease and cost-effectiveness calculations as key pillars of an independent, objective and 'evidence-based' approach to public health policymaking – to be used at both

global and national levels to determine priority health problems and solutions. Only two years later, Murray and Lopez, together with other key *WDR1993* contributors, were given the opportunity to establish this vision of evidence-based policymaking at the WHO.

Evidence-based policy at WHO: change or die

In 1998, former Norwegian prime minister Gro Harlem Brundtland was elected as new WHO Director-General based on program of wide-ranging reform promises (Lee 2009). At the time, the WHO was perceived to be in deep crisis and external pressure was high for the organization to, as the *British Medical Journal* (BMJ) argued, "change or die" (Smith 1995, *online resource*). With globalisation debates rife, WHO was seen to fail asserting its global leadership. On the one hand, a whole range of new organisations, including the World Bank but also new public-private partnerships, had begun to crowd the bourgeoning field of global health (Buse and Walt 2000). On the other hand, WHO leadership was argued to suffer due to financial shortfalls, its focus on an ever-increasing number of health issues, a weakened norm-setting role of WHO headquarters, and its failure to achieve the targets of its *Primary Health Care* (PHC) strategy (WHO 1993; Al-Mazrou 1997; Jamison, Frenk, and Knaul 1998; Ruger and Yach 2009). In this context, Brundtland's appointment promised to deliver the demanded change: in her acceptance speech, she pledged to change WHO by making it "more effective, more accountable, more transparent" – and to do so by using and promoting burden of disease and cost-effectiveness analyses as the basis for a strictly 'evidence-based' policymaking (Brundtland 1998). Indeed, this seemed like an apt approach to address many of the issues said to have affected WHO at the time, including by allowing to strengthen the organisation's global norm-setting role (Jensen 2017).

Once in office, Brundtland went ahead with a program of wide-ranging reforms at WHO (Lee 2009). One of her first initiatives was the establishment of the Evidence and Information for Policy (EIP) unit. As the first WHO unit explicitly tasked with providing cross-cutting evidence of the best ways to promote health (EIP 2000), EIP was headed by Murray, Lopez and several other co-contributors to the *Priorities Review* project and *WDR1993*. The EIP

unit became involved in a range of activities and highly influential for WHO's direction under Brundtland (Jensen 2017). Through its five sub-departments, the EIP unit had the broad remit to produce and disseminate the

> "evidence base on the major dimensions of health and health systems, including burden of disease, effectiveness and costs of interventions, health systems performance and best practices in financing, service organization and delivery" (EIP 2000: 4).

'Evidence' and 'evidence-based' policy, but also 'research' and 'health system strengthening' became key buzzword at the WHO, as the first *World Health Report* under Brundtland heralded the production and application of knowledge as "the dominant force underlying the 20th century revolution in health" (WHO 1999: 44). One of EIP's divisions, the Research Policy and Cooperation (RPC) department, was specifically tasked with stimulating health research "for, with, and by developing countries" (EIP 2000: 12). Another, the Health Information Management and Services (IMD) was responsible for the "dissemination" of evidence through the management of WHO websites and publications like the annual *World Health Report* and the re-launched WHO *Bulletin* (EIP 2000: 8). Undertakings by these units, especially the RPC department, as well as the flourishing of a language around the need for "assessing, analysing, and synthesizing" information (EIP 2000: 8), foreshadowed what I argue below would become a discernible shift in WHO's evidence-for-policy approach following the departure of Brundtland and key EIP figures in 2003. Still, the unambiguous core of EIP was its Global Programme on Evidence for Health Policy (GPE), lead by Murray and responsible for the production of burden of disease and cost-effectiveness analyses. It was these efforts that propped up the conception of evidence-based policy (EBP) that became dominant at WHO under Brundtland, based on the establishment of priority health problems and their solutions.

The key pillars of this EBP framework were first elaborated in the 1999 *World Health Report* (WHO 1999). Arguing that "if services are to be provided for all then not all services can be provided" (ibid.: 33), the report highlighted the importance of establishing priority problems based on DALYs and choosing priority interventions based on cost-effectiveness analyses as evidence for

policymaking. This was further elaborated in WHO's *World Health Report 2000*, arguably the EIP unit's most significant output, but also its most controversial. The *World Health Report 2000* aimed at providing policymakers with 'evidence' on how health systems worldwide performed and how this could be improved (WHO 2000). At its heart was a highly controversial ranking of all 191 WHO member states according to the performance of their health systems. A modified version of DALYs was used to quantify the overall morbidity and mortality of populations with the goal of allowing comparisons between, and ranking of, the performance of different countries' health systems. Furthermore, DALYs were used in cost-effectiveness calculations to propose priority interventions that governments could implement to improve population health (and thus their performance ranking) (WHO 2000: 52–53). As such, the *World Health Report 2000* further concretised the very particular conception of EBP that had taken hold at the WHO, based on epidemiological disease burden maps and cost-effectiveness analyses that utilised a population health indicator developed by Murray and Lopez over a decade earlier. In addition, the report also played a key role in further popularising what was quickly becoming a key idea in global health, namely the need for 'health system strengthening' in Global South countries to alleviate 'bottlenecks' said to impede the successful implementation of biomedical interventions and, consequently, the achievements of international health targets (Travis *et al.* 2004; Garrett, Chowdhury, and Pablos-Méndez 2009; Marchal, Cavalli, and Kegels 2009; Balabanova *et al.* 2010; Hafner and Shiffman 2012).

For Murray and his colleagues, the *World Health Report 2000* presented a set of straightforward tools to assess health systems and help policymakers to improve them. This, they argued, was crucial to move beyond

> "ideological debates that are fuelled by anecdotes or, at best, by non-comparable results from studies in which differing methods were used" (Murray and Frenk 2001: 1698)

In contrast, they proposed that their own efforts provided comparable information and the crucial "evidence base" necessary to achieve "transcendence of purely ideological debates" (Murray and Frenk 2001: 1698).

Explicitly comparing their efforts to evidence-based medicine (EBM)'s transformation of clinical decision-making, they proposed that their tools provided the "[s]cientific answers to policy debates" (Murray and Frenk 2001: 1700).

Whereas Murray and his colleagues saw their efforts as a vital "step towards evidence-based policy" at the WHO more broadly (Murray and Frenk 2001: 1998), the *World Health Report 2000* became one of WHO's most controversial *World Health Reports* ever. Country representatives incensed by their performance ratings (Musgrove 2003) were joined by academics challenging the 'scientificity' of the report's methods and its lack of transparency regarding its data sources and modelling assumptions (e.g. Almeida *et al.* 2001). Even more damningly, some commentators contrasted the report's claim of producing objective evidence with what they saw as clear evidence of pro-biomedical and pro-market ideologies (Navarro 2000; Williams 2001; Walt and Mills 2001). Brundtland and her EIP team defended their general approach but the controversies endured (Jensen, 2017) and, in 2003, Brundtland unexpectedly announced that she would not seek to extend her term as Director-General. By that time several key EIP figures had already left the EIHP unit and WHO and Brundtland's withdrawal eventually led to the departure of her last key allies, Murray and Lopez. And although demands for evidence-for-policy indeed continued to flourish at WHO, they were to significantly change, as I will argue below.

Murray and Lopez marked their WHO exit with a scathing article that described the organisation as "ill suited for the role of global monitoring and evaluation of health" (Murray, Lopez, and Wibulpolprasert 2004: 1099). Echoing their enduring concern for a 'big picture', their article instead called for a new 'global health monitoring organisation' to provide "independent gold standard health information to the world" (ibid.: 1096). This appeal would eventually succeed in securing the financial backing of Bill Gates to establish the Institute for Health Metrics and Evaluation (IHME) in 2007, which continues to generate an ever-expanding portfolio of burden of disease and cost-effectiveness analyses to provide policymakers with a comprehensive global health "roadmap" (IHME 2015, *online resource*). At WHO, however, the

departure of key EBP advocates catalysed a number of changes, including a significant shift in the organisation's evidence-for-policy approach.

From monitoring and evaluation to circulation and adaptation

Following the departure of Brundtland and her key EIP allies, WHO became an official partner of IHME, although a number of public disagreements soon ensued over the right numbers and who should have the authority to produce global health estimates (Cohen 2012; Chan 2012). Moreover, Brundtland's successor as Director-General also set out to yet again change the way WHO was working. Strengthening countries' health systems continued to be a key focus at the organisation. But the new aim became to re-focus WHO's role away from global norm-setting and towards supporting countries to strengthen their own systems (Jong-wook 2003). This was also reflected in what was to become a significant transformation of WHO's evidence-for-policy approach: from previous efforts of global health monitoring and priority-setting to an approach that focussed on the circulation and local adaptation of research evidence – a shift that I want to suggest was encapsulated by a change in terminology from evidence-*based* (EBP) to evidence-*informed* health policy (EIHP).

Regime change

As proposed above, under Brundtland, the production of 'global picture' disease burden and cost-effectiveness evidence was a key focus of the EIP unit and central to WHO's evidence-for-policy agenda. But the growing importance placed on (scientific) knowledge was also reflected in a range of other undertakings at the organisation at the time, including in efforts to enhance WHO's role as a supporter of scientific research in the Global South. As briefly mentioned above, key to these efforts was the EIP's RPC department, which had been tasked with promoting the importance of health research for development. Already in 2000, RPC had co-hosted the *Health Research in Development* conference in Bangkok that aimed to revitalise international support for health research activities and capacities in the Global

South as an essential part of the wider development agenda[15]. Calling on the international community to renew their efforts, the conference organisers called for the need to build a "global health research system" that would intercalate the research needs and priorities of individual countries with global coordination and governance efforts (COHRED 2000: 19). In other words, health research was increasingly conceived as a global effort that depended not only on a "paradigm shift from control to facilitation and partnership" (ibid.: 49), but also on better "global-local" and "research-policy linkages" (ibid.: 52). If health research was to contribute to development, the conference report noted, the "use of high quality, relevant evidence in decision-making" had to be improved (ibid.: 1).

Many of these ideas were advanced over the next few years, including through RPC and in parallel to – and largely separate from – Murray and colleagues' global number crunching exercises. As a former member of WHO's RPC department suggested to me in an interview, as director of the EIP unit Chris Murray was supportive of RPC efforts to promote research and its link to development, but also little involved and happy to concede that: 'I don't know anything about research, all I know is numbers" (*EIHP2016_012, Interview, 01/03/16*). Indeed, as this interviewee also noted, Murray's efforts that focused on "hard basic data" and statistics was "quite a different world" (*EIHP2016_012, Interview, 01/03/16*) from what was to become a growing emphasis on the circulation and translation of experimental research evidence for policymaking. It was only when Brundtland, Murray and Lopez left WHO in 2003, however, that this 'different world' would unfold properly and induce a significant transformation of WHO's evidence-for-policy approach from the previously championed evidence-based policy (EBP) approach to what was increasingly framed as a demand for evidence-informed health policy (EIHP). Two concurrent developments arguably further contributed to this shift. On the

[15] Building on the previous work of, for example, the *Commission on Health Research for Development* (1990) and specific internationally strategies and bodies set up in response to the Commission's recommendations, such as the *Essential National Health Research strategy* (ENHR; see Chapter 5) promoted by the *Council on Health Research for Development* (COHRED) and the *Global Forum for Health Research*.

one hand, WHO itself was accused of failing to appropriately use research evidence to back up its own 'global' recommendations and guidelines. On the other hand, efforts further flourished to re-position WHO from top-down 'big picture' producer to coordinator and steward of bottom-up research and evidence-for-policy efforts. Both these developments, in turn, were linked to the growing influence of a group of evidence and methodology specialists closely associated with McMaster University and the evidence-based medicine (EBM) movement.

As a transnational health organisation, one of WHO's core functions has long been the setting of standards and production of guidelines or recommendations to advise countries on specific health interventions (Lee 2009). In the early 2000s, however, the organisation got under intense scrutiny for its alleged failure to base its guidelines on an appropriate evidence base. This charge was led by a number of evidence specialists closely associated with the EBM movement. Based on a survey conducted at WHO in the early 2000s, these specialists took to *The Lancet* to publicly accuse WHO of failing to utilise rigorous research evidence that had been "retrieved, appraised, synthesised, and interpreted using systematic and transparent methods" (Oxman, Lavis, and Fretheim 2007: 1887). Further, WHO was also said to pay too little attention to how countries could "adapt and implement" such "global recommendations" (Oxman, Lavis, and Fretheim 2007: 1884). In a published response, WHO staff conceded that more had to be done to keep WHO guidelines updated with the newest methodological developments coming out of EBM (Hill and Pang 2007). But they also cautioned that the "science on how best to use evidence to inform decisions" (ibid.: 1843) remained imprecise, especially in regards to public health measures and in the light of often limited local evidence in Global South countries. Nevertheless, the accusations contributed to a number of changes at WHO in the early-to-mid 2000s that served to strengthen both its internal use of the 'best' research evidence, as well as its support of its member states to do so.

These changes included the formation of a committee to advice the WHO on how to improve the use of research evidence in its global guidelines, chaired

by the same evidence specialists that had previously alleged WHO's failings to do so (Oxman *et al.* 2006)[16]. Indeed, as I elaborate below, this group would become highly influential in re-shaping the organisation's wider evidence-for-policy approach. The main underlying ideas for this new approach were first elaborated in WHO's 2004 *World Report on Knowledge for Better Health – Strengthening Health Systems* (WHO 2004), a first key report produced under the direction RPC following the departure of Brundtland and her key EIP allies. The *World Report on Knowledge* further expanded on the need to strengthen Global South countries' health systems, which would remain a key focus at WHO. But it also marked a distinct break from the previous EBP approach focussed on disease burden and cost-effectiveness evidence that had been so prominent under Brundtland. These techniques continued to be recommended as useful auxiliary tools to help establish priority health problems and assess the cost of solutions (WHO 2004). However, their importance became relegated in favour of a whole new set of frameworks, rules and tools primarily concerned with the fostering of scientific research activities and the "translation" of research findings to achieve "evidence-informed health policy" (WHO 2004: XVI). In contrast to the previous EBP approach with its emphasis on 'big picture' monitoring and evaluation frameworks for global health, this new 'evidentiary regime' primarily focussed on the global circulation and adaption of evidentiary standards in the form of toolkits, scientific evidence and evidence-based interventions.

This shift was well captured in the new catchphrase of a 'know-do gap', described by WHO's new Director-General as the

> "gap between today's scientific advances and their application: between what we know and what is actually being done" (WHO 2004: XI).

The existence of such a gap was described as a key problem underlying global disparities in health – and, as a key solution, it was argued that research evidence had to be better "translated into action" (WHO 2004: XV),

[16] Although WHO has also remained under scrutiny from McMaster-associated researchers who continue to purport to expose WHO failings in using 'scientific' methods to develop its recommendations (e.g. Hoffman, Lavis and Bennett 2009; Alexander *et al.* 2014).

through the use of a range of specific processes and tools centred on the synthesis, appraisal and dissemination of 'global' research evidence and its adaption to local conditions (e.g. WHO 2004: 15; 84-86; 107). The chief concern was thus no longer for setting top-down priorities determined by global health maps and comparative cost-impact considerations based on a universal population health indicator. Instead, it was for allowing countries to determine their own priority problems, while at the same time harmonising and standardising the methods and practices to ensure policymakers had access to the 'best' global research evidence on the most appropriate solutions. Accordingly, WHO's own role was no longer envisioned as that of a global watchdog producing the 'big picture' of global population health. Instead the vision was for an organisation that would both coordinate and foster the global circulation of research evidence and support countries in its adaption. As the *BMJ* put it, the WHO had shifted

> "from the statistical complexity of the evidence produced under its previous regime to the equally inscrutable jargon of knowledge management" (Abbasi 2004, *online resource*).

Indeed, parallel to Murray's burden of disease efforts, concepts such as 'knowledge management' and 'knowledge translation' had begun flourishing in the 1990s and especially in North America, where they became increasingly associated with the process of moving validated interventions into clinical and policymaking practice (Greenhalgh and Wieringa 2011). In other words, WHO's shifting evidence-for-policy approach also involved an increasing convergence with the evidence-based medicine (EBM) movement (see Chapter 4) – and, as such, assembled a set of experts, concerns, frameworks, rules and tools that differed significantly from the EBP approach promoted under Brundtland.

Indeed, when Murray and colleagues published their *Priority Review* in the early 1990s, their report began with the telling declaration that

> "[i]deally each chapter would have been written by an economist, an epidemiologist, and a clinician or biomedical scientist" (Jamison *et al.,* 1993: 5)

In contrast, WHO's new evidence-for-policy approach was significantly shaped by a number of epidemiologist-doctors associated with McMaster University and the EBM movement, who had long played key roles in developing methodological frameworks and tools to improve the use of research evidence in healthcare decision-making (see Chapter 4). But beyond this small group of international specialists, WHO's new approach was also said to require building global capacity for a whole new range of expertises, including for designated "methodologists" who could elicit and assemble the 'best' evidence (Hirsh and Guyatt 2009: 20), but also information specialists with expertise in database searches, 'research interpreters', science communication specialists excelling at the user-friendly 'packaging' of evidence, and 'knowledge brokers' who could build trusting relationships between researchers and policymakers (e.g. WHO 2005b).

Building Global South capacities for these new forms of expertise thus became key to WHO's aim to enable countries in finding, appraising and adopting their own research evidence as input into policy-making (Pang, Pablos-Mendez and IJsselmuiden 2004; see below). At the same time, this was to be guided by new 'global' toolkits involving distinct evidentiary rules and tools to elicit and transfer the 'best' scientific evidence (WHO 2005a: 2). In line with the claims associated with EBM, these toolkits emphasised the importance of high-quality 'global' evidence on 'what works', equated with Systematic Reviews on the effects of healthcare interventions preferably sourced from Randomized Controlled Trials (RCTs). Such 'global' evidence, in turn, should be circulated and 'contextualised' to inform local policymaking. Accordingly, WHO publications started to increasingly employ the notion of evidence-*informed* health policy (EIHP) as the aim of knowledge translation activities, to signal an explicit appreciation that 'global' research evidence should inform policymaking, but would have to be integrated with "local knowledge" and "context-specific judgements" (WHO 2004: 2). I will discuss this in detail in Chapter 4.

The question of what counts as the most important evidence for decision-making was therefore a key differentiating factor of these new EIHP/knowledge translation frameworks compared to the previous EBP

approach. Whereas Murray's EBP approach emphasised the importance of effectiveness measurements as part of cost-effectiveness estimates, these were often relatively crude estimates of the "net gain in health or reduction in disease burden" calculated for different interventions (WDR 1993: x). In contrast, new knowledge translation/EIHP frameworks paid little attention to disease burdens as a standardised indicator to elicit comparable impacts across a variety of interventions. Instead, the focus was on new standardised rules and tools to critically review the literature and discern if particular interventions really 'worked' or not – and on globally circulating both these rules and tools and the 'global' best evidence they could elicit to ensure local evidence-informed decisions.

As such, it could be said that the shift from EBP to EIHP also involved different conceptions of the 'global' itself. Murray's 'big picture' EBP approach was grounded in an imagination of a global health space that should be mapped, ordered and acted upon. In contrast, new ideas for knowledge management, knowledge translation and EIHP rehearsed an idea of the 'global' as a world connected through a shared vision for and commitment to the exchange of mobile expertise, knowledge and research evidence. A world of international collaboration and cooperation where all countries would contribute to a shared global 'knowledge pool' (WHO 2004: 60) and, in return, would be able to tap this pool for the best evidence to inform their specific policies – in other words, a world of "global knowledge for solving local problems" (ibid.: 62). In other words, it involved an idea of the global as both an ideal and the outcome of processes of making connections, of actively *building* transnational ties and fostering the global flows of expertise, standardised rules and tools, and evidence – the global as indeed emerging from what Anne Tsing (2000: 31) calls a "never-ending process of 'networking'" and as typical of visions for many globalised science projects from the 1990s onwards (see also e.g. Riles 2000).

Making global connections: the Evidence-informed Policy Network

WHO's 2004 *World Report on Knowledge* was a key step in a whole series of publications, workshops, and meetings in the early-to-mid 2000s that progressively consolidated these new foci on EIHP and knowledge translation

as a new ‘evidentiary regime’ at WHO, and which would eventually lead to the establishment of the Evidence-Informed Policy Network or EVIPNet.

Another milestone was the 2004 *Ministerial Summit on Health Research* in Mexico, a meeting co-convened by WHO that brought together Minsters of Health, their representatives and delegates from 59 countries to promote the importance of research for health and development. Closely aligned with the demands of WHO’s *Report on Better Knowledge* to close the ‘know-do gap’, the Summit resulted in a draft resolution, the *Mexico Statement on Health Research*, which called, among other things, for the recognition of the need for high quality research evidence to guide policymaking, strengthen countries’ health systems and achieve internationally-set health targets (WHO 2005c). At their next assembly, WHO Member States acknowledged (but not endorsed) the statement, resulting in a resolution that emphasised research as a “global endeavour” and requested WHO to establish mechanisms to “bridge the divide between ways in which knowledge is generated and ways in which it is used” (WHA58.34, see WHA 2005: 126ff). In response, the WHO launched the Evidence-informed Policy Network EVIPNet in June 2005.

As a background paper at the time noted, it was time to move from discussions and concepts to praxis (WHO 2005b) – and, indeed, EVIPNet was established as a platform to specifically promote the circulation and translation of health research evidence to foster EIHP in Global South countries (EVIPNet 2015). As a “global, regional and country level social network” (WHO 2015, *online resource*), EVIPNet was to link country-level EVIPNet teams or ‘country nodes’ with ‘global’ experts and a secretariat hosted by the RPC department at WHO’s Geneva headquarters. By 2015, EVIPNet reported to comprise 39 such country nodes across Africa, the Americas and Asia that were engaged in local EIHP/knowledge translation efforts (Pang *et al.* 2015). The role of the global secretariat, on the other hand, was mainly to provide support by popularising the network, organising workshops, and disseminating ‘global’ frameworks and toolkits to standardise and guide local EIHP and knowledge translation processes (such as the SUPPORT Tools, see below). Many of these toolkits were developed by members of EVIPNet’s *Global Resource Group*, which comprised

international evidence-for-policy experts, including several of the McMaster-associated evidence specialists mentioned above.

EVIPNet was specifically envisioned as a vehicle to promote EIHP for health system strengthening in lower income countries. This was to be achieved in two ways: on the one hand, the EVIPNet network itself was promoted as a way to strengthen healthcare infrastructures within countries, namely by supporting the building of 'capacity' and expertise for EIHP and knowledge translation among local researchers and policymakers (WHO 2015). On the other hand, EVIPNet-promoted 'global' EIHP/knowledge translation toolkits to support these researchers and policymakers in the translation of the best research evidence for interventions aimed at strengthening the financial, administrative and governance arrangements of healthcare systems.

Nonetheless, EVIPNet publications also suggest initial tensions between more prescriptive and more experimental visions for the initiative. The first published article to announce EVIPNet explicated a vision of a network that would be 'bottom up' and a 'living laboratory', involving countries collectively figuring out 'what works' – rather than using fixed frameworks "developed by so-called experts in the developed world" (Hamid *et al.* 2005: 1759). Other EVIPNet publications, however, expressed a more dogmatic vision, suggesting that evidence already existed on 'what worked' in terms of EIHP/knowledge translation, and that these standardised rules and tools simply had to be 'contextualised' for country initiatives (WHO 2005b). Indeed, although EVIPNet largely evolved as a more-or-less loose network of country-based evidence-for-policy initiatives, a number of 'global' EIHP/knowledge translation toolkits were publicised and promoted via EVIPNet/WHO websites. Further, at least for some EVIPNet country teams, including in Uganda, members of EVIPNet's *Global Resource Group* provided direct 'technical support' for the adoption and adaption of these global toolkits (see Chapters 5 and 6). One key toolkit were the so-called *SUPPORT Tools for Evidence Informed Policy Making* (Oxman *et al.* 2009; STP1), which will be discussed in detail in the next chapter. As a comprehensive guide on how to 'do' knowledge translation and achieve EIHP, the SUPPORT Tools comprise a standardised sequence of steps involving specific rules and tools designed to

transfer research evidence from laboratories and publications into the hands of policymakers. As such, they were envisioned as a central component of the new infrastructures needed to enable the global circulation and translation of research evidence, and to link proofs and politics.

Conclusion: un-making the hegemonic regime

In this chapter, I traced the emergence and transformations of evidence-for-policy approaches at WHO. I suggested that evidence-for-policy efforts were institutionalised at WHO with the establishment of the Evidence and Information for Policy (EIP) unit under newly elected Director-General Gro Harlem Brundtland in 1998. I argued that this EIP unit was instrumental in shaping WHO's evidence-based policy (EBP) approach in the late 1990s/early 2000s as an approach centred on burden of disease and cost-effectiveness evidence – using techniques that had already been popularised a decade earlier and were closely linked to efforts to map and compare global population health problems and determine 'rational' priority solutions.

This chapter also suggested that the departure of Brundtland and key EIP allies induced a significant transformation of WHO evidence-for-policy efforts. This was accompanied by the problematisation of a perceived 'gap' between knowledge and action, between existing research evidence on 'what works' and its limited uptake in policy decision-making. As a solution to this 'gap', WHO adopted and promoted a whole new set of toolkits and activities aimed at fostering the circulation of the 'best' global research evidence (including for health systems interventions) to inform local policymaking processes, framed within the modish jargon of knowledge translation and evidence-informed health policy (EIHP). In terms of the latter, the emphasis on evidence-*informed* policy also served to explicitly highlight the need to integrate global evidence with local knowledge and the values and perceptions of local stakeholders. I argued that this rhetorical shift from evidence-*based* (EBP) to evidence-*informed* health policy (EIHP) thus indicated what was a significant shift in WHO's evidence-for-policy approach: from the monitoring and mapping of population health to engendering the circulation and adaption of experimental research evidence for local decisions.

By emphasising the transformations and discontinuities of evidence-for-policy approaches at WHO, this chapter thus serves to counterbalance common narratives of monolithic and hegemonic 'evidentiary regimes' in global health. As I argued in the Introduction and Chapter 1, there is a tendency among both proponents and critics to not only emphasise the coherence of such 'regimes', but to also frame them as the straightforward extension of evidence-based medicine (EBM). Chris Murray and colleagues, for example, repeatedly framed their own efforts not only as directly linked to the EBM movement, but even argued that it was only

> "*natural* that the focus on evidence has spread from the world of clinical decision-making to public health decision-making" (Murray *et al.* 2003: 715; *emphasis added*).

Despite very different intentions, this narrative of a steady and frictionless diffusion could be said to also echo in social science critiques of the expansion of EBM ideas and tools as a new evidentiary regime in global health (e.g. Adams 2013; Storeng and Béhague 2014; Biehl 2016; Fan and Uretsky 2017). In contrast, this chapter has served to not only emphasise that different evidence-for-policy approaches or 'regimes' have prevailed at WHO at different times, but also that early efforts in the name of EBP responded to a set of very particular set of concerns – concerns that could be said to have differed quite significantly from the motivations of key EBM – and later EIHP – champions.

Indeed, as this chapter argued, the notion of EBP under Brundtland was closely linked to a 'big picture' approach of mapping 'global' population health problems and determining cost-effective priority solutions. As such, this 'big picture' approach could be said to have merged concerns for the 'fair' distribution of healthcare resources[17] with a branch of what is often referred to as 'traditional' epidemiology (Pearce 1996), namely the study of the causes and distribution of diseases in populations – once brushed aside by EBM founding father David Sackett as 'big E' epidemiology (Sackett 2002). This

[17] See e.g. Murray (1994) for his attempt to show the link between his burden of disease efforts and the distributive justice frameworks of John Rawls (1971) and Norman Daniels' (2007).

chapter has not aimed to offer a detailed comparison between EBP at WHO and EBM, but instead focused on highlighting some of the distinctive concerns that led to the development of Murray and colleagues' 'big picture' EBP approach. One key difference to EBM (and to later EIHP efforts), however, could be said to have been the importance placed on the measurements of intervention effects. As I will argue in the next chapter, the quest for the most 'trustworthy' evidence on true intervention effects plays a central role in both EBM and later global EIHP/knowledge translation frameworks. In contrast, Murray's EBP approach included effectiveness measures as an input into cost-effectiveness calculations, but this remained closely linked to the purpose of providing health economic analyses to establish the comparative best 'value for money' of intervention-solutions. As such, the sources for the underlying effectiveness estimates for specific interventions often remained opaque (Williams 2001; Musgrove 2003), and they were also at best inconsistently based on synthesised evidence from efficacy studies (Jamison *et al.* 1993; Paalman *et al.* 1998). More so, efficacy data was but one of numerous input parameters in hugely complex modelling exercises to provide estimates for the 'real-world' impact of interventions expressed in DALYs as a universal outcome indicator (e.g. Bobadilla *et al.* 1994; Murray, Kreuser, and Whang 1994). In other words, Murray's EBP approach could be said to have been less concerned with the most trustworthy evidence for specific interventions, but was indeed primarily geared towards providing the best estimates for comparative 'big picture' maps of both health problems and solutions to allow 'rational' priority-setting. As such, these efforts were arguably more in line with quantitative indicator-based governance and impact measurement schemes that became increasingly popular in the global health field and beyond during the 1990s and 2000s (Storeng and Béhague 2014; Rottenburg *et al.* 2015; Adams 2016; Reubi 2017).

I do not wish to argue there are not also many commonalities and overlaps between such a EBP 'evidentiary regime' and the EBM movement, as well with as the EIHP approach propagated through EVIPNet from the mid-2000s onwards. After all, these approaches share as their bottom line the ambition to make health decision-making more rational or even 'scientific', and all heavily

rely on epidemiological data. Still, my aim in this chapter has been to highlight the incoherence and variability of such 'evidentiary regimes' at and promoted through WHO, and how each has been associated with distinct and different sets of experts, rules and tools, and concerns.

As I further elaborate in Chapter 4, ideas for EIHP that took hold at WHO from the early-to-mid 2000s onwards were indeed much more aligned with EBM. This included the uptake in global EIHP/knowledge translation toolkits of key evidentiary rules and tools to help elicit the 'best' scientific evidence and its integration into healthcare decision-making processes. Nonetheless, as I will also show, the expanded promotion of these rules and tools – to elicit the 'best' global evidence not only for biomedical interventions but also health system research, and from clinical practice to policymaking – has also given new salience to some already-contentious issues, such as the generalizability and transferability of study results.

On the one hand, it is precisely because of the new problematic questions articulated by global EIHP/knowledge translation frameworks that I argue for the need to pay attention to the specificities and particularities of different 'evidentiary regimes'. In other words, examining these problematic questions requires paying close attention to what is being demanded in each particular instance and based on what concerns – which arguably cannot be achieved by a blanket rejection of these different approaches as part of a hegemonic 'regime'. On the other hand, I also want to suggest that paying attention to the particularity of these concerns and demands may contribute to the 'undoing' or destabilising of the perceived hegemonic character of such regimes. Indeed, popular critiques of hegemonic 'evidentiary regimes' in global health may unwittingly re-make such hegemonic narratives. By pointing to common features, assumptions or underlying governance logics, these analyses may well highlight wider shifts – and to thus engender resistance to these regimes. Yet, in their implications of rationally compelling and progressive coherence they not only risk making existing frictions, gaps and contradictions invisible. But they may also limit the possibility for constructive engagements and re-imaginations. In contrast, by emphasising the heterogeneity and fluency of 'evidentiary regimes' at WHO, this chapter has been an explicit attempt at

disrupting all-too-linear narratives and to re-insert some situatedness and contingency. In other words, in un-making evidence-for-policy approaches as a coherent set of ideas and practices, it serves as a first step towards opening rather than closing off a space for possible alternative formulations of the link between proofs and politics.

Chapter 4: Trustworthy Evidence

This chapter discusses in more detail some of the central tenants of evidence-informed health policy (EIHP) as promoted through WHO and the Evidence-Informed Policy Network (EVIPNet) from the early-to-mid 2000s onwards. It shows that 'global' EIHP/knowledge translation toolkits comprise a series of specific steps aimed at fostering the utilisation of research evidence in decision-making processes, including for policy interventions targeted at strengthening the financial, administrative and governance arrangements of healthcare systems. As I argued in Chapter 3, evidence-for-policy demands in global health have their very own trajectory. Still, this chapter shows that EIHP/knowledge translation toolkits have indeed adapted key components from evidence-based medicine (EBM). This includes a set of evidentiary rules and tools to guide the synthesis, circulation and appraisal of experimental evidence on which healthcare interventions/policy options 'work', and the adaption of this evidence through integration with local evidence on 'modifying factors', as well as judgements, values and preferences to enable context-sensitive decisions.

As noted in Chapter 1, Science and Technology Studies (STS) scholarship often treats such evidentiary approaches primarily as standardisation practices. But what if the standardisation of healthcare and policy practices is no longer – if it indeed has ever been – a key aim in either EIHP or EBM? How can social science analyses engage with the growing emphasis on the need to adapt and contextualise global scientific evidence (and the interventions this evidence attests to)? Arguing that new analytical strategies are required to account for these developments, this chapter focuses on the quest for 'objective' evidence at the heart of EIHP and EBM to highlight the problematic questions that are being articulated by demands to *integrate* – yet separate – objective scientific proofs with/from subjective judgments, values and preferences.

Shared concerns, techniques, and norms

"A new paradigm for medical practice is emerging" – that was how, in 1992, a group of clinician-epidemiologists demanded the radical overhaul of clinical medicine in the name of evidence-based medicine or EBM (EBM Working

Group 1992: 2420). The core of the group was based at McMaster University's Department of Clinical Epidemiology & Biostatistics, now widely considered the birthplace of an assemblage of ideas, techniques and norms that have undoubtedly had a wide-ranging impact on medical research, practice and beyond. As an editorial in the *British Medical Journal* (BMJ) recently put it,

> "[e]vidence based medicine is so much part of the air we breathe it can be hard to remember a time before it" (Godlee 2014, *online resource*).

Yet, such oblivion to the 'before' of EBM seems surprising, considering that the demarcation from *non*-evidence-based pasts and yet-to-be-conquered presents continues to be the lightening rod for the originators and advocates of EBM and, more recently, EIHP. It is such attempts of demarcation that I will focus on in the following brief review of the origins of EBM and the uptake of its key evidentiary rules and tools in EIHP frameworks.

Linking experiments to the clinic

McMaster's Department of Clinical Epidemiology & Biostatistics was established in 1967 as a key division of the university's newly opened Medical School. Tasked with running the new department was David Sackett, a young clinician and epidemiologist with a persuasive vision of fostering clinicians' application of epidemiological methods to the care of patients (Sackett 1969). Sackett's ideas broadly aligned with a bourgeoning field called *Clinical Epidemiology*, which promoted better linkages between population-based research and clinical insights. Yet, Sackett also championed a quite particular, and arguably a particularly narrow, vision of the field. His emphasis was on clinicians choosing the best diagnostic and therapy options based on a 'critical appraisal' of the medical literature, ideally eliciting research results from Randomized Controlled Trials (RCTs) (Sackett 2002). In other words, for Sackett, *Clinical Epidemiology* ultimately aimed at applying the results of epidemiology-based experiments to the clinical management of individual patients[18].

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[18] As such, Sackett credited himself and his mentors, especially American doctor-epidemiologist Alvan Feinstein, with shifting the orientation of Clinical Epidemiology from

In his new role at McMaster, Sackett influentially promoted new orientations in medical education, epidemiology and clinical medicine, based on his overarching goal to make clinical practice both 'problem-based' and better grounded in epidemiological and statistical research (Smith 2015b). Under his headship McMaster became a *Clinical Epidemiology* hub that trained scores of students from North America and Europe, many of whom would go on to champion similar efforts in their home countries. Indeed, when I entered medical school in 2001, the term 'evidence-based medicine' was still little used in Germany. But my fellow students and I were one of the very first cohorts to be taught according to a reformed curriculum aimed at instilling in medical students a decision-making process that integrated factual knowledge with a more 'problem-oriented', systematic and objectively evaluate-able approach (Kahlke *et al.* 2000). Likewise, Sackett's ideas spread far beyond Europe. As a key training centre of the Rockefeller-funded *International Clinical Epidemiology Network* (INCLEN), McMaster also provided clinicians from "the developing world" with both training and support to establish *Clinical Epidemiology* units in their home countries (Halstead, Tugwell and Bennett 1991: 579). Indeed, it was already in 1990 that one of these newly McMaster-trained INCLEN fellows returned to his home country Uganda to establish such a unit at Makerere University – to later go on and found the country's EVIPNet team. I shall elaborate on this in Chapters 5 and 6.

Many of these efforts were thus well under way when, in the early 1990s, Sackett and a group of former students founded the *Evidence Based Medicine Working Group* and declared the advent of a new scientific "paradigm for medical practice" (EBM Working Group 1992: 2420). Building on their earlier accomplishments, the group declared that the growing sophistication and applicability of their advocated research and appraisal methods would now allow a truly *evidence-based* medicine that would

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populations *towards* patients – rather than the other way around as with e.g. preventative medicine (Sackett 2002). But Sackett also differentiated his own efforts from those of Feinstein, who he argued "cast a wider net" (Sackett 2002: 1162) by also being concerned with the distribution of diseases in and treatment of populations (the big 'E' epidemiology alluded to in Chapter 3).

"revolutionize health care" (Sackett *et al.* 2007: 777). In other words, the declaration of EBM was a calculated intervention, a demand for an explicit break with what EBM'lers dismissed as the traditional – and misguided – ways of medical practice and teaching. Indeed, the group had initially proposed the term 'Scientific Medicine' for their new paradigm, but this had proven too controversial with colleagues at McMaster's Medical School (Sur and Dahm 2011; Smith 2015b). Nonetheless, it was precisely the demand for a more scientific medicine that was at the heart of the newly-proclaimed EBM movement. It should be scientific research, EBM'lers argued, that provides the foundation for clinical practice, rather than the status quo of "intuition, unsystematic clinical experience, and pathophysiologic rationale" (EBM Working Group 1992: 2420).

The justification for EBM was thus grounded in two related yet separate claims. First, that increasingly sophisticated methods of RCTs and meta-analyses (as summaries of RCTs, see below) were providing a growing body of 'valid', 'reproducible' and 'unbiased' experimental evidence on the workings of medical interventions (EBM Working Group 1992) – the 'E' in EBM. And second, that teaching all clinicians a set of evidentiary rules and tools to "critically appraise" (EBM Working Group 1992: 2421) this evidence would liberate medical practice from the shackles of spurious expert opinion and unmerited authority. Distinguishing these two claims is crucial: the first concerns the proclaimed supremacy of particular scientific methods to attain the most trustworthy proofs; the second involves claims that the systematic evaluation and application of thus created evidence will lead to more rational decision-making and better care[19]. I will return to the significance of this distinction repeatedly in this chapter. But for now, I want to suggest that this

[19] This distinction can also be traced in EBM textbooks. In 1985, members of what would become the *EBM Working Group* published the first edition of the textbook *Clinical Epidemiology*, which made the argument for the application of clinical epidemiology to clinical decisions (Sackett, Haynes, and Tugwell 1985). By the time the same authors published the textbook's 3rd edition in 2006, its focus had narrowed to clinical research methods – as a guide for clinician-researchers on how "to generate 'E' in 'EBM'" (Haynes *et al.* 2006: X). In parallel, the authors also published the *Evidence-based Medicine: how to practice and teach EBM* textbook for clinicians on how to *apply* this evidence in clinical practice.

distinction is important to understand how EBM evolved in response to critiques – and how it did not.

Retaining the 'E', attenuating the 'B', and expanding the 'M'

Once announced, EBM quickly became popularised with the help of a plethora of textbooks, dedicated EBM journals and databases, and countless EBM workshops that helped spread the ideas around the world. As discussed in the Literature Review, social scientists often seek to avoid narratives that conflate EBM's success with a triumph of (its) science or rationality. Instead, much has been made of EBM's apparent plasticity and ability to satisfy the needs, and legitimize the aims, of a whole range of actors from researchers to doctors, governments to insurers (e.g. Timmermans and Berg 2003). Similarly, scholars have assigned EBM's success to its flexibility and adaptability in response to criticism (Lambert 2006). These accounts provide valuable insights into both the appeal of EBM frameworks and their advocates' skilfulness in batting off criticism. Yet, I also want to suggest that they may pay too little attention to those aspects of EBM that have in fact remained fairly stable over time – and that have also been taken up and propagated in more recent EIHP frameworks.

Indeed, EBM'lers proclamations of a new scientific 'paradigm' and a revolution in medicine quickly mobilised a whole range of allies. But they also certainly antagonised others. Almost instant outrage was caused by the suggestion that EBM demoted – or aimed to "de-emphasize" (EBM Working Group 1992: 2423) – clinicians' intuitions, skills and expertise in favour of hard scientific evidence from clinical research. This assertion triggered a range of criticism, including from medical practitioners who insisted on the importance of situated clinical judgement and patients' own preferences (Kassirer 1993; The Lancet 1995). In short, EBM's push for the standardisation of guidelines and treatment pathways based on research evidence was argued to be at the expense of situated decision-making by autonomous clinicians able to draw on a whole variety of knowledges to provide care to individual patients who may differ from experimental study populations (Timmermans and Mauck 2005; Greenhalgh, Howick, and Maskrey 2014; Miles, Asbridge, and Caballero 2015). In response, Sackett and other key members of the original

EBM Working Group quickly denied that EBM had ever envisioned clinical practice "becoming tyrannised by evidence" (Sackett *et al.* 1996: 72). Instead, they insisted that EBM "integrates the best external evidence with individual clinical expertise and patients' choice" (Sackett *et al.* 1996: 72). As Sackett and colleagues put it, "[e]xternal clinical evidence can inform, but can never replace, individual clinical expertise" (Sackett *et al.* 1996: 72). Although the 'B' in EBM was never dropped, the view that evidence-*based* medicine simply means systematically *incorporating* research evidence within clinical decision-making processes is by now well-established among proponents (e.g. Djulbegovic and Guyatt 2017).

Importantly, however, these clarifications did not weaken a distinction that I want to argue remains at the heart of EBM, namely the clear division between trustworthy research evidence of objective facts and subjective factors that may affect the use or applicability of research by clinicians, policymakers, researchers and patients. I show below that, as a result, efforts have continued to develop and refine evidentiary rules and tools to separate good (valid, reproducible, unbiased) from bad evidence and to integrate objective evidence with (yet distinguish from) subjective judgements, values, opinion and preferences. This has entailed that EBM proponents never diverged from the claim that the most important evidence for healthcare decision-making – the best 'E' in EBM – is evidence on 'what works', preferably sourced from RCTs (Djulybegovic and Guyatt 2017). As I shall show below, this claim also became central to 'global' EIHP/knowledge translation toolkits.

Indeed, with the 'B' somewhat attenuated but the 'E' tightly secured, it did not take long for EBM proponents to expand the 'M' in EBM. Already in the mid-1990s, Sackett noted that EBM was in fact a "short-hand term" for the improved use of research evidence in "clinical and other healthcare decisions" (Sackett and Rosenberg 1995: 621). As a consequence, members of the original *EBM Working Group* and their students contributed to various initiatives that promoted more encompassing notions such as 'evidence-based practice' or 'evidence-based healthcare' to denote the need for better use of research evidence across all healthcare professions and practices (e.g. Gray 1997; Dawes *et al.* 2005).

As I emphasised in the previous chapter, the emergence of demands for evidence-based/informed health policy at WHO has its very own, non-linear origin story. Still, as EIHP/knowledge translation frameworks and toolkits gained traction at WHO from the early/mid-2000, these did adapt key evidentiary rules and tools from EBM. Where EBM initially drew its legitimisation from the claim to lead to better clinical care, EIHP has been framed as indispensable to achieve health improvements especially in low- and middle-income countries (Lavis *et al.* 2004). As Chapter 3 noted, these parallels are of little surprise, considering that WHO's EIHP/knowledge translation approach has been considerably shaped by a number of evidence specialists closely associated with McMaster University and the EBM movement. Among the EIHP/knowledge translation toolkits developed by these specialists, a key resource have been the *SUPPORT Tools for Evidence-informed Health Policymaking (STP)*, a comprehensive guide outlining key steps and tools to help "finding and using research evidence to support evidence-informed health policymaking" (Lavis *et al.* 2009: 1; STP Intro). Much of my discussion of EIHP/knowledge translation rules and tools in this chapter draws on a close analysis of this toolkit.

Whereas I discuss overlaps between EBM and EIHP below, it should already be noted that EIHP/knowledge translation experts have been clearly intent on pre-empting some of the controversies that had initially surrounded EBM. In contrast to EBM's initial proposals to 'de-emphasise' clinicians' expertise, the insistence of evidence-*informed* health policy is said to explicitly acknowledge that policy decisions cannot be based on research evidence alone. As the SUPPORT Tools note, EIHP is

> "[…] an approach to policy decisions that aims to ensure that decision making is well-informed by the best available research evidence. It is characterized by the systematic and transparent access to, and appraisal of, evidence as an input into the policymaking process. The overall process of policymaking is not assumed to be systematic and transparent. However, within the overall process of policymaking, systematic processes are used to

> ensure that relevant research is identified, appraised and used appropriately" (Oxman *et al.* 2009: 1; STP1).

By stressing the complexity and even messiness of policy decision-making, this definition of EIHP seems to effectively foreclose charges of an overly simplistic model of decision-making that initially beset EBM. Indeed, the SUPPORT Tools explicitly reject such critiques, claiming that

> "[b]oth EBM and evidence-based policymaking have been criticised for assuming that practice or policy decisions are largely determined by research evidence. This criticism is largely a misperception of what has been advocated. Neither decisions about individual patients nor policy decisions are determined by evidence alone (Oxman *et al.* 2009: 5; STP1).

These quotes thus echo EBM'lers denial of an envisaged 'tyranny of evidence'. Indeed, as with EBM, I want to argue that it is important to distinguish between two separate EIHP aims and claims. On the one hand, EIHP frameworks insist on the importance of evidence on the effects of healthcare interventions sourced through particular methods – so-called 'global' evidence on intervention effects (Oxman et al 2009; STP1; Lavis *et al.* 2009; STP5). In other words, as in EBM, EIHP frameworks built on the assumption that certain methods generate the best and most trustworthy evidence on the impacts of healthcare interventions. On the other hand, EIHP/knowledge translation toolkits such as the SUPPORT Tools primarily aim at teaching researchers and decision-makers a set of rules and tools "to make appropriate judgements about its [research evidence] relevance and quality (Oxman et al 2009: 4; STP1). In other words, as in EBM, EIHP frameworks largely focus on a set of standardised principles to ensure the use and application of research evidence in decision-making processes. As such, as argued for EBM, it is important to distinguish EIHP claims pertaining to the most trustworthy evidence from claims regarding the utilisation or applicability of evidence. Whereas the former concerns a strong conception of what counts as 'science', the latter involves – arguably weaker – demands for systematic decision-making. I further elaborate on the importance of this distinction below. But first I wish to discuss in more detail the 'rules of evidence' that are

at the core of both EBM and EIHP and three tools that are key to the operationalization of these rules: RCTs, Systematic Reviews, and the GRADE evidence appraisal framework.

Evidentiary rules and tools

Textbooks describe the "full-blown practice of EBM" (Sackett *et al.* 2000: 4) as involving five central steps: the formulation of answerable questions; the search for the best evidence to answer these questions; the critical appraisal of evidence for its credibility and applicability; the integration of evidence with clinical expertise and patient preferences; and an evaluation of one's own performance. These five steps are usually taken as the key requirements to garner the label 'evidence-based' – and should be followed by both individual clinicians as well those involved in the formulation of reviews, practice recommendations and guidelines (Sackett *et al.* 2000). Similar steps have also been adapted as the basis for EIHP. Here, it is the identification of policy problems, the finding and appraisal of evidence for possible solutions/options, and an analysis of applicability of evidence and implement-ability of evidence-based solutions/options that are the outlined as key steps to achieve EIHP (Lavis *et al.* 2009; STP Intro).

In the following, I describe in more detail these latter three steps that are common to both EBM and EIHP frameworks/guides. I also show that it is the second step – the critical appraisal of research evidence – that involves specific rules and tools that serve to elicit the best scientific evidence: RCTs as the gold standard experimental study design to produce evidence on the effects of interventions; Systematic Reviews as a way of assembling, appraising and amalgamating evidence from different available studies that fit pre-defined questions and criteria; and the GRADE framework as a more recent methodological tool to improve the appraisal of the quality of evidence and strength of recommendations. I argue that all three methodological tools are concerned with the 'trustworthiness' of evidence and, as such, serve to separate facts from fictions, and scientific proofs from judgements, values and preferences.

Solvable problems

In both EBM and EIHP the process of defining a problem and converting it into a research-able question is a discreet first step that determines subsequent steps of the selection of evidence for solutions. What this means is that the formulation of a problem precedes the search for research evidence in the literature and that only data that fits the research question/problem is supposed to be incorporated in the subsequent evidence synthesis and appraisal steps. As such, the identification of a problem and its conversion into a research-able question is a crucial step to enable what both EBM and EIHP ultimately promise, namely the science-based solving of problems.

In EBM, the problem that requires addressing is assumed to typically arise fairly straightforwardly either from the clinical encounter itself, concerning, for example, the management of the condition a particular patient presents with (Sackett *et al.* 2000). In contrast, EIHP frameworks make much of the ways policy 'problems' should be identified and prioritised. In other words, policy problems are not assumed to simply arise. Instead they have to be elicited and ranked according to their importance through a series of additional steps that are aimed to be as systematic and transparent as possible (see also Chapter 6). The SUPPORT Tools, which are targeted directly at those involved in making policies, advocate a Priority Setting approach whereby explicit criteria are used to determine high priority topics or problems (Lavis *et al.* 2009; STP3). The tools stress the importance of using of evidence to support the identification of a problem, such as burden of disease data or Systematic Reviews (see below) that may provide information on the likelihood that the problem can be indeed addressed. At the same time, however, the tools also emphasise the need for judgements and the involvement of different 'stakeholders' who may be affected by any decisions made. As the SUPPORT Tools stress: "[e]xplicit criteria do not make decisions – people do" (Lavis *et al.* 2009: 7; STP3). In contrast to earlier WHO evidence-based policy (EBP) frameworks and their focus on 'objective' priorities (see Chapter 3), EIHP guides thus turn the 'problem' formulation into a more inclusive or even democratic process. Nonetheless, whereas in both

EBM and EIHP frameworks the choice of a problem may be to some degree assumed to involve different stakeholders and their judgements and values, these frameworks also require the translation of the identified priority problem into a research-able question – and stipulate that this has to be the *right* question, namely a question that is both as precise as possible and answerable.

Such is the importance of formulating the right question that some EBM handbooks dedicate a whole chapter to teaching readers the necessary specific steps (Sackett *et al.* 2000). The same applies for EIHP/knowledge translation toolkits that describe the turning of a problem into an answerable question as a key step that determines what kind of data should be gathered to answer this question (Lavis *et al.* 2009; STP4; Lavis *et al.* 2009; STP5). Indeed, EBM and EIHP advocates increasingly concede that "[d]ifferent types of evidence are relevant to different questions" (Oxman *et al.* 2009: 4; STP1; see also Chapter 7). Furthermore, they also maintain that their respective approaches are problem- and not solution- or methods-based. In other words, EBM'lers insist that it "is crucial that critical appraisal issues arise from patient problems" (EBM Working Group 1992: 2423). Similarly, EIHP/knowledge translation toolkits insist that it is a policy issue or problem that is the starting point for evidence search and appraisal processes (Oxman *et al.* 2009; STP1; Lavis *et al.* 2009; STP4). At the same time, however, EBM advocates have also always insisted that EBM primarily deals with the evaluation of clinical therapies and interventions (EBM Working Group 1992); and EIHP toolkits frameworks such as the SUPPORT Tools make clear that, analogously, the most important questions concern the impact of specific solutions or policy options formulated in response to problems (Oxman *et al.* 2009; STP1). In other words, both EBM and EIHP centre on the question of 'what works?' in terms of healthcare/policy interventions, and on the finding, synthesis, appraisal and translation of evidence perceived to be most trustworthy to answer this question. As a consequence, EBM and EIHP/knowledge translation toolkits typically focus on how a 'problem' may be converted into a clear and answerable question pertaining to the impact of interventions or solutions (Sackett *et al.* 2000; Lavis *et al.* 2009; STP5).

In regard to both EBM and EIHP, the formulation of a 'good' question therefore requires the breaking down of the question into discreet and standardised units of searchable parameters that allow the identification of 'relevant' evidence on intervention impacts. In EBM, this is typically done with the so-called PICO approach, a technique that differentiates four distinct elements: *P*atients/People, *I*ntervention, *C*omparison, *O*utcomes. Patient describes the characteristics of the population targeted by a specific intervention; Intervention describes the particular intervention under consideration; Comparison describes the main alternative or comparator intervention that the intervention is assessed against (e.g. the placebo control in a placebo-controlled RCT); and the Outcome describes the effects of the intervention that are assumed to be of interest (Richardson *et al.* 1995; Sackett *et al.* 2000). EIHP toolkits have adapted this approach as the POCO framework, which substitutes the 'I' for *I*ntervention with an 'O' for *O*ptions (Lavis *et al.* 2009; STP5).

Whereas such a standardised approach to formulating the 'right' question is key to turning a problem into a research-able question, it arguably also places distinct constraints on what *can be* a 'relevant' problem; and pre-determines what is anticipated and permissible as 'relevant' and permissible evidence to determine clinical or policy solutions. In regards to EBM, critics have argued that 'real-world' patient problems may not always easily convert into the PICO format (Huang *et al.* 2006). This seems even more pertinent in EIHP, where the POCO approach requires the conversion of what are often likely to be complex policy issues into a pre-defined problem that is amenable to scientific solutions. The consequences of this will be discussed in Chapter 6, where I use the example of a particular issue tackled by the EVIPNet Uganda team to examine what may get lost in these translations from policy issue to answerable problem and from there to 'objective' solutions. What should already be clear, however, is that the demand for the translation of a clinical/policy problem into a question answerable by science has distinct consequences in terms of what problems and solutions are deemed permissible. Put differently, rather than being 'problem-oriented', both EBM and EIHP could be argued to be primarily oriented towards the delivery of

‘objective’ solutions to pre-definable problems. To explore this further, I discuss in the following the specific methods that, according to EBM and EIHP advocates, are the guarantors to elicit the most trustworthy evidence on ‘what works’.

Evidentiary solutions

In EBM, the formulation of a problem precedes a systematic search for ‘evidence-based’ solutions in ‘evidence-based’ resources (Sackett *et al.* 2000, *Chapter 2*). This reiteration is no attempt at mockery: from early on, EBM’lers called on medical practitioners to “burn your (traditional) textbooks” (Sackett *et al.* 2000: 30) and “trade in your (traditional) journal subscriptions” to replace them with “modern” EBM resources (ibid.: 33). Indeed, members of the original *EBM Working Group* co-published multiple of such ‘modern’ EBM textbooks and co-founded some of the first self-proclaimed ‘evidence-based’ journals. By now, a whole service industry has developed around the demand for resources that make it as easy as possible for clinicians to access pre-selected or even ‘pre-processed’ high-quality evidence. A similar development can be observed with EIHP. The SUPPORT Tools include a specific step that outlines how to find the best available research evidence and the most ‘user-friendly’ evidence syntheses (Lavis *et al.* 2009; STP7). I return to the growing importance of ‘pre-processed’ evidence formats below. What I want to highlight here is that with the overall aim to facilitate the access to and use of high-quality evidence by practitioners, the question of what constitutes ‘good’ evidence has inevitably taken centre stage in EBM and, later, EIHP.

In EBM, pioneering journals such as the *ACP Journal Club* and *Evidence Based Medicine* promised to

> “publish the gold that intellectually intense processes will mine from the ore of about 100 of the world's top journals” (Davidoff *et al.* 1995: 1085).

To ‘mine the gold’, other medical journals were screened and articles (initially mainly on single trials/studies) selected, summarised and appraised according to specified EBM quality criteria. With an emphasis on the importance on ‘what works’, these journals focused on ‘mining’ research evidence from

studies on the effects of healthcare intervention – with the 'gold' standard status indisputably accorded to studies using an RCT study design.

Indeed, even before the announcement of EBM, David Sackett had proposed a set of classification criteria to rate the credibility of research evidence and the strength of clinical recommendations. Research evidence, Sackett argued, should be rated according to five "levels of evidence" on the basis of the study methodology used to obtain it; correspondingly, clinical recommendations should be assigned one of three "grades" according to their evidentiary basis (Sackett 1989: 2S-3S). This classification scheme ranked RCTs as producing the highest level of evidence, and assigned the most favourable Grade A to recommendations that utilised evidence from RCTs (Sackett 1989). Sackett referred to these classification criteria as "rules of evidence" (Sackett 1986: 2S). The *EBM Medicine Working Group* reiterated the importance of such formal 'rules of evidence' to be used by clinicians to critically appraise the validity of research evidence, with randomized trial results singled out as the best methodological design (EBM Working Group 1992). As a result, these rules of evidence became the basis for a whole range of (in-)famous evidence 'hierarchies' that placed evidence from RCTs at the top and above evidence from all other types of study designs (such as, for example, observational studies) (e.g. Djulbegovic and Guyatt 2017). As the basic criteria according to which clinicians and reviewers should appraise the trustworthiness of research evidence, these rules and hierarchies have been at the core of EBM. They have also been adopted for EIHP frameworks, albeit with some caution (see below).

Despite criticism, EBM'lers have vigorously defended the pinnacle position of RCTs with the argument that there are research methods or study designs that "are more likely than others to reveal the truth and to limit error" (Sackett 1997: 1004). Still, as I shall highlight in the following, evidence hierarchies have also become increasingly refined and, to some extent, been made more flexible. Such hierarchies still serve as the basis for judgements of the quality of research evidence. But modifications have served to take into account possible shortcomings of evidence from *individual* studies, including RCTs. Nevertheless, current evidence hierarchies continue to *per se* privilege RCTs

for their ability to reduce bias and provide certainty about the impacts of interventions – which, or so I shall argue, underlines EBM and EIHP advocates' enduring preoccupation with the 'true' effects of healthcare interventions.

RCTs – letting nature speak, probably

As noted in Chapter 1, social scientists often link the popularity of RCTs not to its scientific credentials, but instead to its perceived ability to settle controversies and mediate between the opinions and interests of various stakeholders (Porter 1995; Marks 2000a; Timmermans and Berg 2003). Without wanting to contradict these insights that offer valuable counter-narratives to uncritical stories of scientific progress, I want to approach the issue from a slightly different angle and focus on the key reasonings provided by EBM'lers themselves to justify the singular superiority of RCTs over other study designs.

Indeed, many key EBM'lers have consistently maintained that high quality RCTs are best at "finding the truth" (Haynes *et al.* 2006: 7; see also e.g. Sackett 1997; Djulbegovic and Guyatt 2017). As experimental study designs, RCTs – *randomised controlled trials* – test interventions through comparisons. 'Controlled' means that a group of study participants is subjected to a specific intervention in question and compared to a control group that is not subjected to the intervention, or subjected to an alternative intervention. 'Randomisation', on the other hand, involves the (ideally concealed) random allocation of study participants to either intervention or control group, with the intention that all known and unknown factors or participants' characteristics that might impact on the effect of the intervention are distributed by chance. Hence, if there are any differences in outcomes between the study/control groups, this is assumed to be due to the intervention being tested.

According to EBM'lers, RCTs gold-standard reputation thus hinges on their perceived ability to reduce biases (Sackett 1989; Haynes *et al.* 2006; Djulbegovic and Guyatt 2017). Randomization is perceived to avoid conscious or unconscious interferences from trial investigators in the assigning of participants to trial groups (selection bias). It also is also claimed to randomly distribute potentially 'confounding' factors that might impact on the workings of

interventions across treatment groups (allocation bias). In addition, strategies such as the 'blinding' of both investigator and study participants as to which group (treatment or not) the latter belong aim to avoid the distortion of objective results through subjective beliefs or preferences (e.g. Haynes *et al.* 2006). As a consequence of these strategies, RCTs are ascribed the power to isolate the causal reasons for any experimental effects (Djulbegovic and Gyatt 2019). In other words, any detected and measured effect can be causally linked (at least probabilistically) to the tested intervention. By reducing any subjective interferences, RCTs are thus claimed to enhance the "trustworthiness of evidence" (Djulbegovic and Guyatt 2017: 416) and provide the most valid proofs of the "true effects" of interventions (Haynes *et al.* 2006: 212). And not only that the intervention in question works for the people included in the study: the successful minimization of bias and the isolation of causal effects is usually assumed to produce evidence on the *general* workings of interventions. In other words, results are assumed to be generalizable to other people and other situations – at least where these match the study populations in some key characteristics (Haynes *et al.* 2006).

It is this latter claim that has fuelled much critique of RCTs and I will return to this issue below. But for now I want to underline that what undergirds the claim that RCTs are the superior study design is precisely their assumed ability to eliminate bias, to disentangle objective facts of the 'true' workings of interventions from subjective interferences of investigators, but also patients. The prevention of biases is thus touted by EBM advocates as "the major methodological challenge" for researchers conducting clinical research (Haynes *et al.* 2006: ix). Conversely, for EBM advocates who insist on the 'best' evidence as the basis for decision-making, a key aim has been to develop rules and tools that allow "detecting misleading study designs and interpretation in biomedical research" (Djulbegovic and Guyatt 2017: 416). In other words, it has been to distinguish objective and trustworthy proofs from subjective inferences and deceptive judgements.

For EBM'lers, evidentiary rules that place RCTs at the top of evidence hierarchies thus link to an overriding concern for eliminating or at least reducing biases that potentially distort evidentiary truths. Yet, over time, EBM

advocates also conceded that RCTs can be biased, too, and may be insufficient to provide trustworthy evidence. As a result, methods have been increasingly refined to separate good from bad evidence, and valid from invalid conclusions drawn from trustworthy evidence. One consequence has been a progressive shift towards Systematic Reviews as the best 'cumulative' evidence. The other consequence has been the introduction of more refined evidence appraisal frameworks. Both of these developments will be discussed below. But it is important to note that despite these developments, EBM advocates indubitably uphold RCTs as *per se* the gold standard study design to test the true effects of clinical interventions (Djulbegovic and Guyatt 2017). With EIHP's expansion to the question of 'what works' in regard to the organisation of health systems arrangements, EIHP proponents have increasingly acknowledged the possible role of alternative study designs (Lavis *et al.* 2009; STP5), partly due to the simple fact that the utilisation of RCTs to assess non-clinical health interventions continues to remain somewhat limited (Lewin *et al.* 2012). Nonetheless, non-RCT designs tend to be conceived as alternative or substitute options (see also Chapter 7), whereas synthesised evidence from RCTs continue to be espoused in EIHP/knowledge translation toolkits as providing the "most reliable evidence on the effects of healthcare interventions" (Lewin *et al.* 2009: 1; STP8; see also e.g. Lavis *et al.* 2004; Oxman, Schünemann, and Fretheim 2006).

Systematic Reviews – cumulating evidence

From its inception in the early 1990s, a fundamental component of the self-proclaimed EBM paradigm was the demand for systematic and rigorous reviews of all available evidence (EBM Working Group 1992). However, it was the establishment of the *Cochrane Collaboration* in 1993 that arguably catalysed the growing importance placed on Systematic Reviews as a distinct technique for the summary of evidence from different single studies. Today, it is widely accepted that Systematic Reviews trump single studies in providing the best scientific evidence on intervention effects. That is, whereas RCTs continue to be the gold standard study design or experimental method to test interventions, Systematic Reviews have become the gold standard technique to summarise the overall evidence for the effects of a particular intervention

(Djulbegovic and Guyatt 2017). The primacy of Systematic Reviews is also emphasised in EIHP/knowledge translation toolkits, where they are presented as the most important 'global' evidence (e.g. Lewin *et al.* 2009: 1; STP8; SURE Project 2011; see below)

Like the RCT, Systematic Reviews have a long history (Chalmers, Hedges, and Cooper 2002). But it was Archie Cochrane who, in 1979, called for the need to collate all relevant RCTs in a "critical summary" (Cochrane 1979: 9), and a few years later coined the term 'Systematic Review' (Chalmers, Hedges, and Cooper 2002). With the establishment of the *Cochrane Collaboration*, Systematic Reviews have been progressively refined as a standardised set of steps to synthesise empirical evidence from different studies of the same intervention. As such, Systematic Reviews could be said to have evolved as a response to two key concerns. First, more and more trials were being produced, often of the same intervention. This was claimed to have resulted in an "information overload" for time-pressed clinicians (Chalmers 1993: 156). By collating evidence "with a respect for scientific principles" (Chalmers 1993: 156), Systematic Reviews were thus said to make it considerably easier for clinicians to stay up-to-date with research findings and to practice EBM. Science, it was argued, is a "cumulative endeavour" (Chalmers, Hedges and Cooper 2002: 30) and Systematic Reviews a tool to not only take stock of accumulating facts but to quite literally cumulate facts – especially where this involves the statistical pooling of measurable results from individual studies in the form of meta-analyses (Egger, Smith and O'Rourke 2008). This also links to a second concern, namely that Systematic Reviews were claimed to further reduce bias and chance (Chalmers 2003) and thus make evidence even more trustworthy. As such, Systematic Reviews also responded to internal critiques by clinicians and epidemiologists that single trials alone – RCT or not – might not provide sufficient evidence to determine 'what works' (Will and Moreira 2010). Proponents of Systematic Review have made similar arguments: on their own, they argued, results from individual studies may have little informative value. Instead, "new facts" had to be put in relation to "old facts" (Chalmers, Hedges and Cooper 2002: 13).

Both EBM and EIHP advocates also insist, however, that Systematic Reviews not just summarise research evidence, but are *research* that elicits the "totality of trustworthy evidence" (Chalmers and Fox 2016: 11) or, according to the SUPPORT Tools, the 'global' evidence on intervention effects (e.g. Oxman *et al.* 2009; STP1). In other words, Systematic Reviews are not only seen as enablers of science as a cumulative endeavour, but also as a method or tool that allows to "cumulate scientifically" (Chalmers, Hedges, and Cooper 2002: 12). As such, Systematic Reviews are presented as a method that comprises "the same basic components as any other scientific investigation" (Chalmers 2003: 25). These components mirror those of the whole evidence-for-practice search more broadly and include question formulation, study selection based on explicit in-and exclusion criteria, and evidence appraisal, synthesis and interpretation (Chalmers 2003; Lavis *et al.* 2006). Here, too, the arguably most central step is the appraisal of studies, which is meant to follow the above-mentioned 'rules of evidence' by judging the quality of studies based on the methodological design used to produce it (with evidence from RCTs *per se* considered better than other forms of evidence for effects) and criteria to detect methodological faults, as well as of the validity of conclusions drawn from the results (Jüni, Altman and Egger 2001). As such, a central claim is that Systematic Reviews further reduce biases that may result from a failure to adhere to objectivising methods or from subjective interpretations (Oxman and Guyatt 1993; Clarke and Chalmers 1998; Chalmers 2014). In other words, they further prompt the separation of facts from fictions, and of objective proofs from subjective judgements. As a result, EBM and EIHP proponents insist that Systematic Reviews are more "accurate" (Sackett and Rosenberg 1995: 623), "objective" (Egger, Smith, and O'Rourke 2008: 3) and "scientific" (Sheldon 2005: S1:2; Oxman and Guyatt 1993) than other types of literature reviews[20].

[20] This is an important point as critics of Systematic Reviews have proposed a range of alternative ways to systematically synthesise study findings (e.g. Greenhalgh 1999; Hammersley 2001; Pawson *et al.* 2005). To stress their status as a specific tool, I have capitalised Systematic Reviews throughout this thesis.

With the *Cochrane Collaboration* publicising more and more Systematic Reviews, they have become EBM's preferable source for evidence on treatment effects. But Systematic Reviews have also become part of the standard repertoire of EIHP. As the head of EVIPNet's *Global Resource Group* suggested,

> "[l]ike clinicians, health ministers can benefit from high quality, locally applicable systematic reviews of research" (Lavis *et al.* 2004: 1615).

Indeed, EIHP advocates have claimed that Systematic Reviews are useful for all key steps in the EIHP process, including in the discernment of problems, the review of solutions and implementation considerations (Lavis *et al.* 2009; STP7). This has been paralleled by efforts to expand the Systematic Review methodology to cover all kinds of questions and study designs (Lavis *et al.* 2006; cf. Chapter 7). Nonetheless, as in EBM, EIHP proponents insist that Systematic Reviews of RCTs represent the best evidence on 'what works' (Lavis *et al.* 2006) and, as such, insist on Systematic Reviews of RCTs as the best 'global' evidence on the effects of interventions and policy solutions/options (Oxman *et al.* 2009; STP1; Lewin *et al.* 2009; STP8).

As summaries or 'global' evidence that has been pre-selected for its relevance (i.e. congruity with particular search criteria) and pre-screened for its quality, Systematic Reviews are thus increasingly seen as the principal source of evidence on intervention impacts in both EBM and EIHP. But their character as 'pre-processed' evidence summaries has also promised practical advantages. As already mentioned above, one initial justification for their need was that clinicians might not be able to keep up with the rapidly growing body of research studies. But members of the *EBM Working Group* were also concerned that the typical clinician might be unable to keep up with the methodological advances. As one original group member put it, over the course of the 1990s suspicion among EBM'lers grew that

> "few clinicians would ever have the skills […] to conduct sophisticated assessment of the evidentiary basis for their practice" (Djulbegovic and Guyatt 2017: 418).

As a consequence, the production of Systematic Reviews and other forms of "pre-processed evidence" (Djulbegovic and Guyatt 2017: 418) such as

guidelines (see below) bourgeoned. Giving clinical practitioners access to evidence that has been 'pre-processed' by one of the growing number of methodology experts has promised to be a convenient win-win: the saving of time and effort for clinicians, and the more targeted dissemination of evidence that methodology experts perceive as the 'best' and most trustworthy. The same is true for EIHP, where the primary focus has been to improve the provision and use of pre-processed and user-friendly evidence summaries, either in the form of Systematic Reviews or – one step further down the processing chain – user-friendly summaries of Systematic Reviews or Policy Briefs (cf. Lavis *et al.* 2009; STP7; see below). In other words, in both EBM and EIHP there is arguably an increasing tendency towards presenting those tasked with making decisions with evermore 'pre-processed' evidence, which has already been determined as 'best' by evidence experts well-versed in applying evidentiary rules and tools to elicit the most trustworthy proofs.

Despite their perceived benefits, however, the proliferation of Systematic Reviews and other forms of pre-processed evidence (see below) has also posed new problems. If practitioners (clinicians, guideline developers, policy makers, etc.) were to rely to a large extent on pre-processed evidence and ensuing recommendations, how could they determine that these were indeed trustworthy and not also biased? In response, the GRADE (Grading of Recommendations Assessment, Development and Evaluation) framework was developed as yet another standardised tool to allow the rating of the quality of evidence in Systematic Reviews and ensure the correct translation of study results into recommendations. As the latest example of the continuous aim of EBM and EIHP architects to eliminate biases, GRADE further builds on and refines Sackett's "rules of evidence" (Sackett 1989) and associated evidence hierarchies. But, or so I will argue below, it also aims to further separate objective facts from subjective judgements precisely by formalising – and thus objectifying – the role of judgements in the mining and presentation of trustworthy evidence.

The GRADE framework: better facts, more transparent judgements

The rapid proliferation of Systematic Reviews from the 1990s onwards has been paralleled by the bourgeoning of other pre-processed evidence formats.

This includes, on the one hand, evidence-based practice guidelines as generic 'evidence-based' recommendations for groups of patients with the aim to assist clinical decision-making, which have become a key tenet of EBM (Timmermans and Berg 2003; Djulbegovic and Guyatt 2017). EIHP/knowledge translation toolkits, on the other hand, have introduced yet another pre-processed evidence format, namely so-called Policy Briefs. As user-friendly "packaged evidence summaries" for policymakers (Lavis *et al.* 2009: 3; STP13), Policy Briefs are meant to summarise and appraise 'global' research evidence from Systematic Reviews on the effects of solutions/policy options and combine it with 'local' evidence, thus providing the crucial link between global evidence and local policy decision-making processes (Lavis *et al.* 2009; STP13; SURE Project 2010a).

There are important differences between these pre-processed 'evidence-based' formats – EBM clinical guidelines and Policy Briefs – including the degree to which they are supposed to consider the applicability of evidence and if they indeed include recommendations or not. But both count as vehicles that facilitate the dissemination of evidence to decision-makers (clinical or policymakers) by further 'repackaging' research evidence into even more condensed and accessible formats (Sackett *et al.* 2000; Oxman, Schüneman and Fretheim 2006; Lavis *et al.* 2009; STP13; Djulbegovic and Guyatt 2017). Further, both EBM guidelines and EIHP Policy Briefs are supposed to be based on Systematic Reviews as the most important evidence source and, as such, could thus be said to be one step further down the line in the evidence-to-practice sequence. As such, it was partly the growing popularity of such 'pre-pre-processed' evidence formats that prompted the development of the GRADE framework as a new standardised tool to appraise the quality of evidence across a body of studies (such as in Systematic Reviews) and to grade the strength of the derived recommendations.

It was again at the initiative of leading McMaster EBM advocates that a GRADE Working Group was formed in 2000, which has developed an increasingly refined methodology framework that engenders a "scientific" approach to the appraisal of Systematic Reviews (GRADE Working Group

2017, *online resource*; see also GRADE Working Group 2004; Guyatt *et al.* 2008a; GRADE Working Group 2011). GRADE has since been taken up by a whole range of institutions and journals to guide the production or appraisal of pre-processed evidence summaries, including WHO (Schünemann *et al.* 2006; WHO 2012b). Although initially conceived as a methodology to appraise clinical interventions, GRADE has also been taken up and promoted in global EIHP/knowledge translation toolkits as a tool to appraise evidence from Systematic Reviews for public health or health system interventions (Lewin *et al.* 2012). Indeed, as I will further discuss in Chapter 6, the EVIPNet Uganda team used GRADE to appraise the 'global' evidence for its Policy Briefs.

At its core, GRADE includes a refinement of Sackett's original evidentiary rules and earlier evidence hierarchies (Djulbegovic and Guyatt 2017). But it also comprises an even more sophisticated system to "make judgments more transparent" (Guyatt *et al.* 2008a: 925) that are involved in the rating of evidence and making of recommendations. In other words, using the GRADE framework still compels the appraisal of Systematic Reviews or guidelines according to two separate components: the quality of included research evidence as the level confidence in its truthfulness, and the strength of recommendations that are based on this evidence (GRADE Working Group 2004). As with Sackett's rules of evidence, according to GRADE the study design remains the most important quality criterion and results from RCTs are initially assumed to be of high quality (GRADE Working Group 2004; Guyatt and Oxman 2008; Djulbegovic and Guyatt 2017). However, GRADE also involves additional quality criteria. This includes the explicit taking account of methodological execution of studies (as well as four other factors, see below). In other words, while RCTs are *a priori* accorded the highest level of evidence, this may be rated down, for example if their appraisal detects serious methodological flaws. Conversely, observational studies are initially rated as low quality. But they may be rated up under some circumstances such when studies demonstrate a large treatment effect without serious validity concerns. Any other evidence is *a priori* assumed to be of very low quality (GRADE Working Group 2004; Guyatt *et al.* 2008a; Guyatt and Oxman 2008; Djulbegovic and Guyatt 2017). As such, GRADE continues to build on

the assumption that that “not all evidence is created equal” and that “the higher the quality of evidence, the closer to the truth” study results are (Djulbegovic and Guyatt 2017: 416). But it enables more flexible judgments by proposing that whereas RCTs continue to count as *per se* the best study design to provide the most truthful evidence, not all RCTs deliver the highest quality evidence.

Altogether, GRADE assesses the quality of (RCT and non-RCT) studies included in Systematic Reviews according to five categories. Three of these categories directly concern the methodological soundness of *individual* studies and aim at the detection of biases. A fourth criterion allows downgrading of evidence quality in case of inconsistencies *between results of different studies* included in a Systematic Review. And a last criterion concerns the applicability of evidence: evidence quality can be downgraded if reviewed trials differ from a target scenario in regards to, for example, the intervention in question, but also in regards to settings or people (Guyatt *et al.* 2008a; Guyatt *et al.* 2011). This last quality criterion concerning applicability is particularly interesting as it compels GRADE users to compare certain study conditions with the conditions in the settings where evidence may be used to inform a decision. In other words, GRADE further formalises how reviewers assess the applicability of ‘valid’ experimental interventions to ‘real-life’ patients, people, or contexts. But since, according to EBM/EIHP guidelines, reviewers should have already used the PICO/POCO scheme to search for the evidence in the first place, GRADE guidelines also advice that in most cases applicability should be a given (Guyatt *et al.* 2011). Indeed, GRADE developers explicitly note that downgrading of evidence should be avoided unless

> “biological or social factors are sufficiently different that one might expect substantial differences in the magnitude of effect” (Guyatt *et al.* 2011: 1305).

While rather oblique, this suggestion could be said to echo standard EBM textbook advice that most differences between patients and trial populations are “quantitative” and thus ignorable (Sackett *et al.* 2000: 119). Indeed, most comparisons demanded as part of the GRADE evidence quality appraisal

primarily concern potential 'factual' differences (such as comparing interventions tested in adults for their applicability in children populations). Yet, GRADE developers also advice that applicability of evidence may be a particular problem in lower-income countries, especially if

> "the intervention cannot be implemented with the same rigor or technical sophistication in their setting as in the RCTs from which the data come" (Guyatt *et al.* 2011: 1305).

Altogether, GRADE thus proposes a remarkably cursory handling of the issue of transferability – or 'travel-ability' – of experimental evidence, especially considering that this is an issue that has been at the centre of much critique. Moreover, the above quote also hints at an issue that I further elaborate below, namely the juxtaposition of ideal trial conditions with contexts where evidence-based interventions are to be implemented as 'barriers'.

What I wish to argue here is that the development of GRADE – and its uptake in EBM and EIHP – speaks to a growing acknowledgement of the role of judgements in the appraisal and application of evidence. A key purpose of GRADE's more sophisticated pre-set quality criteria is thus to make such judgements more systematic, explicit and transparent (Chalmers 2003; GRADE Working Group 2004; Oxman, Schünemann, and Fretheim 2006; Guyatt *et al.* 2011; Balshem *et al.* 2011). Put differently, GRADE's aim is to ensure that reviewers and guideline developers do not simply make judgments on the quality of evidence 'intuitively', but in an ordered and systematic manner; and further that they are explicit as to why they think evidence quality is high or low, and to justify this to others. But by formalising – and thus making visible – those judgements, GRADE could also be said to further stage the distinction between 'objective' evidence and facts and 'subjective' judgements, values and opinions.

Indeed, my review of these three tools that are key to both EBM and global EIHP/knowledge translation toolkits – RCTs, Systematic Reviews and GRADE – has served to highlight that all three tools primarily serve to elicit objective evidence on the 'true' effects of healthcare interventions/solutions; and further, that they do so by fostering the elimination or at least disassociation and staging of subjective interferences in the form of biases,

judgements, values, preferences and opinions. Conversely, as I show in the following, in a subsequent step, EBM and EIHP/knowledge translation toolkits then require the (re-)integration of this objective evidence with subjective values and preferences to assess applicability of this evidence and the implement-ability of evidence-based solutions.

Making solutions fit

The GRADE framework not only serves to assess evidence quality but also to translate quality ratings into strength grades for any recommendation deduced from the evidence. The strength of recommendations can be graded as either strong or weak (Guyatt *et al.* 2008b). A recommendation can be classified as strong when, for example, evidence quality is high and clearly shows that benefits outweigh undesirable effects. Conversely, recommendations are to be graded as weak when evidence is high quality but benefits and risks are balanced, or when the quality of evidence is weak and/or the benefits and risks are uncertain (Guyatt *et al.* 2008b). According to GRADE, the implications of a strong recommendation are that clinicians should follow the recommended course of action with most patients, or that "the recommendation can be adopted as a policy in most situations" (Guyatt *et al.* 2008b: 1049). A weak recommendation, on the other hand, implies that "different choices may be available" in different situation requiring the elicitation of patient "values and preferences" or, in the case of a policy decision, "substantial debate and involvement of many stakeholders" (Guyatt *et al.* 2008b: 1049).

As mentioned at the beginning of this chapter, EBM architects have been insistent that EBM always recognised the need for clinicians to integrate the best evidence with patient values and preferences in situated clinical decision-making processes (e.g. Sackett *et al.* 1996). GRADE could thus be said to further formalise this integration, by clarifying – and scripting – the role of evidence vis-à-vis patient/stakeholder 'values and preferences'. Especially in regards to clinical recommendations that have been GRADE-classified as weak, EBM advocates thus increasingly advocated the use of decision-making aids to achieve 'shared' decision-making (Guyatt *et al.* 2008b; see also Chapter 7).

In terms of global EIHP/knowledge translation toolkits aimed at a wider range of (non-clinical) problems and policy decisions, the issue of evidence applicability is even more complicated. Here, GRADE is also increasingly used for evidence quality appraisal, which, as outlined above, includes a fairly basic 'evidence applicability check'. But these toolkits also provide for additional applicability checks at the point when research evidence may be translated into practice. The 2004 WHO *Report on Knowledge for Better Health*, for example, included the catchphrase 'global evidence for local decisions', explaining that:

> "Global evidence about priority problems, solutions, and mechanisms can help bring about change. In contrast, local decisions informed by local knowledge are necessary to create the context for change. The caveat to this phrase is that the applicability of global evidence needs to be assessed for each local context and operations research is needed when the research cannot be applied locally" (WHO 2004: 112).

Accordingly, EIHP/knowledge translation toolkits like the SUPPORT Tools note that "differences in on-the-ground realities and constraints" (Lavis *et al.* 2009: 1; STP9) may mean that global evidence from Systematic Reviews may not be applicable to local contexts, or that experimentally-tested solutions or policy options may not be "working in the same way" (ibid.: 1). As such, these toolkits use the notion of 'contextualisation' to describe the appraisal of the applicability or relevance of global evidence on intervention effects (Lewin *et al.* 2009: 2; STP11) and the implement-ability – or "feasibility and acceptability" (Lavis *et al.* 2009: 4; STP9) – of evidence-based policy solutions/options for local contexts. This 'contextualisation' of global evidence is proposed to involve finding and using 'local' evidence, such as on

> "modifying factors in specific settings, the degree of need […], values, costs and the availability of resources" (Oxman *et al.* 2009: 3).

As the SUPPORT Tools describe the interplay of 'global' and 'local' evidence:

> "[g]lobal evidence – the best evidence from around the world – is the best starting point for judgements about the effects of options and factors that modify those effects, and for developing insight into ways

> in which problems can be approached and addressed. Local evidence is needed for most other judgements about what decisions and actions should be taken" (Lewin *et al.* 2009: 2; STP11).

In many ways, such explicit acknowledgement of the importance of 'contextual' factors for the workings of interventions could be said to represent a more careful approach to the issue of generalizability of study findings. At a minimum, it could be said to involve the assumption that there is a difference in the transferability between results from biomedical trials and studies testing public health or health systems interventions – not only is not all evidence created equally, but not all evidence travels equally either. Still, I want to suggest that there is a clear tension between, on the one hand, an appreciation that 'context matters' and, on the other hand, EIHP/knowledge translation frameworks and toolkits that are *build on* the understanding that evidence on 'what works' is 'global' and can and should travel.

Indeed, I wish to argue that EIHP/knowledge translation toolkits propose two things. On the one hand, a clear distinction is made between 'global' research evidence on 'what works' and 'local' evidence and 'tacit knowledge' (Moat *et al.* 2013: 20) that may inform the applicability of global evidence and implement-ability of interventions. On the other hand, applicability and implement-ability are assumed to depend on 'contextual' factors that may impact on the "feasibility and acceptability" of interventions, first and foremost constraints in resources and capacity, and differing local "values and preferences" (Lewin *et al.* 2009: 12; STP11). The consequence of these conceptualisations is, or so I want to argue, that global 'value-free' and objective evidence is juxtaposed with local subjective 'values and preferences'. And, further, that evidence-based – or experimentally proven – interventions are contrasted with local contexts as "barriers" (Lewin *et al.* 2009: 7; STP11). I shall return to this below.

Rules-breakers or paradigm-makers?

In the previous section, I described key evidentiary steps and tools that are considered crucial to the successful practice of both EBM and EIHP. I also suggested that at the heart of these tools are a standardised set of 'rules of evidence', rules to ensure the elimination of biases and the 'mining' of the

best, highest quality evidence, the 'gold' of scientific research. In the following, I want to briefly outline two social science critiques that have seized on the notion of 'rules of evidence' to, on the one hand, contrast evidentiary rules and standards with a considerable amount of tinkering observed in practice; and on the other hand, to contrast EBM/EIHP claims to scientific authority with their 'real' character as rule-based regimes befitting the wider expansion of regulatory or audit cultures. Although valuable, I suggest that EBM and EIHP architects seem to have indeed anticipated and even incorporated certain aspects of these critiques. Consequently, I will argue for an alternative analytical approach that at once takes seriously the demand for 'trustworthy' evidence associated with EBM and EIHP, while also being sensitive to problematic questions that are being articulated as these demands are taken 'beyond their research' and imposed on practitioners in the name of objective scientific solutions.

What's in a rule…?

As already noted at the beginning of this chapter, EBM architects' initial proclamations of an overhaul of medical practice in the early 1990s were met with considerable antagonism. A key criticism concerned what many commentators perceived as the undue positioning of scientific evidence as safeguard against physicians' opinions and judgements. As also noted, often such critiques came from medical practitioners themselves in defence of their expertise. But social scientists, too, have contributed to these debates, including with illuminating accounts of how medical practitioners indeed supplement standardised evidentiary rules and tools and evidences with other types of information in the practical management of patients (e.g. Greenhalgh 1999; Timmermans and Berg 2003; Latimer *et al.* 2006; Rabeharisoa and Bourret 2009). A key insight from these studies is that practitioners tend to utilise scientific evidence not instead of but rather alongside a whole range of knowledges and skills when determining the best care for their patients. Similar conclusions have been drawn by social science studies on the production of Systematic Reviews (Moreira 2007) and evidence-based clinical guidelines (Knaapen 2013). Here, too, scholars contrast the rigidity of formal evidentiary rules with considerable amounts of tinkering in practice. Knaapen

(2013), for example, notes that, in actual practice, the decision of what counts as evidence is precisely not "determined by formal criteria of methodological design but a range of 'other' knowledges, principles, and categories" in a process of reciprocal adjustment (ibid: 692).

What these studies could thus be said to share is the shift of analytical focus from EBM's general rules and standardised tools to how these rules and tools are adjusted, adapted and supplemented in situated practices. As such, they also come to similar conclusions: evidentiary rules and tools and guidelines may promise to attain, standardise and coordinate practices across space, time and expertise; when implemented in practice, however, they are likely to be adjusted to fit with situated decision-making processes that draw on a range of knowledge registers. In other words, these studies effectively highlight that any attempt at standardising healthcare practices – and subordinating to formal evidentiary rules the various entangled ways of knowing and doing – are ultimately deemed to fail. In chiming with the wider STS literature on standards and practices (see Chapter 1), one key conclusion that can be drawn from these studies is thus that general systems for producing order will necessarily be disrupted by particular practices of muddling through. As a consequence, as Timmermans and Berg have placated in regards to EBM, these standardised rules and tools are unlikely to lead to what critics fear is a "McDonaldization" of healthcare practices (Timmermans and Berg 2003: 216).

As already noted in Chapter 1, these studies offer much (and much more) valuable insight. What I want to argue here, however, is that in some ways they also seem to 'reveal' what EBM/EIHP architects themselves have long acknowledged. As I aimed to highlight in this chapter, EBM advocates have indeed long insisted on the need to combine evidence from scientific studies with other forms of expertise, and to integrate evidence with patients' values and preference. At least partly, such clarifications of EBM's role were almost certainly made necessary in response to enduring critiques. Still, EBM originators have been explicit about the need to *integrate* evidence with expert judgments and patient preferences from at least the mid-1990s onwards (e.g. Sackett *et al.* 1996). Furthermore, with EIHP, as I have also shown in this

chapter, the emphasis on evidence-*informed* policy explicitly acknowledges the need for global evidence to be 'contextualised' through judged comparisons with 'local modifying factors', as well as integrated with the values and preferences of stakeholders to inform policy decision-making.

What I would thus suggest is that their architects seem happy to concede that the *practice* of EBM and EIHP – that is, the situated application of standardised evidentiary frameworks, rules and tools – involves adaptions based on the incorporation of both judgements and other forms of knowledge and expertise. Put differently, I would argue that the standardisation of practices is not – if it was indeed ever – the central concern of EBM and EIHP advocates. In fact, this is precisely what a key member of the original EBM Working Group recently argued in regards to clinical practice, claiming that

> "the standardisation of care […] is neither possible nor desirable for the many value and preference-sensitive decisions that clinicians and patients face" (Djulbegovic and Guyatt 2017: 419).

As such, as I have also tried to highlight in this chapter, a key driver of recent developments in both EBM and EIHP has precisely been the perceived need to better account for judgments, 'tacit knowledge', values and preferences or even 'local' evidence on 'modifying factors' that do or even should influence situated decisions-making processes. The above-mentioned GRADE framework, for example, was developed in direct response to the insight that judgements and tacit knowledge play an important role in how guideline developers and guideline users applied evidentiary rules in practice – and serves to make these processes more systematic, explicit and transparent (Guyatt *et al.* 2008a; Djulbegovic and Guyatt 2017). In EBM, this has been combined with flourishing of efforts to better integrate patient preferences and develop tools to enable 'shared decision-making' (cf. Chapter 7). In parallel, EIHP/knowledge translation toolkits, too, increasingly shift the focus towards the applicability of research evidence for and implement-ability of interventions in particular 'local' contexts.

At the same time, however, I also want to argue that the growing acknowledgment of the importance of 'other' factors that influence particular decision-making processes has been accompanied by growing efforts to

clearly demarcate these factors from the 'best' scientific evidence. On the one hand, GRADE aims to further formalise and make visible judgements on evidence quality and applicability. In other words, the recognition that evidentiary rules and tools are 'tinkered with' in practice has arguably not lead to an appreciation of such adjustments and 'muddling through'. Instead, it has been a key driver for the development of even more rules and tools to reduce it – including by trying to further 'stage' the distinction between the objective evidence and facts and the subjective judgments passed onto them. On the other hand, efforts in the name of 'shared decision-making' and 'knowledge translation' could be said to continuously shift the focus in both EBM and EIHP from epistemological debates of what constitutes the 'best' evidence towards the perceived gap between 'knowing and doing'. Put differently, the aim is precisely to improve the *application* of the 'best' scientific evidence and its posterior *integration* with subjective judgements, values and preferences – at the same time that rules and tools to elicit the most 'objective' and value-free evidence continue to proliferate.

In terms of social science analyses, I would suggest that strategies that rest on juxtaposing EBM (or EIHP) imaginations and standardisations with the 'messiness' of practices thus risk re-emphasising the existence of a 'know-do gap'. Put differently, such critiques may offer little critical potential to resist the increasing attempts to bring practice more in line with the imaginations. Further, they arguably only allow for limited engagement with EBM/EIHP's claims to *scientific* authority. Indeed, at least among some Science and Technology Studies (STS) scholars, there has arguably been a tendency to dis-engage with EBM/EIHP advocates' appeal to scientific authority (cf. Chapter 1). Scholars have even proposed terms such as 'regulatory science' (Jasanoff 1990; Jasanoff 2011) or 'regulatory objectivity' (Cambrosio *et al.* 2006; Knaapen 2013) to highlight what they argue to be the novel role of social conventions and rules as the basis for evidentiary validity criteria. Arguing that it is such rule-based processes that bestow legitimacy in EBM, Cambrosio, for example, describes regulatory objectivity as the suspension of

> "the search for 'true measures' that correspond to some true quantitative characteristics of nature in favour of conventions" (Cambrosio *et al*., 2006: 194).

Similarly, Knaapen describes regulatory objectivity as

> "not based on quantified evidence or the epistemic virtues of individuals but instead on institutional procedures" (2006: 700).

In other words, both Cambrosio and Knaapen see these procedures as simultaneously the outcome of collective agreements and as their prerequisite: adherence to collectively-agreed rules and standards promises transparency and accountability and, as a result, enables collective quality control.

Whereas the notion of 'regulatory objectivity' may capture well the emphasis on evidentiary rules and tools in both EBM and EIHP, I would argue that such analyses do not take seriously enough EBM and EIHP architects' distinction between general rules and their situated application and, as such, their claims to scientific authority that undergird the insistence on specific methodologies to elicit the best, most 'truthful' evidence. Deliberative processes and consensus-finding – among doctors, doctors and their patients, evidence reviewers, policymakers – are certainly important to EBM and EIHP/knowledge translation frameworks and toolkits. Yet, these frameworks are also insistent that deliberations and consensus should be *based on/informed by* the 'best' evidence and precisely *not the other way around*. As Sackett early on insisted in regards to clinical practice, for example, a

> "consensus approach based on uncontrolled clinical experience risks the application of harmful treatments" (Sackett 1989: 3S).

Instead, he proposed, it would be precisely the rules of evidence that provide "a science for the art of consensus" (Sackett 1997: 1003). Similarly, EIHP/knowledge translation toolkits allow for subjective judgements and encourage deliberations (see also Chapter 6), but arguably force as clear as possible a distinction between those and objective scientific evidence. In other words, with both EBM and EIHP the assumption is that 'rational' participants agree on the facts (cf. Djulbegovic and Guyatt 2017); and that these facts have to be kept separate from judgements, preferences, values and opinions.

What I thus wish to suggest is that by purporting to *integrate* scientific evidence with judgements, values and preferences, EBM and EIHP frameworks also need to insist on their *separatedness*. In other words, EBM and EIHP rules and tools to elicit the 'best' scientific evidence are built on a modern framework that separates the world into two: a realm of objective facts and truth-full proofs, and a realm of subjective judgements, values, preferences and opinions. As a result, the problematic questions that are articulated in both EBM and 'global' EIHP/knowledge translation frameworks concern precisely the authority to determine – in the name of science – the 'best' proofs and most rational solutions, while disqualifying everything else as fabrications, barriers or values and preferences.

Trustworthy witnesses

Although largely eschewed by the STS literature with its focus on evidentiary practices, the theoretical underpinnings of self-professed evidence movements such as EBM have not escaped scrutiny. As noted in Chapter 1, philosophers of science have expressed scepticism about both specific aspects and the coherence of EBM's epistemological foundations (Goldenberg 2006; Worrall 2010; Howick 2011; Cartwright 2011). Likewise, Cartwright and colleagues (2010) have pointed to the distinctive lack of a philosophically-sound theory of evidence in evidence-for-policy discourses in the US and UK. As other critiques, however, such assessments appear to rarely disconcert EBM/EIHP evidence specialists. Indeed, few of their originators have elaborated in detail on the conceptual basis of EBM and EIHP knowledge claims. One philosophical concept that is occasionally referenced is the idea of a Kuhnian paradigm. As mentioned previously, the *EBM Working Group* boldly declared EBM to be a new scientific paradigm, which they argued designated

> "ways of looking at the world which define both the problems which can legitimately be addressed and the range of admissible evidence which may bear on their solution" (EBM Working Group 1992: 2421).

More recently, EBM'lers elaborated on this by explaining that the association with a Kuhnian paradigm was appropriate since the

> "practice of EBM reflects the development of socially sanctioned standards that arose from the need to get our facts in order" (Djulbegovic *et al.* 2009: 165).

Further, they also proposed that EBM itself could be described as a

> "socially constructed phenomenon in terms of Kuhn's (new) scientific paradigm addressing the crisis in the practice of medicine that for centuries has relied almost exclusively on the subjective opinions of experts" (ibid: 166).

These latter clarifications seem remarkable not only for their ready association of Kuhn with social constructivism. But more so, for the way that these EBM'lers purport to embrace such an account – while at the same time disassociating it from the question of scientific knowledge-making itself. Indeed, the declaration of EBM as a 'socially constructed phenomenon' could be said to chime with other self-description of EBM as providing a "heuristic structure" (Djuylbegovic and Guyatt 2017: 390) to improve the *application* of the 'best' evidence and thus clinical and policy practices. Similarly, the description of RCTs as 'socially sanctioned' shrewdly omits EBM/EIHP's insistence that RCTs *should* serve as the basis of social agreements precisely because of their claimed ability to be produce the most trustworthy evidence on 'true' intervention effects. Yet, rather than elaborating on the basis for the privileging of RCTs, however, EBM'lers concede that

> "[…] EBM does not have a rigorous epistemological stance. In fact, EBM enthusiastically draws on all major traditions of philosophical theories of scientific evidence" (Djulbegovic *et al.* 2009: 158).

Such theoretical ambiguities and self-professed epistemic promiscuity can make a thorough analysis of scientific claims seem futile. At the same time, neither a concession that EBM/EIHP indeed deliver the most 'objective' evidence on 'what works', nor arguments that the evidence itself is socially constructed seem like promising strategies to engage with the problematic questions being articulated by the demand to link proofs and politics. As such, I want to instead use the allusion to a 'paradigm' as a prompt to ask: did EBM (and later EIHP) indeed introduce a distinct break with previous ideas and practices? What are the specific concerns and 'attachments' that drive EBM

and EIHP efforts, and that may singularise their practices? And what are the consequences?

My association of paradigms with a specific set of collective "attachments" draws on my reading of work by Isabelle Stengers (e.g. Stengers 2000, 2010, 2011). As Stengers proposes,

> "[…] the notion of the paradigm corresponds not to a new version of the 'impregnation' of facts by theories, but to the notion of the *invention of facts*" (Stengers 2000: 49; *italics in original*).

Stengers' conception of a paradigm is thus closely linked to her aim, elaborated in Chapter 2, to defend the notion that there is indeed something special about science, while at the same time resisting the "fairy-tale idea that science gains access to 'objective matters of fact'" (Stengers 2008: 93). As I discussed in more detail in Chapter 2, Stengers insist on the singularity of experimental sciences both in terms of their 'attachments' and the type of "trustworthy witness" (Stengers 2000: 96) that experimental modes of inquiry may construct to resist an interpretation of their findings as mere fictions. For Stengers, the making of such trustworthy witnesses or factishes is thus always a singular event that should be celebrated as an achievement that can "affirm the truthfulness of the relative" (Stengers 2010: 24). At the same time, as also noted, Stengers points to a fallacy at the heart of 'modern' sciences that treat their trustworthy witnesses precisely not as situated achievements but as read-offs or expressions of an objective (and bifurcated) reality.

I do not wish to dwell here on an in-depth discussion of EBM (or EIHP) as 'paradigms'. Rather, I want to use the term in a less stringent way to suggest that the emergence of EBM and EIHP has indeed been associated with an increased demand in using experimental evidence as the basis for healthcare decision-making. Indeed, what I have argued in this chapter is that key to both EBP and EIHP are a set of 'rules of evidence' to ensure the elicitation of the most "trustworthy empirical evidence" (Djulbegovic and Guyatt 2017: 415) on intervention effects and its transfer to the hand of decision-makers – based on the separation between objective proofs and subjective judgements, values and preferences. What I thus want to briefly discuss in the following is the question: could we appreciate the attachments and achievements in regard to

the desire for trustworthy witnesses, yet also ask what the consequences are of this way of posing the problem that EBM and EIHP tools are supposed to address?

Before doing so, it should be noted that Stengers herself is rather critical of the expansion of theoretical-experimental methods from Physics to other practices, especially where this is proceeds precisely with the justification that such methods enable the attainment of objective knowledge (Stengers 2011a; 2013). Indeed, Stengers argues that modern medicine has so far failed to establish itself as a singular practice, both by copying methods from the experimental sciences, as well as by largely defining itself not in terms of its specific 'attachments' but *against* charlatanry and irrationality (Stengers 2013). I do not seek to recapitulate Stengers argument about modern medicine in detail here. But, in short, she proposes that the uptake of experimental methods indeed signalled a distinctive event in the emergence of modern medicine (which Stengers, however, links to a particular occasion in 18th century Paris rather than 20th century Hamilton). Yet, Stengers also argues that the consequence of this event has been that modern medicine emerged as a field that has become far too concerned with distinguishing rational medical practice from irrational reasons for being cured, instead of distinguishing its practices based on the successful achievement of what should be its primary aim – to cure (ibid.). In other words, modern medicine has become "haunted […] by the charlatan and the art of proof" (ibid.: 31), at the expense of furthering the "art of healing" (ibid.: 29).

Whereas Stengers is thus sceptical about the transference of methods from the experimental sciences to medicine, I want to suggest that thinking with her work nevertheless opens up a possibility for a more careful engagement with EIHP (and EBM). Indeed, some scholars have drawn on her work to develop such a more careful critique of RCTs as the gold-standard tool in EBM. Rosengarten and Michael (2013), for example, propose that the strive for RCTs as gold standard methods that produce generalizable results may impede the ability of researchers to attend to the complex realities of the situated experimental situation. More recently, Rosengarten and Savransky (2015) have turned this argument on its head to argue that RCTs' strive to

isolate a causal effect of interventions is at odds with the aim to generalise results to other situations and peoples. They propose that randomization as the removal of 'confounding' differences to isolate such a causal effect amounts to an 'externalisation of contingency' (Savransky and Rosengarten 2015). That is, it involves the simultaneous acknowledgement that the workings of the investigated drug may vary in different patients *and* that the working of the drug should be tested independently of such differences as these are perceived to be 'outside' of and unconnected to it. In other words, both processes – the retention of only those aspects of an intervention that can be generalised (Rosengarten and Michael, 2013) and the elimination of external contingencies (Rosengarten and Savransky 2017) – could be said to exclude the situated factors that contribute to the 'workings' of interventions and that, as such, enable the achievement of evidence. As a consequences, this arguably poses the question of what RCTs can indeed attest *to*, especially outside the narrow confines of an 'ideal' experimental situation.

Building on these insights, I wish to suggest that it might be possible to engage more carefully with EIHP by appreciating the concerns of experimenters for 'trustworthy' evidence. I would even propose that we may acknowledge that particular RCTs may achieve objectivity and the construction of evidence as trustworthy proofs for an experimental claim, or even that an RCT may achieve to show that a healthcare interventions works in a particular experimental situation. At the same time, however, we should also insist that this would indeed be a very situated experimental achievement, driven by specific concerns and attained at a price. In other words, it cannot be presupposed that an experimentally tested intervention works elsewhere, especially when 'ideal' experimental situations do not correspond to what are often messy real-life settings in which the intervention may be introduced[21]. More importantly for my own argument, I would suggest

[21] Indeed, other scholars have made similar arguments by different means. Epstein (1995), for example, describes the tensions that resulted from diverging concerns of HIV researchers for 'clean data' on drug effects and those affected by the epidemic, who saw this as an implicit bias against 'real world' messiness. For critiques of the generalizability of RCT results see e.g. Rothwell (2005); Goldenberg (2006); Cartwright (2007); Cartwright (2008).

that while we may appreciate the situated achievements of particular RCTs, we should also insist that the very specific concerns and attachments that lead such experimental achievements should not be taken to extend beyond the experimental situation. In other words, the creation of trustworthy proofs that can attest to the experimental claims cannot be disassociated from the concerns and questions posed by the experimenter – as such, it cannot be demanded that this trustworthy evidence *should* be of concern to anyone else in the name of scientific objectivity and the most rational solutions to a 'common' problem.

This raises a whole number of questions. On the one hand, for example, it raises the question if RCTs are indeed the most appropriate method to test the 'workings' of interventions, perhaps especially public health or health system interventions whose 'workings' could be said to be highly dependent on all kinds of situated contingencies. On the other hand, it also raises the question in how far the concern for the 'true' working of an intervention under specific experimental circumstances in specific populations corresponds to the concerns of policymakers faced with the complex dynamics of a situated policy problem. I will return to these questions in Chapter 6 at the example of EIHP/knowledge translation efforts in Uganda.

Here, I want to go a step further and suggest that EBM and EIHP/knowledge translation toolkits further escalate this tension between the strive for general proofs and a concomitant acknowledgement of situated 'contextual' contingencies. As I suggested above, as distinct evidentiary tools both Systematic Reviews and the GRADE framework were developed at least partly in response to increasing acknowledgement of the shortcomings of single RCTs, including in regards to the issue of generalizability. To be sure, EBM/EIHP advocates usually argue that the risk of being "misled" by single studies (Lavis *et al.* 2004: 1615; Oxman *et al.* 2009: 4; STP1) derives from methodological misgivings and biases. Further, the fear of being 'misled' by single RCTs also links to the acknowledgement that, as a probabilistic method, RCTs generate evidence that can only ever attest to the probable likelihood that observed effects are 'true'. By cumulating results from different studies, Systematic Reviews are thus said to reduce "the likelihood of being

misled by the play of chance" (Chalmers, Hedges, and Cooper 2002: 13) and, in turn, increase the certainty that observed intervention effects are indeed true. Nonetheless, it could also be argued that both Systematic Reviews and GRADE represent attempts to deal with the insight that 'contextual' contingencies may impact on the workings of healthcare interventions – and thus on the generalizability of study results. Indeed, the need to assess single studies within the 'context' of other studies could be said to point to a concern that single studies remain too 'local' – too chained to the conditions of their production – to produce trustworthy evidence on the general workings of interventions. Further, both the GRADE framework's demand to assess the applicability of study evidence to target populations and EIHP frameworks' demand to 'contextualise' global evidence seem clearly driven by an acknowledgement that study results produced in one place are not necessarily transferable elsewhere. As with RCTs, this thus points thus to a central paradox at the heart of EBM/EIHP efforts: contextual factors are appreciated as impacting on the workings of healthcare interventions; yet, this is then taken to undergird the increasing push for Systematic Reviews as 'global' – and, as such, decontextualized – evidence that cumulates and even statistically pools results from many different studies in the strive to elicit proof of the 'true' impact of interventions.

In other words, as I have highlighted in this chapter, both EBM and EIHP could be said to have become increasingly concerned with ways to better integrate evidence with subjective judgements, values, preferences, etc. However, this largely concerns efforts to improve the *application* of research evidence. In regards to global EIHP/knowledge translation toolkits, this means an insistence on research evidence that has been decontextualized in the name of quality, to then be re-contextualised in the name of relevance or applicability and implement-ability. Put differently, for evidence to be 'good' according to EIHP/knowledge translation frameworks, it has to adhere to the demands of both global excellence and local relevance. Yet, these are (largely) assessed separately, with quality a matter of objective facts and relevance conceived as a matter of judgement pertaining to the subsequent applicability of high-quality evidence. What these frameworks thus ignore is,

first, that the relevance of evidence is inseparable from the context of its production. In other words, in regards to experiments, trustworthy proofs are only relevant if/because they allow satisfying the situated demands of an experimental situation. Second, they ignore that because these proofs were constructed in a particular experimental situation and in response to particular demands, their relevance beyond this situation cannot be demanded – or, put differently, their irrelevance cannot be blamed on 'contextual' barriers or contrarian subjective values, preferences and opinions.

Conclusion: measuring and meaning

In this chapter, I described and discussed some of the key concerns, rules and tools that are at the centre of EBM and have, more recently, been incorporated in 'global' EIHP/knowledge translation toolkits promoted through WHO and EVIPNet. I also highlighted that both EBM and EIHP continue to constantly develop and change. Some critics have described the evolutions of these evidence movements as less a sign of their architects' good faith and willingness to take seriously critics' concerns, but instead as illustrative of their "assimilationist" tendencies (Lambert 2006: 2636). It is easy to be sympathetic to characterisations of self-styled evidence-movements as amorphous co-opting enterprises, especially when their proponents have a disposition to respond to (especially social science) critiques with mockery (see e.g. Clinicians for the Restoration of Autonomous Practice (CRAP) Writing Group 2002). At the same time, however, it would hardly be preferable if EBM/EIHP advocates completely disregarded the concerns raised by others; and neither would this leave much space for a constructive engagement with their ideas.

Indeed, many of the developments that I described in this chapter could be said to reflect genuine attempts to improve EBM/EIHP frameworks and toolkits in response to concerns about a 'tyranny of evidence', as Sackett (1996) put it. As part of this, EBM advocates have been increasingly vocal about the role of situated judgements and the importance of patients' values and preferences. With EIHP, the insistence on an evidence-*informed* rather than -*based* policy reflects a similar appreciation for the need to integrate scientific evidence with other factors in situated decision-making processes. In other words, both EBM and EIHP advocates seem to readily acknowledge

that different 'contexts' may both necessitate different decisions and may affect different workings of interventions in 'the real world'. All these developments arguably deflect easy critiques of overly simplistic imaginations of techno-scientific governance. They also, as I argued in this chapter, complicate social science analytical strategies aimed at 'revealing' how evidentiary rules and tools are adapted in – or fail to lead to the standardisation of – practices.

Still, that healthcare decisions should be firmly anchored in the 'best' objective scientific evidence continues to be framed not only as common-sensical but as an ethical imperative as well. From its inception, EBM was claimed to lead to superior care (EBM Working Group 1992) and a disregard for evidence claimed to put patients' lives at risk (e.g. Chalmers 2003). Similarly, EIHP has been framed as a crucial prerequisite to strengthening healthcare systems and improving health outcomes in the Global South (Oxman *et al.* 2009; STP1; SURE Project 2016). Such concerns for clinical practice to not be careless or harmful and for informed policies that have a high chance of being beneficial to those affected by them seem indeed hard to argue with. As a trained physician, I would have been terrified by the charge of making capricious decisions that potentially endanger my patients' lives. Likewise, as I will discuss in Chapters 5 and 6, those Ugandan health professionals and policymakers I interviewed seemed highly supportive of the need for policymaking to be better informed by evidence for a variety of reasons.

Still, accepting this way of posing the 'problem' of medicine and policymaking arguably also leaves nowhere to go: of course healthcare decisions should be informed by evidence and should benefit those affected by them – what else? (cf. Hammersley 2005; Worrall 2010). Put differently, the 'paradigmatic break' invoked by EBM and EIHP could be said to rest on a straw man fallacy that contrasts 'rational' practices and decisions informed by EBM/EIHP frameworks and 'objective' scientific solutions, with those that are harmful or 'irrational' – and it arguably does so without giving those affected by that distinction the possibility to consent to or reject the terms on which the distinction is made. As Stengers put it, where claims are made in the name of an 'objective' scientific procedure, the result always seems to be that "every

form of resistance could be said to be obscurantist or irrational" (Stengers, 2000: 21). Even more so, I would argue that this distinction between rational evidence-based/informed and irrational decisions and practices also elides the possibility for alternative modes of thought. In other words, it precludes asking if there may be alternative ways of thinking about what 'good' evidence' and 'better' evidence-informed policies could be.

What I argued in this chapter is that by proposing to *integrate* objective evidence with subjective judgements, preferences and values, both EBM and EIHP frameworks also have to insist on the separatedness of facts and values. As such, 'subjective' factors are acknowledged to affect the applicability of evidence or implement-ability of interventions, yet these factors continue to be seen as interferences to be eliminated in the name of objectivity and the strive for the 'best' proofs on the general workings of interventions. This also means that EIHP/knowledge translation frameworks may increasingly embrace a conception of 'good' evidence as evidence that satisfies the simultaneous demands for global excellence and local relevance. But the former is linked to standardised rules and tools to elicit the most truthful evidence of 'objective' facts. In contrast, the relevance of evidence is conceived as a subjective value assessable 'after the fact' by judging the applicability of evidence to the particular context where it is supposed to be applied.

What then are the consequences of such EIHP/knowledge translation frameworks that at once aim to integrate yet demarcate facts and values, quality and relevance – and measuring and meaning (Goldenberg 2006)? What follows from evidentiary quality standards that legitimise as mobile and thus 'global' those types of evidence that address concerns for objectivity, comparability and generalizability – which usually demands excluding the very things that enable its production? And how does this intersect in practice with demands for local relevance? In how far does the juxtaposing of global evidence on policy solutions that 'work' with contextual barriers and stakeholder values and preferences not indeed limit the response-ability of those tasked with implementing policy solutions or those affected by them – while at the same time making them responsible when global and 'evidence-

based' interventions are deemed un-implementable or when they indeed fail? What is being neglected by 'global' EIHP/knowledge translation toolkits' demands for trustworthy proofs of the 'true' effects of interventions as providing rational solutions to situated policy problems? And how do these developments play out in the field of global health where much research continues to be funded, designed and published by global North organisations and researchers, but concerns interventions meant to improve health the Global South? These are some of the questions that I shall further examine in the following chapters.

What this chapter has aimed to argue is that we may appreciate the experimental achievements of constructing 'trustworthy' evidence that fulfils the demands of an experimental situation. At the same time, however, we should insist that these are indeed situated achievements and cannot be taken to be easily transferable beyond the contexts of their production in the name of the 'best' evidence and objective solutions. What I have thus suggested is that there may indeed be an inherent paradox at the centre of EIHP that emerges from the simultaneous strive for standardised evidentiary rules and generalizable proofs and the simultaneous aim to enable better healthcare decisions. As I will further argue in the next two chapters, by reinforcing the role of science as the provider of 'objective' evidence-based (policy) solutions, 'global' EIHP/knowledge translation toolkits indeed risk failing in their aim to link proofs and politics, precisely because they pay insufficient attention to the many concerns and questions that emerge with the situated dimensions of a (policy) problem.

Chapter 5: Fragile Infrastructures on Contested Terrains

This chapter traces the emergence of the EVIPNet 'country node' to foster evidence-informed health policy (EIHP) in Uganda. It describes how a team of researchers was set up at Makerere University's new College of Health Sciences (MakCHS), supported through an EVIPNet-associated international research project. By building 'capacity' to adapt and use EIHP/knowledge translation toolkits, this project sought to foster EIHP processes in Uganda and plug the 'know-do gap', the perceived gap between existing research evidence and its utilisation in policymaking.

This chapter describes some of these activities aimed at fostering what I call EIHP/knowledge translation infrastructures. It also argues, however, that these new infrastructures built on what has long been a contested terrain, as the high contribution of foreign funds to Ugandan research and care infrastructures has turned the question of whose priorities and concerns get to matter into a highly politically charged issue. Highlighting that Ugandan evidence-for-policy efforts indeed reach back much further and even predate EVIPNet, I propose that these efforts have been inseparable from wider aims for more national autonomy and sovereignty – including by promising to limit the influence of foreign funders on Ugandan research and policy agendas.

As such, this chapter seeks to complex-ifies both, the glorification of EIHP/knowledge translation infrastructures as a straightforward solution to the simple problem of a 'know-do gap', as well as their easy rejection as new 'evidentiary regimes' imposed in the name of a Global North-dominated global health. It argues that in Uganda, ambitions to better link proofs and politics emerged in response to a whole range of entangled concerns – concerns that far exceed the problem as articulated by the notion of a 'know-do gap' and the demand for the 'best' global evidence that is so key to global EIHP/knowledge translation toolkits.

Plugging the gap

Even by his own measures, 2009 was an eventful year for Professor Nelson Sewankambo[22]. In August that year, Kampala's Makerere University officially launched its new College of Health Sciences (MakCHS) and, as former Dean of the Medical School and a driving force behind MakCHS' conception, Sewankambo had been the obvious choice for the post of College Principal. Only a few months earlier, Sewankambo had hosted the first meeting of a new international research collaboration that would help bring into fruition his longstanding aim of establishing an evidence-for-policy mechanism in Uganda and operationalize Uganda's EVIPNet 'country node'. Both these efforts further consolidated Makerere's status as an important African 'node' in the ever-expanding realm of global health networks. But they were also key steps in Sewankambo's incessant efforts to utilise science to make a difference in Uganda.

The launch of MakCHS was appropriately celebratory, spanning a week of events for students and staff across Makerere University and the new MakCHS campus based at the Mulago Hospital complex. In addition, a number of outreach activities were organised in and around Kampala, which included free HIV and malaria testing events, cancer screening promotions and the distribution of Vitamin C tablets to schoolchildren (Makerere University 2009) – thus letting the wider public share into the festivities, but also underscoring MakCHS' mission to operate in ways that would be "responsive to societal needs" (Makerere College of Health Sciences 2016, *online resource*). Indeed, at the official MakCHS opening ceremony at the end of the week-long celebrations, Sewankambo used his inaugural address to emphasise the vital role the new College would play in addressing the health needs of Uganda's people.

The realisation of MakCHS had involved the complete restructuring of Makerere's existing health and biomedical faculties, an endeavour that had been at least ten years in the making. An early aim of these transformations

[22] In keeping with common conventions, I have retained people's names where these appear in publicly available documents while anonymising my interviewees to protect their privacy (cf. Chapter 2).

had been the decentralisation of administrative and governance functions and increase of student capacities in line with wider transformations taking place at Makerere University from the late 1990s onwards (Dodge, Sewankambo, and Kanyesigye 2003; see below). But as plans were further driven forward by a Bill & Melinda Gates grant and a collaboration with John Hopkins University (John Hopkins University Press Release 2008), restructuring efforts became increasingly focused on the formation of a consolidated health hub to improve the coordinating and integrating between health education, research and service delivery. This, it was hoped, would enable MakCHS to better respond to Uganda's health challenges, including through an improved alignment of its research activities with those health problems identified as priority issues in Uganda (Pariyo *et al.* 2011). Indeed, as I argue in this chapter, the perceived lack of such an alignment had been a long-standing matter of controversy in Uganda, not least as most research activities in Uganda continue to be funded through foreign sources.

Only a few months before the MakCHS launch, Sewankambo had finally, after years of tireless efforts, secured the means to set up a small team of knowledge translators or knowledge 'brokers' at Makerere to foster Evidence-informed health policy (EIHP). Based at the new MakCHS, this team represented Uganda's official 'country node' of WHO's Evidence-Informed Policy Network (EVIPNet). The scope of this second venture may have been much more modest compared to the re-formation of MakCHS. Yet, it had been almost as long in the making and was arguably no less ambitious in its aims. Indeed, Sewankambo's vision for such an evidence-for-policy mechanism reached back almost a decade, but had, until then, been faced with intractable challenges, including a lack of financial backing. In 2009, however, it seemed as if luck had changed, as Sewankambo hosted the first meeting of the SURE Project, an international research collaboration set up to test a number of strategies aimed at improving policymakers' access to evidence to inform decisions about health systems (SURE Project 2016). As one of six African project partners, SURE would provide the core funding for Sewankambo's Ugandan team for the next five years. But SURE's self-ascribed potential to "revolutionise the way health policy is made in Africa"

(SURE Project 2010, *online resource*) also projected much beyond the project's narrow timeframe.

Indeed, although on paper primarily an academic research project to test specific EIHP/knowledge translation strategies, SURE promised to be much more. To support and foster EIHP for health systems in its African partner countries, a key project goal was to build capacity for knowledge translation and EIHP among both researchers and, although to a lesser extent, policymakers (SURE 2016). Such capacity, it was argued, would be crucial reduce the 'gap' between research and policy (SURE 2016). The reasons for this 'gap' were described as two-fold: first, many lower-and middle-income had "limited capacity to synthesize and support the use of research evidence" (SURE Project 2016: 4). And second, there was a 'failure' to utilise existing evidence in policymaking. As the SURE Project summary noted,

> "[a]vailable knowledge to improve health systems and services in low and middle-income countries (LMIC) is often not accessed or applied by decision makers. This failure is one of the reasons why services fail to reach those most in need" (SURE 2016: 3).

To remedy these shortcomings – and, one might say, plug the gap – SURE thus aimed to build what I summarise in this chapter as EIHP/knowledge translation 'infrastructures'. In Uganda, this primarily involved the training of African researchers to adapt and use 'global' EIHP/knowledge translation toolkits to facilitate the synthesis, appraisal, 'contextualisation' and dissemination of existing research evidence to policymakers.

Whereas SURE was a time-limited research project, for Nelson Sewankambo his role in both the re-launch of MakCHS and the operationalization of a Ugandan EVIPNet team could be said to be part of a much wider and long-standing pursuit. By the time these initiatives came to fruition in 2009, and with a looming Millennium Development Goals (MDG) deadline, Uganda could register impressive advances towards many of the internationally-set targets (UNDP Uganda 2015). But despite notable improvements in the country's overall socio-economic and health situation over the past decades, many Ugandans remain affected by fragile basic healthcare service (WHO AFRO 2017). Against this background, both the re-launch of MakCHS and

Sewankambo's promotion of evidence-for-policy initiatives harboured the promise of ensuring that the outputs of health research and knowledge production activities would indeed translate into tangible benefits for the Ugandan population.

Knowledge infrastructures

The study of infrastructures has long been a mainstay of Science and Technology Studies (STS). Originating from early studies on large-scale technological systems (e.g. Star and Ruhleder 1994), a more recent focus has been specifically on 'knowledge infrastructures', that is "robust networks of people, artifacts, and institutions that generate, share, and maintain specific knowledge about the human and natural worlds" (Edwards 2010, as cited in Edwards *et al.* 2013: 6). As such, a key STS insight has been that infrastructures are not static systems but 'ecologies' (Star and Ruhleder 1994): entanglements of people, practices, standards, and norms that need to be well articulated to allow the smooth cooperation and circulation of (scientific) information across geographical, cultural and epistemological boundaries. STS-informed studies of such infrastructures often involve what Bowker calls 'infrastructural inversions' (Bowker 1995), the exposition of what it takes for infrastructures to function, often with the aim to make visible the "real work of politics and knowledge production" (Bowker and Star: 34). On the one hand, analyses thus aim to highlight the amount of work required to build and maintain infrastructures as well as to deal with unforeseen circumstances – such as when new infrastructures are met with resistance by those meant to smoothly operate within them (Star and Ruhleder 1994). On the other hand, STS scholars have highlighted how infrastructures are not just neutral systems, but involve a myriad of ideas, beliefs, hopes, choices and expectations, which in turn reflect specific cultural and social norms. As such, scholarship on infrastructures could be said to resonate with wider STS concerns around the co-construction of science, technology and society (cf. Slota and Bowker 2017).

As proposed in the Literature Review Chapter 1, STS-influenced studies on 'evidence-based' approaches often draw on such scholarship, especially in regards to the crucial role of standards in the circulation of knowledge and

coordination of scientific practices. More recently, a range of STS-informed global health studies have also pointed to the persistence or deterioration of biomedical infrastructures in Africa as indicative of the complex histories of – and shifting foreign priorities and interests in – biomedicine in colonial and postcolonial Africa (Geissler and Molyneux 2011; Wendland 2016; Graboyes and Carr 2016; Geissler and Tousignant 2016; Geissler *et al.* 2016). In the case of Uganda, for example, scholars have traced the construction of foreign-funded state-of-the-art research and treatment facilities for HIV/AIDS (Crane 2013) and cancer (Mika 2016) as visible proofs for the country's growing inclusion in global health networks over the past 20 years. In other words, here too, scholars have aimed to 'invert' physical biomedical infrastructures to make visible both their 'history and horizon' (Geissler and Tousignant 2016), their embodiment of past and present politics of a Global North-dominated global health, as well as the associated social and political dreams, hopes and imaginaries for a better future.

This chapter aims to draw on these latter insights in its discussion of Ugandan EIHP infrastructures. I shall describe some of the specific knowledge translation infrastructures that were set up in Uganda as the SURE Project build EIHP/knowledge translation 'capacities' towards the end of this chapter. Furthermore, the next chapter will examine in more detail a specific 'Policy Brief' as a key tool to engender the circulation and 'contextualisation' of global research evidence. Still, rather than focusing exclusively on the new infrastructures that emerged with the Ugandan EVIPNet 'country node', this chapter aims to place these developments in a broader history of evidence-for-policy efforts and an even longer legacy of biomedical infrastructures in Uganda. There are several reasons for this. On the one hand, as Bowker and Star (1999) also point out, new infrastructures never develop 'de novo', but instead emerge on top of already existing infrastructures that both constrain and enable subsequent unfoldings. By tracing parts of the history of Uganda's biomedical infrastructures, this chapter thus seeks to highlight that Ugandan EIHP efforts have not taken place on a 'blank slate', but have unfolded in a context where a high dependency on foreign funds has long turned knowledge itself into a contested terrain. I thus begin the next section by

sketching the career of Nelson Sewankambo. From being a graduate of Makerere's medical school to becoming principal of MakCHS, Sewankambo's career offers a unique window into the long history of Ugandan biomedical expertise and knowledge infrastructures, as well as some of their transformations and (re-)constructions under the impact of shifting political-economic circumstances and foreign interests. It is the latter, I propose, that have contributed to long-standing controversies about whose research and policy priorities are being pursued, as well as tensions between often short-term and targeted projects and longer-term support of healthcare infrastructures. I suggest that these controversies contributed to the fact that the link between research and policymaking became a matter of growing concern for Ugandan professionals like Sewankambo. One aim of this chapter is thus to provide a historically-contingent and situated account of Ugandan evidence-for-policy efforts, not least to counter what other scholars have described as a common oblivion of biomedical research in Africa towards "its own origins and genesis" (Geissler and Molyneux 2011: 1) – an oblivion, which I shall suggest also reverberates in proclamations of a 'know-do gap' as a key impediment to better healthcare.

On the other hand, offering a longer history of Ugandan efforts to build evidence-for-policy infrastructures also serves to highlight the active role of Ugandan health professionals in fostering the link between science and policymaking. In a subsequent section, I therefor chart the emergence of Uganda's EVIPNet country node as a sequel to a series of East African evidence-for-policy initiatives. I show that the set-up of these different initiatives mirror how conceptualisations of evidence-for-policy approaches have shifted in global health, as also described in Chapter 3. But, moreover, tracing these various initiatives further highlights how evidence-for-policy efforts in Uganda are inseparable from wider contestations over whose health research and policy interests and priorities matter. In other words, it serves to argue that EIHP in Uganda overflows with whole range of entangled concerns that far exceed the problem articulated by the notion of a 'know-do gap' and the demand for the 'best' global evidence that is key to global EIHP/knowledge translation toolkits.

Ugandan biomedical infrastructures

There are arguably few Ugandan doctors whose biography is as closely entangled with the history of their country's biomedical infrastructures as it is for Nelson Sewankambo. Born in Kampala's Mulago Hospital in 1952, Sewankambo entered Makerere University's Medical School in 1971 at the age of 19. By then, Uganda had been independent from Britain for almost ten years and Mulago was the main training ground for the first cohorts of Makerere trainee doctors who could be certain that their medical degrees were worth as much as anywhere else in the modern world (Illiffe 1998). Following his basic training, Sewankambo went on to specialise in Internal Medicine. In the early 1980s, he had just joined the Medical School as a junior member of staff when the HIV/AIDS epidemic hit Uganda. As part of a small research team of Ugandan and British doctors, Sewankambo travelled to the Rakai District to research a strange illness was said to cause excessive weight loss and deaths in a growing number of people – efforts that eventually lead to the first descriptions of HIV/AIDS in Uganda (Kapp 2008).

In Uganda, HIV/AIDS is sometimes described as both curse and blessing. The epidemic has claimed countless lives and had a catastrophic impact on individuals, communities and the country as a whole. Even today, HIV/AIDS prevalence and new infection rates remain high (AVERT 2015). Still, from the early 1990s onwards, consorted donor-sponsored treatment efforts and a much-lauded national HIV prevention plan did much to dent the epidemic (UNAIDS 2004; Stoneburner and Low-Beer 2004; Slutkin *et al.* 2006). For Sewankambo, as well as many of his contemporaries, their research established them as recognized members of Uganda's medical establishment, as well as sought-after collaborating partners of foreign researchers and donor agencies (Iliffe 1998; Sicherman 2005; Kapp 2008; Crane 2013). The research project that Sewankambo helped establish in the Rakai District quickly became not only Uganda's most important HIV/AIDS epidemiology study site, but also what *The Lancet* called an "international epidemiological treasure trove" (Kapp 2008: 21). Indeed, the Ugandan HIV/AIDS crisis also had some side effects that were arguably more auspicious, including the rapid expansion of international research and treatment infrastructures (Crane

2013). For Makerere's Medical School, this provided a welcome opportunity to re-establish itself as a medical hub in East Africa following years of deterioration amidst political and economic turmoil. As such, this period could be said to represent the latest twist in the long story of Uganda's biomedical infrastructures, which have been inseparable from the country's history itself.

Makerere University was established in Kampala in 1922 as a vocational school to provide fully-funded training to a small East African elite as support staff for institutions run by the British colonial administration and missionary organisations. The Medical School with its associated Mulago Hospital was established shortly after, the first of its kind in East Africa to provide medical training to a steadily growing number of Ugandan (and later East African) students. As Crane (2013) points out, this means that Ugandans have been practicing modern medicine for nearly as long as their American colleagues. But in the UK, too, it was only in 1858 that the establishment of the General Medical Council (GMC) introduced strict criteria to distinguish qualified from unqualified practitioners. These rules bestowed the GMC with a substantial amount of control over medical education and entry into the profession (Irvine 2006; Dixon-Woods *et al.* 2011) – not only in Britain but also its colonies. In Uganda, it took decades of struggles until Makerere graduates finally succeeded in having their medical qualifications recognised by the GMC as fully equivalent to that of their European counterparts. In many ways, biomedicine has thus always played an ambiguous role in Uganda, serving as both a tool of hierarchisation and domination, as well as a resource for resistance and self-determination (Odonga 1975; Iliffe 1998, Sicherman 2008; cf. Ombongi 2011; Geissler 2011; Heaton 2013).

Following Uganda's independence from Britain in 1962, the push for decolonialisation of the former colonial administration apparatus made Makerere an integral part of post-independence nation-building efforts (Iliffe 1998; Sicherman 2005; Mamdani 2007). Makerere-trained doctors, for example, took up leading posts in government institutions such as the Ministry of Health (MoH), as well as the country's academic and treatment institutions (Odonga 1975; Iliffe 1998). Freed from numerical restrictions previously imposed by colonial policies and in an effort to boost Uganda's supply of

doctors, Makerere's Medical School steadily increased its student intake and became one of East Africa's primary medical training institutions (Iliffe 1998; Sicherman 2005). In the years following independence, demands for an 'Africanisation' of the university were rife and both teaching and research at Makerere became more focused on locally relevant health issues (Illiffe 1998). Still, by the time Nelson Sewankambo began his training in 1971, the Medical School's curriculum and structure remained closely aligned with the British system and its flourishing research culture shaped by links to international institutions, researchers and funding (Iliffe 1998; Sicherman 2005). This was due not least to the fact that the doctors who took over Uganda's healthcare system at independence inherited its structure and institutions, as well as its constraints: despite a rising demand for healthcare services, public funds for education, research and treatment were extremely limited (Iliffe 1998; Sicherman 2005).

The year that Sewankambo entered Makerere's Medical School coincided with an incisive event in Uganda's wider history. In 1971, a military coup led by Idi Amin toppled Uganda's first post-independence government under Milton Obote. Amin installed a military tyranny that demolished the Uganda's economy and political structures. Even after Amin was driven into exile in 1979, years of violent power struggle ensued before the National Resistance Movement (NRM) with its leader Yoweri Museveni came to power in 1986. By then, the political and economic crisis that had enveloped Uganda in the 1970s and 1980s had had a devastating effect on the country, including its biomedical infrastructures. After Amin's overthrow, programs for the restoration of medical facilities were initiated, heavily dependent on international funding and infrastructural support (Opio-Odongo 1985; Iliffe 1998). Makerere's Medical School, however, continued to deteriorate following years of financial deprivation, a lack of educational resources and an exodus of vast numbers of both students and university staff (Court 1999; Musisi and Muwanga 2003; Sicherman 2005; Mamdani 2007; Reynolds Whyte 2015b). It is against this background that two parallel developments would catalyse the Medical School's makeover.

In the late 1980s, the new Museveni government agreed with the International Monetary Fund (IMF) on a series of Structural Adjustment loans, contingent on the implementation of macro-economic reforms determined and overseen by the World Bank (Harrison 2004). As part of the ensuing wide-ranging privatisation and decentralisation of Uganda's economic and administrative structures (e.g. Asiimwe and Musisi 2007; Sjögren 2013; see below), the government also cut its funding for Makerere University. As a consequence, Makerere was compelled to radically transform its student body, financing mechanisms and course offers. Supported both financially and programmatically by the World Bank, many of these changes were specifically designed to force university units to create much of their own income (for very different assessments of these changes, see e.g. Court 1999; Musisi 2007; Mamdani 2007). But for many science-based faculties, one consequence of the struggle to generate revenue was their further turn towards foreign funders for financial support (Sicherman 2005).

This process was only further boosted by the contemporaneously evolving HIV/AIDS crisis. The deepening crisis put a severe strain on Uganda already struggling healthcare infrastructures. But, as mentioned above, it also resulted in unprecedented influx of foreign researchers and funds. For Makerere Medical School, this enabled what Sicherman (2005: 163) calls its "reinvention" as one of East Africa's prime medical education and research hub. But whereas the increased international attention undoubtedly brought numerous benefits and opportunities for Makerere and her staff and students, it also entailed new challenges and tensions. Not least as the reliance on foreign funds brought new questions about who could set the Medical School's research agenda and who would benefit from the new knowledge produced.

Nelson Sewankambo's own career arguably reflects many of these ambiguities. By 1988, his early HIV/AIDS research had already put him on a steep career trajectory when he gained one of the prestigious INCLEN fellowship and a place in its extensive training program aimed at building *Clinical Epidemiology* research capacity in developing countries (see Chapter 4). The fellowship entailed his move from Kampala to Hamilton in Canada to

complete a 2-year Masters degree at the Department for Clinical Epidemiology and Biostatistics at McMaster University. Incidentally, Sewankambo's visit thus coincided with a crucial period in the department's history: it was around the same time that David Sackett and his colleagues concretised their demands for what they declared only a few years later as the advent of evidence-based medicine (EBM).

Despite the buzz at McMaster and professional opportunities to remain in Canada, however, Sewankambo decided to return to Uganda in 1990 – a decision that was driven by a belief in the opportunities to make a difference in his home country, but also, as was reiterated by other interviewees, to contribute to Uganda's "nation-building efforts" (*EIHP2016_002, Interview, 26/7/2016*). Upon his return to Uganda and with the support of INCLEN, Sewankambo helped setting up Makerere's very own *Clinical Epidemiology* unit to provide training in Epidemiology and Biostatistics to all Makerere medical students. A few years later, his appointment as Dean of the Medical School put him right at the centre of many of the school's restructuring efforts, including the formation of MakCHS. Whereas this role further extended Sewankambo's part in Makerere's growing importance as a global health research hub, it also enabled him to become a vocal champion for the positive impact such research endeavours should deliver for Ugandans and Uganda.

Fragmentations and links

As the previous section has aimed to show, foreign programs and funds have long played a significant role in shaping of Uganda's biomedical education, research and healthcare infrastructures. Still, the coinciding of the impact of Structural Adjustment reforms, Makerere's restructuring efforts and a mushrooming of new (especially HIV/AIDS-related) research and treatment initiatives undoubtedly further transformed Uganda's healthcare system in the 1990s/2000s, entailing both benefits and new tensions. Briefly reviewing these developments in the following, I suggest that Ugandan efforts to link evidence and policymaking emerged, at least partly, in response to growing concerns over the fragmentation of both care and research infrastructures, and hopes for more oversight and control mechanisms.

Uganda's modern healthcare system has long comprised a mix of public services and private providers, the latter involving both for-profit providers and not-for-profit healthcare facilities operated by a range of national and foreign organisations. Like much of the rest of the country, Uganda's healthcare system was severely impacted by the economic decline and unrest during the Amin era and its aftermaths (Macrae *et al.* 1996; Tashobya *et al.* 2006; Sjögren 2013). From the mid-1980s, Museveni's new NRM government initiated a series of reforms aimed at restoring the economy and public services. But with limited government funding available for healthcare services, several foreign donors intervened to provide emergency support for treatment infrastructures and programs. Many of these interventions, however, were focused on particular aspects of the health system or specific diseases (Macrae *et al.* 1996; Tashobya and Ogwal 2004; Tashobya *et al.* 2006). In combination with the further shift of healthcare functions from the Ministry of Health (MoH) to district levels as part of wider decentralisation efforts of the 1990s, this gradually led to an increasing fragmentation of the Ugandan healthcare system (Jeppsson 2002; Sjögren 2013). With demand for healthcare high and ability to centrally coordinate health aid limited, foreign donors significantly influenced resource allocation and priorities, often at the expense of more holistic support of Uganda's public healthcare system – as Macrae and colleagues (1996) put it, among donors the problem of healthcare provision was "perceived to be infrastructural rather than structural" (Macrae *et al.* 1996: 1104).

As a consequence, Uganda's healthcare system became characterised by an increasing dependence on international funding, a lack of coordination between different efforts and a considerable unevenness of services between geographic and disease-specific areas (Macrae *et al.* 1996; Jeppsson 2002). One area where this was especially obvious was HIV/AIDS, as a wave of foreign-sponsored HIV programs brought immeasurable benefits for many Ugandans, but also further contributed to the increasing fragmentation of HIV services and the Ugandan healthcare system more broadly (Okuonzi and Macrae 1995; Reynolds Whyte *et al.* 2004; Bass 2005; Park 2012; Crane 2013). Often, such programs were weaved into existing government initiatives

or institutions (Park 2012; Reynolds Whyte 2015a), arguably making them exemplary of what Geissler *et al.* (2015) refer to as the 'para-statal' character of African biomedicine – the proliferation of increasingly complex configurations of foreign organisations, funds and interests and African 'absent-present' governments.

But the HIV crisis also fuelled the expansion of scientific research infrastructures in Uganda, as the arrival of new HIV drugs was shadowed by research programs studying the impact of these drugs on previously untreated patients (Crane 2013). Here, too, initiatives by foreign donors, nongovernmental organisations and universities were often woven into existing public research institutions (see also Introduction). At Makerere, this provided a welcome boost for its knowledge production infrastructures in the form of new basic equipment, laboratories, clinical observation wards and research training initiatives (Sicherman 2005; Crane 2013). However, many of these benefits remained highly concentrated in the field of HIV/AIDS research. By the mid-1990, it was estimated that more than 99% of research activities in Uganda were externally funded, and that over 70% of those funds were spent on HIV/AIDS research (UNHRO 2000b). As a result, here, too, concerns grew that a high dependency on foreign funds and the limited ability for central oversight were leading to an increasingly fragmented health research landscape and to a distortion of national research priorities (UNHRO 2000a).

Many of these issues have by no means been limited to Uganda. Indeed, that foreign-funded research endeavours and health programs may not (only) bring benefits, but may also have unanticipated or even detrimental effects on existing healthcare infrastructures in poorer countries has been increasingly recognised by Global North donors, organisations and universities. I cannot achieve to discuss this in detail here. But it should be noted that, from at least the 1990s onwards, a whole series of international pledges and initiatives has aimed to address growing concerns about an increasingly convoluted international/global health landscape, the mushrooming of disease-focused initiatives, and weak links between foreign initiatives and countries' own plans and priorities. This has included, for example, high-level initiatives such as World Bank-initiated Sector-Wide Approaches (SWAPs), the 2005 *Paris*

Declaration on Aid Effectiveness, the International Health Partnership IHP+, as well as WHO's advocacy for efforts to strengthen countries' health systems – all of which aimed at making donor support more sustainable, at least partly by promoting a better alignment of foreign initiatives with Global South countries' plans and priorities (Cassels 1997; Peters and Chao 1998; Walt *et al.* 1999; The Lancet 2007; OECD 2012; Hafner and Shiffman 2012; Peters, Paina, and Schleimann 2013).

Many of these initiatives did indeed have a direct impact in Uganda, as foreign donors committed to support the Uganda's government in setting its own health policies, control budgets and coordinate health services (Brown 2000; Jeppsson 2002; Cruz and McPake 2010; Stierman, Ssengooba, and Bennett 2013; Sjögren 2013). A number of similar efforts were also initiated to improve the coordination of research activities in Uganda. In the 1990s, Uganda adopted an Essential National Health Research (ENHR) strategy aimed at building research capacity, coordinating research activities and better linking research findings to the "health and development of the people" (UNHRO 2000b: 14). To oversee the implementation of the ENHR strategy and govern research activities more broadly, the Uganda National Health Research Organization UNHRO was set up in 1997 by the Ugandan government (see below). Yet, despite the multiplicity of such efforts in Uganda to coordinate and align foreign involvements with national priorities, the rhetoric around enabling greater national 'ownership' and oversight was not always matched reality.

Indeed, donors were said to have retained considerable influence over Ugandan health policy, budgets and the strategic management of the health sector (Okuonzi and Macrae 1995; Brown 2000). Much foreign health aid was also shown to remain off-budget, short-term or project-based, and linked to specific international priority diseases, especially HIV/AIDS (Cruz *et al.* 2006; Stierman, Ssengooba, and Bennett 2013). Similarly, although foreign research funders, institutions and universities have put an increased emphasis on more collaborative research agreements and 'capacity building', research activities in Uganda have remained heavily depended on foreign funds, and concerns about the alignment with national priorities remain

(Crane 2013; Reynolds Whyte 2015b). Hopes that the Ugandan National Health Research Organisation UNHRO would better coordinate and align research efforts, on the other hand, have been dashed by a lack of financial support (see also Farley, Hawkins, and Wagner 2011).

The above can give but a glimpse of the complex role and significant impact of foreign funding and institutions on Ugandan healthcare infrastructures. Yet, it highlights that – in a context of severe resource constraints and a high dependency on foreign support – issues such as whose research priorities are prioritised, what infrastructures should be set up and which capacities to strengthen, how to allocate resources, and which policies to pursue are indeed highly politically charged. As the Dean of Makerere's Medical School and principal of MakCHs, Nelson Sewankambo has played a key role in forging Makerere's links with international researchers and institutions. But he also emerged as a determined lobbyist for creating better links between research endeavours and their contribution to Ugandan healthcare priorities as well as wider social and economic development (cf. Mgone *et al.* 2010). At Makerere, he has championed a number of efforts to ensure more mutually beneficial research partnerships and capacity building programs with Global South institutions (e.g. Manabe *et al.* 2011; Kolars *et al.* 2012; Sewankambo *et al.* 2015; Nakanjako *et al.* 2015). But furthermore, these efforts have also included Sewankambo's early advocacy for evidence-for-policy initiatives in Uganda. As I propose in the following, these efforts have been, at least partly, linked to hopes of strengthening national autonomy in regards to research and policy agendas, as well as to better utilise the outcomes of research activities to the benefit of Ugandans.

Evidence-for-policy infrastructures

In the following, I trace the establishment of Uganda's EVIPNet country node to a series of previous evidence-for-policy initiatives in East Africa. This includes the Tanzanian Essential Health Interventions Project (TEHIP), launched in 1997 to translate into practice the propositions of the World Bank's 1993 *World Development Report* (*WDR1993*); the *Regional East African Community Health* (REACH) Initiative as a regional evidence-for-policy network; and finally the SURE Project.

Indeed, whereas I had travelled to Uganda in 2016 to study EIHP/knowledge translation processes at Uganda's EVIPNet 'country node', I quickly learned from my interviewees of the importance of these initiatives – and especially REACH – for their efforts. As I further discuss below, (former) members of EVIPNet's Uganda team were not only insistent that they were primarily part of REACH, but also that REACH in fact predated the global EVIPNet network. Briefly describing the various initiatives thus serves to acknowledge these attachments. It also further highlights the important role played by East African health professionals like Nelson Sewankambo in fostering and promoting better links between research to policymaking – while navigating a global health landscape characterised by shifting international priorities and unpredictable funding.

Field-testing the WDR1993

In January 1997, the newly renovated offices of Tanzania's National Institute of Medical Research (NIMR) in Dar es Salaam became home to the small management team of an ambitious, and in many ways pioneering, 'research and development' project. The *Tanzanian Essential Health Interventions Project* – TEHIP, in short – was set up to test a novel 'evidence-based' approach to health policymaking and planning in two Tanzanian districts. At the project's core was a mechanism whereby evidence about the burden of disease in these districts would be combined with evidence on the cost-effectiveness of interventions, with the aim to determine district priority health problems and solutions. As such, TEHIP was explicitly set up to test the proposals put forward in the *1993 World Development Report* (*WDR1993*), namely that countries could achieve better healthcare and health by focusing on rationally determined priority interventions. As indicated in Chapter 3, the *WDR1993* had caused significant debate. Amidst on-going discussions about the report's claims, the Canadian International Development Research Centre (IDRC), together with a group of World Bank and WHO staff, conceived TEHIP as a project that could "test" the *WDR1993*'s proposed evidence-based priority setting mechanism "in the field" (de Savigny *et al.* 2008: 12).

When TEHIP finally launched in 1997, a central project management team was installed at the NIMR offices, a base carefully chosen in line with the

project's idea. Not only is NIMR located in direct proximity to the Tanzanian MoH and WHO country office, two key collaborators among a number of involved public research institutions. But NIMR's new open-plan offices also promised the perfect setting for an endeavour that was explicitly framed as a "research and development project" (de Savigny et al. 2008: 21) – a project based on an integrative approach of producing research evidence and iteratively using this evidence for planning, priority setting and resource allocation at district level. As the IDRC project managers put it enthusiastically:

> "Within that fluid office space, Tanzanians and international staff, financial and administrative workers, big-picture planners and 'details people', researchers and development workers could trade ideas and enlist each other's expertise and support" (de Savigny *et al.* 2008: 26).

Overall, TEHIP comprised multiple components, tools and smaller research projects in various locations. But the central evidence-based priority-setting mechanism hinged on a fairly straightforward three–step process. To act as "evidence engines" (ibid.: 33), TEHIP helped setting up epidemiological sentinel sites in the two chosen districts to collect demographic and epidemiological data (ibid.: 33–35). Due to the difficulty of collecting morbidity data, the TEHIP team did not calculate DALYs, but decided to instead focus exclusively on mortality data as the baseline evidence (*EIHP2016_0013, Interview, 25/3/2016*), which was collected, compiled, and transmitted to TEHIP's central management team. In a second step, the management team compiled this mortality data into computer-generated local burden of disease profiles and combined it with generic evidence on the cost-effectiveness of interventions. Such recourse to generic cost-effectiveness data represented again a modification from the initial protocol to use actual district-level data, as it became clear that the necessary tools to capture intervention coverage were unavailable (de Savigny *et al.* 2008.: 43). As such, TEHIP could be said to have made visible some of the local challenges to the *WDR1993*'s supposedly universal priority-setting formula. But more so, I want to suggest that the way that TEHIP dealt with these data collection challenges were exemplary of how the project 'tinkered' with initial protocols in order to adapt

and remain responsive to the encountered situation 'on the ground'. I will return to this in the conclusion to this chapter.

The third step in TEHIP's evidence-for-policy process involved supplying the collected data to district-level local government teams in the form of decision-making tools. These tools essentially tallied proportional burdens of diseases against a choice of 'packages' of cost-effective interventions available to address the respective diseases. As such, these tools served, as one project manager put it, to show district-level health managers "how to avert death by making the right choices" (*EIHP2016_0013, Interview, 25/3/2016*). Lastly, the project also envisioned a build-in 'feedback loop' (de Savigny *et al.* 2008: 21) whereby mortality rates would be used to monitor the 'impact' of subsequent policy choices on population health. Indeed, by the time TEHIP concluded in the early 2000s it could point to some encouraging results, including a significant drop in mortality rates in the two Tanzanian districts (de Savigny *et al.* 2008).

I do not aim to discuss here in more detail TEHIP's impact or subsequent efforts to 'scale up' its evidence-based priority-setting mechanism in Tanzania[23]. Instead, I want to focus on a different development that TEHIP gave impetus to. Because in parallel to efforts to sustain and expand TEHIP's success in Tanzania, discussions also ensued about the possibility of setting up a research-to-policy mechanism for the whole of the East African region.

Sovereignty and sustainability

Already in 2001, a few years into the project, TEHIP's management team and supporters in the Tanzanian MoH co-organised an official meeting to present and review first project results and their potential implications. In addition to national and international TEHIP contributors, meeting invitations were extended to a small number of East African health researchers – including Nelson Sewankambo. During this meeting and a number of subsequent ones,

[23] One former TEHIP project lead I interviewed suggested that TEHIP did not lead to the deep-seated reforms of Tanzanian policymaking that the project initiators had hoped. Nonetheless, some scholars have suggested that the project did contribute a more routine use of epidemiological 'evidence' to inform and measure the impact of policymaking in Tanzania (Neilson and Smutylo 2004; Gerrets 2015).

an idea took shape to set up an institutional mechanism in Tanzania to collate research evidence and make it available to policy decision-makers, modelled on the role of the TEHIP secretariat (East African Community 2006; de Savigny *et al.* 2008). Over the following years, however, a widening circle of participants attended further meetings in Tanzania, Uganda and Kenya, and the idea of a Tanzanian-only institution slowly turned into plans for a collaborative regional initiative.

Dubbed the *Regional East Africa Community Health* (REACH)- Policy Initiative, this joint enterprise was hoped to foster regional collaboration and coordination across shared research and policy priorities. As such, the idea for the REACH Initiative dovetailed with wider efforts to boost political and economic cooperation in the region, as the governments of Uganda, Tanzania and Kenya were in the process of reviving the Arusha-based East African Community (EAC) as an intergovernmental organisation to coordinate and strengthen regional interests. This also included aims to restore a dedicated regional commission to foster, among other things, co-operation in the promotion on health research, better planning systems, and the harmonisation of health policies (EAC 1999, *Article 118*). The plan was thus to set up REACH as part of this health research commission – a win-win arrangement promising to provide REACH with the political legitimacy and to boost the revitalisation efforts and profile of the regional body (*EIHP2016_003, Interview, 21/1/2016*). With Sewankambo as a key driving force, by the mid-2000s plans for REACH had taken shape, with the backing of Uganda, Tanzania and Kenya's MoHs, but also the support of an 'international sounding board' including individuals who had become concomitantly involved in setting up EVIPNet (see below). A REACH prospectus was published that outlined the proposed format: the EAC headquarters would house REACH's regional secretariat, whereas each participating country would also host a so-called 'country node' at a designated public institution – in the case of Uganda, this was to be UNHRO (East African Community 2006).

As Gerrets (2015) notes, policy documents are often produced by a range of stakeholders whose individual contributions and interests are usually not readily discernible. But, on the face of it, the REACH prospectus shows how,

by then, REACH's evidence-for-policy approach had considerably transformed compared to the initial TEHIP proposal – mirroring the shift from evidence-based to evidence-informed health policy at WHO level described in Chapter 3. Whereas the REACH prospectus refers to the notion of disease burden to highlight similarities between participating countries, this is no longer presented as the key evidence to guide policy. The notion of cost-effectiveness, in the other hand, does not feature at all in the REACH prospectus. Instead, the prospectus describes the aims of REACH as fostering knowledge translation with the aim of evidence-*informed* health policy (East African Community 2006: 1). I return to this shift in the conclusion, but first I describe how, despite these detailed plans, the REACH initiative struggled to get off the ground.

Whereas REACH fit within wider political aims for better regional cooperation, as a regional evidence-for-policy initiative it also promised to strengthen participating country governments' sovereignty vis-à-vis other interests groups, including foreign funders. As one of my interviewees explained:

> "So the idea was that policymakers simply wanted a credible institution that had national, original ownership, which they could trust to feed them with that information [the evidence]. Because the ad-hoc system they were relying on so far was [that] funders approached them, researchers approached them, and everybody would approach them on their own… – you don't know what their agenda is, you don't know if what they are saying is right or wrong" (*EIHP2016_003, Interview, 21/1/2016*).

Whereas REACH was thus envisaged to allow more for autonomous regional health policymaking, the mechanism was also proposed to involve a "loop" system to help shape more "policy-relevant research agendas" (East African Community 2006: 4). As one Ugandan interviewee explained:

> "Because Makerere does many other things: you do education, you do training, you do research… and the research doesn't necessarily reach [the policymakers] and the research doesn't necessarily align with national priorities. It's according to student priorities, according to donor priorities, according to researchers' own priorities – they are not

> national priorities. Whereas the REACH structure was intended to address regional priorities for policy and also national priorities for evidence. As in those that are identified through... how shall I say... a legitimate process, or legitimate processes" (*EIHP2016_003, Interview, 21/1/2016*).

Nonetheless, from the beginning, it was also clear that REACH itself would have to rely on foreign backing. Although the governments of the three participating countries were expected to contribute to the initiative to "ensure ownership and sustainability" (East African Community 2006: 15), the majority of funds was anticipated to come from international donors. No one, however, seemed prepared to provide the initiative with long-term financial support. The IDRC agreed to provide seed funding that allowed setting up a small secretariat at the EAC in 2006. But despite additional smaller project-specific funding and the dedication of the small EAC REACH team, the initiative struggled to properly take off. The slow-turning wheels of EAC bureaucracy may have played a role in decelerating the initiative's momentum (*EIHP2016_0013, Interview, 25/3/2016*). But the biggest obstacle was that the anticipated financial support by donors failed to materialise (*EIHP2016_003, Interview, 21/1/2016*). Furthermore, country governments, too, failed to offer funds to either the REACH EAC office or the respective country teams. In the case of Uganda, UNHRO as the designated host of Uganda's REACH node was already chronically underfunded, as highlighted above. In the light of these obstacles, the REACH regional office at the EAC and plans for REACH country nodes withered.

Despite these obstacles, however, Nelson Sewankambo and members of the original REACH team remained deeply committed to the REACH idea and, in the latter part of the 2000s, their efforts seemed to finally be rewarded. By making Makerere a partner institution of the international SURE research project and Uganda one of the project's key research sites, Sewankambo could finally set up a REACH-associated evidence-for-policy team at Makerere's newly established College of Health Sciences MakCHS. Further, the SURE Project also operationalized REACH's inclusion in EVIPNet – or, as

an EVIPNet publication put it, REACH became "part of the EVIPNet Africa family" (Lavis and Panisset 2010: 229).

In fact, considering that the first debates concerning REACH took place in the early 2000s, it might be said that the regional initiative at least ideationally preceded EVIPNet as a global WHO-backed network. Some EVIPNet publications indeed credit REACH as a 'local' inspiration for the EVIPNet (e.g. Pang *et al.* 2015). Somewhat more assuredly, key Ugandan REACH/EVIPNet/SURE team members were emphatic in their insistence on REACH's precedence, with UNHRO's website suggesting that EVIPNet in fact

> "built on the experience of REACH and was assisted by REACH in its establishment in both Asia and Africa" (UNHRO 2017).

Attributing where and how ideas originated is a delicate issue and my aim is not to ascertain where or how the idea of a transnational evidence network originated. What I want to suggest these debates hint at, however, is that regardless of the on-going proliferation of transnational research networks and utopian imageries of a 'global pool of knowledge' (Lavis, Lomas, *et al.* 2006), provenance and place clearly continue to matter. This was certainly the case for many of the Ugandan REACH/EVIPNet/SURE team members I interviewed, as they seemed all-too-aware of the demands for differentiation that come with the need to attract foreign funding, as well as the patterning effects of both its absence and presence. But more so, whereas the vision for REACH had been that of a regional institutionalised network to allow more autonomous research and policy priority setting, this did not seem entirely congruent with the focus on short-term and outcome-oriented projects so prevalent in global health.

Global evidence networks

EVIPNet had officially launched in the mid-2000, but efforts to integrate African countries in the global network had been constrained, at least partly, by a lack of domestic funding. When the SURE Project was initiated in 2009, one of its explicit aims was thus to provide a further jolt to EVIPNet-related EIHP efforts in six participating African countries (SURE Project 2016) – explained by the fact that SURE was led by some of the same international evidence specialists that had been instrumental to WHO's EIHP efforts and

the conception of EVIPNet. As an official project partner, the EVIPNet secretariat offered support to country teams for the duration of the project, but also contributed to the dissemination of project results via WHO websites.

The Ugandan team was formally involved in the project as part of REACH. As SURE was as an academic research project, however, the new REACH/EVIPNet/SURE team was set up at Makerere's MakCHS. As such, it largely bypassed the Ugandan National Health Research Organisation UNHRO as the public institution meant to serve as the Ugandan 'host' for REACH. As noted above, the original vision for REACH had been to serve as a centralised dual mechanism to align research activities with national policy priorities, as well as translate research findings into policy advice. Yet, the set-up of REACH at MakCHS as part of SURE largely limited its role to the latter.

Indeed, SURE was primarily a multi-sited research project that aimed to 'test' and 'evaluate' (SURE Project 2016) a number of specific EIHP/knowledge translation tools and strategies. These tools matched those in the 'global' EIHP/knowledge translation toolkits I discussed in Chapter 4, and were described by Ugandan researchers as 'prototypes' (*EIHP2016_003, Interview, 21/1/2016*), which their task was to adapt for the Ugandan context. In turn, a key output of the SURE Project was the so-called SURE Guides, an adapted version of the SUPPORT Tools as a set of 'universally relevant' guidelines to build knowledge translation and EIHP capacities in low-income countries (SURE Project 2016). The next chapter will describe in detail some of these translation tools – and their challenges – with a focus on a specific Policy Brief that was produced by the REACH/EVIPNet/SURE team. These tools were thus a crucial part of the knowledge translation/EIHP infrastructure envisioned to allow the circulation of research evidence from the 'global' to the 'local' level and from the research to the policy realm. An equally important aspect of SURE, however, was the building of 'capacity' among researchers to use these tools.

In Uganda, SURE funding enabled Nelson Sewankambo to assemble a small but growing team of would-be Ugandan knowledge translators/brokers. Operating from a confined office on the 2nd floor of MakCHS' main building, just a few doors down from Sewankambo's own office, the team comprised a

small number of full-time staff as well as several volunteer Master and PhD students. As mentioned at the beginning of this chapter, the notion of a 'know-do gap' points to a lack of specific EIHP/knowledge translation capacities as one reason for the failure of health services. Yet, even before acquiring their new capacities, Ugandan members of the REACH/EVIPNet/SURE team were already highly-educated health professionals. This included one social scientist with extensive experience in public health-oriented research. Other key members were Makerere-trained medical doctors with additional degrees in public health or epidemiology, as well as work experience in a variety of settings, such as the Ugandan Ministry of Health or foreign-funded research projects and disease programs.

In Uganda, capacity building for EIHP/knowledge translation occurred both through specific training workshops and 'learning-by-doing', as the Norwegian SURE lead spent considerable time in Uganda to support the production of the Ugandan team's first Policy Brief (*EIHP2016_005, Interview, 20/1/2016*). Through these training sessions, Ugandan researchers became familiar with key EIHP/knowledge translation tools and strategies, first and foremost related to the collection, appraisal, contextualisation and dissemination of research evidence on potential solutions to policy problems (cf. SURE Project 2016). Indeed, researchers I interviewed highlighted how their work with the SURE project had provided them with a whole new range of specialist skills and expertise, and that it had turned them into specialists in the new and cutting-edge fields of EIHP and knowledge translation (*EIHP2016_005, Interview, 20/1/2016*). Further, being part of SURE also provided the opportunity to tap into 'global' evidence networks. REACH/EVIPNet/SURE researchers could draw on the international networks of SURE's project leads and members of EVIPNet's global secretariat, and would also go on and convene training sessions for SURE teams in other countries. Yet, many of these new proficiencies and connections also seemed vulnerable in the face of enduring financial challenges. Indeed, by the time I arrived in Uganda in early 2016, the SURE Project had been concluded for two years and, as a result, the Ugandan REACH/EVIPNet team's biggest funding source dried up.

Indeed, irrespective of SURE's prognostication of "all of the country teams becoming self-sustaining by the end of the five-year project" (SURE Project 2016, *online resource*), this has arguably not been the case in Uganda. Sewankambo resumes his determined efforts to tap into new funding sources and opportunities for his EIHP/knowledge translation efforts, some of which will be described in the next chapter. But a lack of sustainable funding continues to severely constrain evidence-for-policy efforts at MakCHS. Whereas Sewankambo officially maintains a Ugandan REACH 'node' with links to UNHRO and the EAC, there remains little indication that either foreign donors or East African governments might support these initiatives financially.

Some former SURE researchers have remained associated with MakCHS on a variety of different projects, whereas others have become engaged in different endeavours. But for many of those I spoke with, the lack of domestic funding and on-going dependence on external funding translated into a considerable degree of precariousness and, at least for some, frustration. As one of my interviewees noted:

> "Now we just sharpened our skills in this area. So therefore there is capacity here now. […] [But] the negative part of that one is that capacity is not being harnessed. There are very low opportunities in this country for us to practice this. I'm telling you, if we were in Europe or North America, we would now be experts" (*EIHP2016_005, Interview, 20/1/2016*).

The same researcher expressed their discontent with what they described as policymakers' on-going lack of interest in the utilisation of evidence, as well as the absence of public funding for EIHP/knowledge translation efforts. In response to my question about the role of the government, they exasperatedly replied:

> "What is the role of the Ugandan government? In what? It's not playing any role in evidence-informed policy […] It's not funding, neither is it even demanding 'give me the evidence'" (*EIHP2016_005, Interview, 20/1/2016*).

The perceived lack of policymakers' demand for evidence was a common thread in my interviews with REACH/EVIPNet/SURE-associated researchers,

and I will discuss this further in the next chapter. But at least one researcher also suggested that, as a short-term research project, the SURE project had failed to address some of these wider issues. As they suggested, SURE had indeed build some infrastructures – or, in their words, "put systems in place" – for the translation of evidence; yet at the same time it had failed to address more 'systemic' issues:

> "we [SURE] dealt with a lot of technical issues, things like guidelines, standards, task shifting… But we should have looked at the big issue […] We didn't invest so much into the use of research evidence as a system" (*EIHP2016_007, Interview, 17/6/2016*).

According to this researcher, the SURE Project had not done enough to "influence" the demand for evidence among policymakers, which they also saw as a key threat to the sustainability of their former team's EIHP/knowledge translation efforts. As they resignedly put it: "You can't sustain what's not there" (*EIHP2016_007, Interview, 17/6/2016*).

Whereas the lack of domestic financial support and interest seemed to indeed be a source of frustration for many REACH/EVIPNet/SURE researchers, some also argued that the issue was indeed much bigger, suggesting that

> "[Y]ou need resources to commit long-term, to fund initiatives like this. So you will have that in some regions which have more financial, economic resources. And then for some others, like Africa… Because it's in all the other sectors, not just REACH/SURE, but it's in all the other sectors, so it's not a stand-alone problem, it's related, it's a multi-systemic issue. And it's not new, it's been there forever. […] And unless obviously something is done about how governments bring in income... it's a whole bigger thing, to do with trade, and fair trade, and marginalisation of developing countries in trade... Because that's the only way you bring in enough money… through selling what you have, which is our resources. So if you have issues at that level, definitely it's going to impact all the way down on all these other things" (*EIHP2016_003, Interview, 21/1/2016*).

Many researchers I interviewed thus appeared almost resigned to the unlikelihood of receiving domestic financial support for EIHP/knowledge

translation efforts. But also to the fact that this inevitably translated into a constant scramble for foreign funding – which, in turn, could offer neither long-term support nor sustainability. In other words, while there seemed to be an appreciation that foreign support often allowed for the funding of services and projects that might not be realisable otherwise, for most researchers this also involved acquiescing to the capriciousness that the high dependence on donor funds seemed to necessarily entail. As one interviewee summarised the situation: shifting donor interests usually translated into "erratic and unpredictable" funding, and "with erratic funding you can't sustain systems" (*EIHP2016_003, Interview, 21/1/2016*).

Against this background, it seemed particularly contradictory that Ugandan evidence-for-policy efforts were imbued with hopes for the strengthening of health systems and enabling more autonomy in regards to setting health research and care priorities – yet these efforts remained heavily contingent on short-term foreign funding and shifting priorities. Put differently, whereas at least some of my interviewees explicitly saw evidence-informed policy initiatives as a strategy to engender more autonomy and sovereign decision-making, there remained a dependency on foreign sponsors to fund (or not) these initiatives.

Conclusion: adding concerns

When I visited Uganda in 2016, the precariousness of and disparity in the country's healthcare provision was highlighted by the recent breakdown of Uganda's only radiotherapy machine for cancer treatment. Donated to Mulago Hospital by the International Atomic Energy Agency (IAEA) some twenty years earlier, the machine had finally broken down beyond repair with catastrophic consequences. As the only such machine in the whole of Uganda, its collapse deprived patients of potentially life-saving treatment, everyone but the lucky few who could afford to travel to the next-nearest specialist treatment facility located almost 700km away in Nairobi. In the media, the Ugandan government was widely criticised of inactivity in response to the problem; and even more so, when it emerged that it had diverted healthcare funds to other sectors, including to campaign activities in preparation for the pending national elections (Oketch 2016; Kagumire 2016).

Indeed, it would take almost two years for a new machine to be installed, jointly financed by the Ugandan government and donors (Uganda MoH 2018).

As I struggled with the interpretation of my fieldwork data – both in light of what seemed like an incredibly complex situation and my own ambiguities towards evidence-for-policy approaches – this incidence seemed to encapsulate at least some of the many issues and concerns that had been raised in my interviews with Ugandan EIHP/knowledge translation experts: Uganda's ailing public healthcare system, the severe levels of insecurity and precariousness linked to a chronic shortage of healthcare resources, and the continuing high level of dependency on unpredictable foreign funds. But also the desire to make more accountable those policy elites making healthcare decisions; as well as the legitimate hopes that science and research can bring about desired change and lead to the improvement of lives. Indeed, if anything, it seemed like it was precisely the complexity and entanglement of a multitude of concerns linked to Ugandan evidence-for-policy efforts that seemed to *matter*, but that seemed obscured by international proclamations of a 'know-do gap' and calls for new EIHP/knowledge translation infrastructures.

As I highlighted in both Chapter 3 and at the beginning of this chapter, in global health, proclamations of a 'know-do gap' have served as a popular imaginary to highlight the need for EIHP/knowledge translation as a way to translate knowledge into policy actions, especially in the Global South. As I also noted, the notion of a 'gap' points to at a series of absences, primarily the lack of researchers able to adequately synthesise, appraise and disseminate existing research evidence on 'what works', as well as the failure of policymakers to utilise such evidence in their decision-making. Implicit in this claim, is the assumption that this 'gap' can be easily plugged by providing the necessary EIHP/knowledge translation infrastructures, including the building of capacity among both researchers and policymakers to adopt and adapt standardised EIHP/knowledge translation tools and methodologies. In contrast, this chapter has aimed to problematize this way of framing the problem that the fostering of EIHP/knowledge translation infrastructures is meant to address. Not least, by highlighting that framing the issue in terms of the simple lack of a well-oiled machinery for the circulation, translation and

diffusion of scientific evidence risks ignoring the enduring legacy of foreign influences on healthcare infrastructures in Uganda.

Indeed, this chapter has aimed to show that, like in many other African countries (Kickbusch 2002; Yamey 2002; Ollila 2005; McCoy *et al.* 2008; McCoy *et al.* 2009; Chu *et al.* 2014; Storeng 2014; Mwisongo and Nabyonga-Orem 2016; Beran *et al.* 2017), Uganda's long dependency on foreign funds for both research and healthcare delivery has long been accompanied by concerns that these funds often further the interests and priorities of international donors, funders, researchers and organisations, while bypassing or even contributing to the further fragmentation of existing public health infrastructures. Based on her research in Uganda, Joanna Crane (2013) goes as far as to argue that a new 'scramble for Africa' is underway, triggered by Global North universities rushing to establish new research sites and collaborations to bolster their global health activities. Crane's explicit comparison with the occupation and colonialization of Africa in the late 18th/early 19th century may sound exaggerated. But other scholars, too, have argued that – despite a growing rhetoric around the need for more sustainable infrastructural support in the name of equal partnerships, capacity building, and a focus on local priorities – global health research endeavours all-too-often remain shaped by the interests and priorities of Global North actors (Cornwall and Eade 2010; Crane 2013; Gerrets 2015; Geissler *et al.* 2015; Wendland 2016; Geissler and Tousignant 2016). Indeed, even from within the global health field itself, critics have warned of a 'neo-colonial' global health model that privileges data extraction over ensuring that research benefits host countries (Chu *et al.* 2014; Beran *et al.* 2017).

In Uganda, Nelson Sewankambo has played a key role in fostering international health networks, as well as advocating for foreign programs to contribute to the building of infrastructural capacity and support of national priorities. This chapter has argued that his and his team's aims for EIHP in Uganda have thus been inseparable from these wider efforts of supporting a national health research infrastructure and mitigating foreign influence on research and policy agendas in Uganda. But also to hopes for more self-

determination and sovereignty – and better futures. As one REACH/EVIPNet/SURE researcher put it:

> "I mean our public health system, in terms of being accessible and providing services adequately to our community, yes, there's issues there. And that should be handled. And because it's so deficient in many ways in that respect, and you have these external interests doing their work here… It kind of meets some of that unmet need, which is alright, it's just that it's also erratic, it's unreliable. You want a system that functions, that works and meets your needs reliably. If that was there then people wouldn't have to rely on these others, because they are sort of ad hoc. They only go there because the system is failing their need in some ways" (*EIHP2016_003, Interview, 21/1/2016*).

By putting Sewankambo at the heart of this chapter my aim has not been to construct another hero story (cf. Chapter 3). Instead, it has served as a caution that critiques of the expansion of hegemonic and monolithic 'evidentiary regimes' risk ignoring that, at least in Uganda, health professionals have played an active role in fostering evidence-for-policy efforts. This chapter has shown that EIHP/knowledge translation efforts only flourished at MakCHS largely due to the determination of individuals like Nelson Sewankambo and members of his team, who assiduously and inventively navigate a global health landscape characterised by shifting international priorities and unpredictable funding. Indeed, this chapter has also highlighted that with a lack of domestic financial support, Ugandan EIHP efforts themselves remain highly contingent and dependent on foreign funding. In the absence of both domestic and foreign support, the regional REACH Initiative as a public institutional evidence-for-policy mechanism has so far failed to materialise as envisioned. In Uganda, on the other hand, Sewankambo was able to establish a REACH country node at MakCHS with support from the EVIPNet-associated SURE Project. With the conclusion of this project and its funding, however, his team again struggles to keep up their EIHP/knowledge translation activities. What this arguably further points to, is that the declaration of a 'know-do gap' may serve to highlight the need for

more ‘systemic’ support of Global South countries; yet, its simple problem-solution approach nevertheless risks replicating what is often criticised as global health’s ‘magic bullet’ approach (e.g. Biehl and Petryna 2013). As a time-limited research project, SURE may have helped to build African EIHP/knowledge translation infrastructures. But, at least in Uganda, the lack of sustainable funding has also made it difficult to maintain these new infrastructures. Put differently, without such sustainable funding, many newly acquired skills and expertises remain incapacitated and infrastructures remain fragile. To echo my interviewee quoted above, erratic funding indeed makes it difficult to ‘sustain systems’.

The issues raised in this chapter pose many difficult questions, including about the funding of public research and healthcare infrastructures in contexts of severe resource constraint, the contentious issue of who gets to decide which research projects to pursue and which capacities and infrastructures to strengthen, the transient nature and impact of many Global North-funded research and treatment programs, and the aftermaths of failed or discontinued projects and networks. Whereas these are issues and questions that I could not hope to adequately address in this thesis, this chapter has aimed to highlight that in regard to EIHP in Uganda all these issues indeed *mattered*. Put differently, I wish to suggest that EIHP is instantiated in Uganda as a matter of a whole plethora of concerns that far exceed the problem articulated by the notion of a ‘know-do gap’ and demands for the translation of the ‘best’ scientific evidence.

I do not wish, however, to use this insight to propose conceiving of EIHP as a ‘boundary object’ (Star and Griesemer’s 1989), that is, to argue that it traverses different locales and communities because of its appeal to a whole range of stakeholders with different concerns – which is what Timmermans and Berg (2003) suggest in order to account for EBM’s success in North America/Europe. Indeed, I wish to make the opposite argument, namely that where the aim of linking proofs and politics remains articulated around the demand for ‘global’ EIHP/knowledge translation toolkits and capacity building, it risks neglecting a whole range of issues and concerns that are part of the problematic situation that the aim of linking proofs and politics is meant to

address, at least in Uganda. In the next chapter, I will elaborate this argument at the example of a specific policy 'problem' that the Ugandan REACH/EVIPNet/SURE team tried to address with the help of EIHP/knowledge translation tools. Here, and in conclusion to this chapter, I want to further clarify this point by briefly returning to the set-ups of the Tanzanian TEHIP and Ugandan SURE projects.

As highlighted above, both TEHIP and SURE were set up as research projects with the aim of build capacity for and testing of specific evidence-for-policy mechanism. Yet, as I also argued, the respective evidence-for-policy mechanisms also differed, mirroring the shifting 'evidentiary regimes' at WHO: from an evidence-*based* policy (EBP) linked to attempts of mapping population health and 'rationally' setting priorities, to evidence-*informed* health policy (EIHP) primarily concerned with the synthesis, appraisal, circulation and adaption of global research evidence on 'what works'. As such, the shift from TEHIP to SURE could be said to reflect the growing emphasis on *research* evidence and on those methods claimed to be the most scientific and able to produce generalizable outputs – both in regard to what each project conceived as the most important evidence to guide policymaking, but also in terms of how the projects themselves were set up. I will briefly re-view these set-ups below to show how this links to my above argument.

TEHIP was explicitly set up as an experiment with the aim to test the evidence-for-policy mechanism proposed in the *WDR1993*. But the project report also notes that the primary aim of this experiment was to make this mechanism work in Tanzania, to see "how this promising theoretical premise could be translated into practice" (de Savigny *et al.* 2008: 11). I do not wish to discuss here the specific achievements and/or shortcomings of the TEHIP Project. But I do want to suggest that the project architects seemed highly committed to the integrated and adaptive nature of their 'research and development' project, as well as to the situatedness of their efforts. On the one hand, TEHIP was based on an iterative mechanism, which involved producing and utilising *context-specific* epidemiological evidence to guide the development of policies, and to assess the impact of these policies through subsequent monitoring of the epidemiological data. On the other hand, the

integrated and adaptive approach was also reflected TEHIP's design as a research project that allowed the modification of protocols and components in response to emerging requirements on the ground. Indeed, the final project report is full of examples of 'tinkering' with the initial project protocol in order to respond to emerging problems. This included the situated adjustment of tools (see above) or development of new processes. But the project also aimed to remain responsive to simple unanticipated issues, such as the need to better maintain basic infrastructures like "vehicles, radios, computers, health equipment, capital items, solar power, etc." (de Savigny 2008: 50). As the report puts it, TEHIP saw itself as operating "within the context of a functioning, living health system (de Savigny *et al.* 2008: 21).

With its adaptive approach, TEHIP architects also explicitly distinguished the project from what they referred to as 'conventional' or 'classic' research. As the final project report notes:

> "This practical orientation of TEHIP's research component […] is distinct from the classical scientific model that painstakingly sets up experiments that control for confounding to prove definitively a relationship between a specific cause and a specific effect. Functioning within a living, dynamic health system — where the process of change was already underway, and where a multitude of uncontrollable real-life influences could affect health indicators — TEHIP would never be able to ascribe any positive changes in health outcomes exclusively to the policy changes and interventions it championed" (de Savigny *et al.* 2008: 27).

As a consequence, the final TEHIP report is also cautious in regard to the implications of the project findings beyond Tanzania. Whereas it suggests that the project had shown *WDR1993* propositions to be "solid" (de Savigny *et al.* 2008, xviii), the report consistently stresses the specificity of the Tanzanian setting and mainly advocates for the general need to strengthen Global South countries' health system, rather than for specific methods to do so.

In contrast, 'global' EIHP/knowledge translation toolkits tested by SURE teams and promoted through EVIPNet could be said to very much involve ideas of a 'classic scientific model'. As such, these toolkits privilege 'global'

evidence of solutions from synthesised experimental evidence and its subsequent adaptation or 'contextualisation' in local contexts. The same logic could be said to have also undergirded the setup of the SURE Project itself: African project partners tested and adapted standardised and *already-deemed-to-be-working* knowledge translation strategies ('prototypes', as my interviewee called them) to their local contexts. Representing one study site in a multi-sited academic research project, the Ugandan REACH/EVIPNet/SURE team was further envisioned to contribute results to a new 'universally-relevant' framework for EIHP in low-income countries. Although SURE itself was not set up as a controlled experiment, I would nonetheless propose that it reflects a model primarily geared towards a global flow of generalizable evidence. Put differently, a model of a 'global' science whereby research projects contribute to a 'global pool of knowledge', which can then be tapped for global evidence to be 'translated' back to inform local policies and practices – in a perpetuating cycle of de- and re-contextualisations (cf. Chapter 4).

Emphasising the differences between TEHIP and SURE does not serve to evaluate their comparative merit. Indeed, these were distinct projects that involved different constellations of actors, concerns and methods. But a comparison may nonetheless allow further teasing out that there are indeed various ways to go about linking research evidence and policymaking. Moreover, it highlights that different research designs and methodologies allow paying attention to different things and, as such, produce different forms evidences. Lastly, it also raises the difficult question of what research evidence should be for and for whom. As one former TEHIP project manager suggested in regard to subsequent global EIHP efforts:

> "McMaster is obviously zooming away in terms of this actually being an academic exercise… and how close is it getting to relevance, or how far away is it getting from relevance…?" (*EIHP2016_013, Interview, 25/3/2016*

This will be further explored in the next chapter.

Chapter 6: Measuring and Mattering

The previous chapter traced the emergence of the REACH/EVIPNet/SURE 'country node' in Uganda and highlighted the leading role of Ugandan health professionals in fostering East African evidence-for-policy efforts. I also suggested that Ugandan aims for and efforts at better linking proofs and politics were linked to a whole range of concerns. This included – but was by no means limited to – hopes for more oversight and autonomy in shaping national research agendas and setting policies, against a background of long-standing concerns with short-term and contingent foreign health research and treatment programs that failed to align with national health priorities. Indeed, the key argument in Chapter 5 was that EIHP in Uganda 'overflowed' with a plethora of entangled concerns that far exceed the problem as expressed by a 'know-do gap' and its demand for more infrastructures to translate existing evidence on 'what works' as a solution. This chapter elaborates this argument from a slightly different angle, by focusing in more detail on the practices of and challenges to knowledge translation for evidence-informed policymaking (EIHP) at the Ugandan EVIPNet 'country node'.

By focussing on the production of a specific Policy Brief produced by the Ugandan REACH/EVIPNet/SURE team, I point to the limitations of the simple EIHP formula of integrating the best 'global' research evidence on 'what works' with 'local' evidence on modifying factors and the values and preferences of stakeholders. I argue that, in practice, this formula poses a whole number of tensions and challenges, especially for Ugandan knowledge translators/brokers tasked with articulating 'objective' global facts with the situated concerns of Ugandan policymakers. But I also suggest that it was in these attempts of mediating between different sets of concerns that the taken-for-granted distinction between evidence quality and relevance – between measuring and mattering – became problematized and the question of what makes 'good' evidence re-opened for negotiation.

Translation devices: from knowledge to action?

The previous chapter described how Ugandan EIHP/knowledge translation efforts were operationalized at the newly established Makerere College of Health Sciences (MakCHS) through the multi-sited SURE Project. Starting in

2009, a small but growing team of would-be Ugandan knowledge translators/brokers set out to work on the SURE Project's objectives, which primarily involved the "adaption and testing" (SURE Project 2016: 7) of a series of standardised EIHP/knowledge translation tools and strategies to improve policymakers' access to and use of research evidence to inform decisions about health systems. In this chapter, I describe and discuss the REACH/EVIPNet/SURE team's use of three of such tools, which I call 'translation devices': Priority Setting processes, Policy Briefs and Policy Dialogues[24]. As three discreet consecutive steps, these devices are key to the proclaimed aim of fostering 'global-local' and 'research-policy linkages', and integral components of 'global' EIHP/knowledge translation toolkits such as the SUPPORT Tools described in Chapter 4. As already noted, at the same time as adapting these devices, the Ugandan SURE team also produced an adapted version of the 'global' toolkits themselves, called the SURE Guides.

In terms of the specific 'translation devices', Priority Setting refers to a more-or-less formally structured process to elicit a priority problem from policymakers and transform it into a research-able question. The elicited problem then becomes the basis for the production of a Policy Brief, a structured document that lays out/presents the problem and the evidence for possible solutions/policy options. By re-"packaging" and "mobilising" the best research evidence (Lavis *et al.* 2009: 2; STP13), Policy Briefs are the central device to link 'global' proofs to 'local' policymaking processes. Accordingly, the production of such Policy Briefs was the primary objective of Ugandan EIHP/knowledge translation efforts for the duration of SURE (SURE Project 2016) and a key focus of this chapter. At the example of one particular Policy Brief produced by the Ugandan REACH/EVIPNet/SURE team, I describe the 'testing and adaption' of the Policy Brief format and design to make it more "user-friendly" (SURE Project 2016: 2). Moreover, I show how producing such a brief also demanded the application of standardised evidentiary rules and tools (cf. Chapter 4) to synthesise and appraise global evidence about "interventions and strategies that work" (SURE Project 2016: 3), and its

[24] As with Systematic Reviews (see Chapter 4), I capitalise these terms throughout to indicate their status as specific standardised components of EIHP/knowledge translation frameworks.

integration with information on "how to fit these solutions into complex and under-resourced health systems" (ibid.: 3). As a third translation device, I describe Policy Dialogues as a "structured discussion" (SURE Project 2011, *online resource*) organised by the Ugandan team to disseminate and discuss Policy Briefs with policymakers and other stakeholders.

Together, these three translation devices are crucial components of the infrastructures to facilitate the circulation and dissemination of research evidence from laboratories and publications into the hand of policymakers. As a REACH/EVIPNet/SURE researcher put it, these strategies aimed at addressing the "methodological gap" (*EIHP2016_003, Interview, 21/1/2016*) between science and policy-making. In the following section, I will describe each of these devices in more detail with a focus on 'task shifting', identified by the REACH/EVIPNet/SURE Uganda team as the priority topic for its first Policy Brief.

Defining the problem

By early 2010, a small team of Ugandan REACH/EVIPNet/SURE researchers was ready to start its EIHP/knowledge translation operation. Supported by the SURE Project lead, one of EVIPNet's key evidence specialists, the team's first task was the elicitation of a priority problem as the basis for its first Policy Brief. As noted in Chapter 4, the determination of a priority problem counts as a discreet step in EIHP/knowledge translation toolkits that precedes the search for evidence-based solutions (Lavis *et al.* 2009, STP4; SURE Project 2011). In Uganda, the REACH/EVIPNet/SURE team eventually settled on 'task shifting' as the topic of its first Policy Brief, based on consultations with policymakers in the Ugandan Ministry of Health (MoH) (SURE 2010a).

EIHP toolkits propose a range of formal 'Priority Setting processes' (Lavis *et al.* 2009, STP4; SURE Project 2011) to capture the views of policymakers on priority problems, such as surveys, and the subsequent ranking of elicited topics in consultation with a smaller advisory group of selected stakeholders. Neither the exact processes nor the precise nature of ranking criteria is prescribed in EIHP toolkits other than, as already noted in Chapter 4, that only those problems should be prioritised that are indeed address-able. In other words, solutions – and research evidence for those solutions – should be

available (Lavis *et al.* 2009, STP4; SURE Project 2011). I do not wish to discuss here the specific processes that the Ugandan REACH/EVIPNet/SURE team used to elicit its first priority topic. As part of the overall SURE Project, the team did employ more official processes, such as a survey among policymakers (*EIHP2016_003, Interview, 21/1/2016*). But the selection of their first priority topic was based on more informal discussions with staff at the Ugandan MoH (*EIHP2016_005, Interview, 20/1/2016)*, as well as a previous survey conducted by the Ugandan National Health Research Organisation UNHRO (SURE 2010a). Both identified that, at the time, the formulation of a 'task shifting' policy was under discussion at the MoH – linked to the recent launch of a WHO 'global recommendation on task shifting' in 2008 (UNHRO 2008; SURE 2010a; *EIHP2016_003, Interview, 21/1/2016*; *EIHP2016_005, Interview, 20/1/2016*). It was thus decided to focus the first Ugandan Policy Brief on the priority problem of the 'shortage of medically trained health professionals to deliver cost-effective maternal and child health (MCH) services' (SURE Project 2010a: 6), and on 'task shifting' as potential evidence-based solution.

In 2009, at the time of the REACH/EVIPNet/SURE team's scoping exercise, the shortage of frontline healthcare staff was indeed a much-debated issue in Uganda. A few years earlier, the MoH's *National Health Plan II* had listed the increase and better geographical distribution of qualified health workers as one of its primary policy objectives (Uganda MoH 2005). But as the plan's 5-year implementation period drew to a close, a WHO-backed review reiterated the persistence of a severe overall shortfall of frontline health workers way below WHO benchmarks for providing adequate care, as well as their highly uneven urban-rural distribution (African Health Workforce Observatory 2009). While serious, the issue was not limited to Uganda alone. Indeed, WHO had declared the 'crisis' in the global health workforce a major global priority (WHO 2006). Further, by describing the health workforce as a key 'building block' of all health systems, it had also turned it into a prominent target for Health System Strengthening (HSS) interventions in Global South countries. And, in 2008, WHO published a 'global recommendation' that singled out task

shifting as an evidence-based and cost-effective HSS intervention to mitigate the health worker crisis (WHO 2008).

In fact, task shifting is an approach rather than a specific intervention. The term usually describes some form of deliberate reorganisation of the health workforce (on various scales) with the goal of re-distributing tasks among different cadres of health workers. Typically, this involves the primary aim of reducing the workload for and/or address shortages among health professionals with the highest qualifications, namely by shifting specific tasks to lower cadre health professionals (e.g. from doctors to nurses or from nurses to healthcare assistants) or even lay people. In fact, in Uganda, forms of task shifting had been successfully practiced both informally and on smaller experimental scales, the latter primarily aimed at improving HIV service provision in rural areas (Lutalo *et al.* 2009; Dambisya and Matinhure 2012; Baine and Kasangaki 2014). But whereas some Ugandan case studies had contributed to the evidence base of WHO's global recommendation for task shifting, no national guidelines to regulate and promote the practice had been formulated in Uganda by the time the SURE Project took off. Still, not least due to WHO's recommendation, in Uganda as elsewhere the 'problem' of a health worker crisis was thus already closely bound up with task shifting as a 'solution'. I return to point below in my discussion of the reception and impact of the Ugandan Task Shifting Policy Brief. But before, I shall describe the Task Shifting Policy Brief itself, as well as the subsequently organised Policy Dialogues.

(Re-)packaging evidence

Both the SUPPORT Tools and the adapted SURE Guides segment the 'knowledge translation' process into a series of prescribed discreet steps. Indisputably at the heart of this process, however, is the production of so-called Policy Briefs as outputs from the process of using of evidentiary rules and tools to describe 'problems' and assemble and re-represent research evidence on possible solutions. As such, Policy Briefs are meant to "package research evidence" (Lavis *et al.* 2009: 1; STP13) on specific intervention-solutions, both in terms of the 'global' evidence base on intervention effects

(preferably in the form of Systematic Reviews) and evidence on the 'local' implement-ability of these solutions.

The SURE Project envisioned the production of one such Policy Brief per year by each country team (SURE Project 2016). As such, Policy Briefs – together with the subsequent Policy Dialogues – were at the centre of the work of the Ugandan REACH/EVIPNet/SURE team during the 5-year duration of the project, and also the focus of much capacity building training (*EIHP2016_005, Interview, 20/1/2016*). As such, the production of the Ugandan team's first Task Shifting Policy Brief was done as a 'learning-by-doing' exercise, supported by the international project lead. Furthermore, the brief was also produced in conjunction with a first version of the SURE Guides – as an adapted version of the SUPPORT Tools specifically concerned with "preparing and supporting the use of" Policy Briefs (SURE Project 2011, *online resource*). As one former RACH/EVIPNet/SURE team member described it:

> "So we went step by step, doing the sections [of the Policy Brief], learning from it, and writing the approaches, the methodology. Now the outcome of that process is the SURE tool. The draft of the SURE tools were developed here with us" (*EIHP2016_005, Interview, 20/1/2016*).

The SURE Project's emphasis on the 'right' step-wise procedures was also underscored by what one interviewee described as a minor disagreement about the number of Policy Briefs the Ugandan team should produce: whereas the head of the Ugandan team had been keen to prepare more than one brief per year, my interviewee suggested that this was vetoed by SURE's international project lead who insisted that the exercise was as much about the briefs themselves as it was about the need to build capacity to do this "well" (*EIHP2016_005, Interview, 20/1/2016*). Indeed, as I further suggest below, this trade off between the greatest outcome of and the 'right' procedures for EIHP/knowledge translation efforts seemed to be a key tension at the heart of the Ugandan REACH/EVIPNet/SURE team's efforts.

As the central EIHP/knowledge translation instrument, Policy Briefs are curious devices whose production involves a combination of both 'scientific'

and rhetorical techniques to make research evidence 'travel' – from the 'global' to the 'local' and from the realms of science to the attention of policymakers. In regards to the former, SURE Policy Briefs were said to use "scientific methods to summarise and contextualise the best available research evidence" (SURE Project 2016: 8). In regards to the latter, Policy Briefs are aimed at simplifing and re-packaging research evidence to make it more "policymaker-friendly" (Lavis *et al.* 2009: 2; STP13). As one of the REACH/EVIPNet/SURE researchers explained:

> "It's a package that is designed for them [the policymakers], it is a product that is designed for them – not for a journal, not for a conference, not for talking to your fellow scientists in other fora. […] Policymakers don't read scientific journals. Their field is in policymaking… politics, you know... – it's different from science and research" (*EIHP2016_003, Interview, 21/1/2016*).

For their first Task Shifting Policy Brief, the Ugandan REACH/EVIPNet/SURE team thus developed a particular "user-friendly format" (SURE Project 2011: 2), which would provide the blueprint for all their subsequent briefs. This involved presenting research findings in as simple a way as possible, for example by "removing jargon" (SURE Project 2016: 8) – as one of my interviewees pointedly put it, it was key to avoid that

> "the p-value [the probability value in statistical analyses of the significance of research results] gets between the research product and the research user" (*EIHP2016_028, Interview, 14/7/2016*).

Moreover, the Ugandan team also ensured 'user-friendliness' by adapting the design and structure of their Policy Briefs. In terms of the former, this involved a specifically-designed standardised title page, which included the Policy Brief title and obligatory project and institutional insignias, but also small colour-coded textboxes to alert readers to some of the brief's key aims and content. In terms of the latter, all Ugandan Policy Briefs followed a standardised structure that comprised sections headed *Preface, Key Messages, The Problem, Policy Options,* and *Implementation Considerations*. I will proceed by briefly describing the generic structure of these main sections and their functions.

The Policy Brief's *Preface* included an outline of the respective brief's key purpose, structure and methods. This also included a short section outlining the kind of evidence the briefs were based on:

> "We searched for relevant evidence describing the problem, the impacts of options for addressing the problem, barriers to implementing those options, and implementation strategies to address those barriers. The search for evidence focused on relevant systematic reviews regarding the effects of policy options and implementation strategies. We supplemented information extracted from the included systematic reviews with information from other relevant studies and documents that are useful for helping to understand a problem, but do not provide reliable evidence of the most probable impacts of policy options" (e.g. SURE Project 2010a: 4).

Following this preface, all briefs featured a section with detailed description of *The Problem* under consideration, often drawing on Uganda-specific information on its size, nature and "underlying factors" (SURE 2010a: 10). The subsequent largest brief section *Policy Options* centred on the description and discussion of the global evidence base for possible policy options/intervention-solutions. And, finally, all briefs concluded with a section on *Implementations Considerations* that discussed potential "enablers" and "barriers" (e.g. Sure Project 2010a: 26) to the implementation of the proposed policy options/solutions, as well as strategies to overcome barriers.

This brief structure broadly corresponded to the standardised format proposed by 'global' EIHP/knowledge translation toolkits (Lavis *et al.* 2005; Lavis *et al.* 2009; SPT13). But during the production of their first Policy Brief on task shifting, the Ugandan REACH/EVIPNet/SURE team also 'adapted' this format in terms of the specific design of each section. The researchers themselves described this as the testing and adjusting of 'prototype' tools and instruments. As one interviewee noted:

> "So the designs we were testing were really prototypes that they had developed initially. And [we] were testing here and fine-tuning them. And that's how we are developing our skills, testing these prototypes

> and fine-tuning them for our context and for our consumers here, our policy consumers" (*EIHP2016_003, Interview, 21/1/2016*).

Accordingly, the year-long production of the Ugandan team's first Policy Brief on task shifting served both, the adaptation and fine-tuning of a standardised brief format to render them 'user-friendly' for Ugandan 'consumers'; but also the collation of research evidence on task shifting and its 'contextualisation' to assess applicability and implement-ability in Uganda. As such, it could be said that all these tasks built on the same assumption, namely that of a circulation of standardised evidentiary 'things' (prototype toolkits, prototype tools/methods, 'global' research evidence on effects, proven interventions) which could/should be adopted in and adapted to different and mutable 'contexts' and 'users'. As the Ugandan Task Shifting Policy Brief's *Preface* put it:

> "Although policy decisions need to be made in a specific context, much of the evidence that informs health policy decisions, particularly systematic reviews, and the methods used to synthesize evidence and support its use can be shared across countries" (SURE Project 2010a: 4).

In other words, as argued previously, EIHP/knowledge translation toolkits *build* on the assumption that certain evidentiary things – methods, tools and the evidence they produce – *should* travel because of their perceived scientific primacy. But they are also to be subsequently adapted based on contextual 'modifying' factors and subjective preferences, values, and opinions. I return to this below.

As pre-appraised evidence formats (see Chapter 4), the SURE Policy Briefs were described as 'evidence-based' guidances that "bring together global research evidence (from systematic reviews) and local evidence" (SURE Project 2011, *online resource*). That 'global' EIHP/knowledge translation toolkits foreground Systematic Reviews as 'global' evidence on the effects of interventions has already been noted in Chapter 4. In the following, I describe how this was implemented in practice in the Ugandan Task Shifting Policy Brief, but also already point to some the difficulties this posed for Ugandan knowledge translation efforts.

Following a brief description of the problem of a shortage of medically trained health workers in delivering maternal and child health service in Uganda, the Ugandan Task Shifting Policy Brief focussed on four specific task shifting interventions as possible policy options/solutions. These four intervention-solutions included the extension of tasks of: lay people or community health workers; nurses, midwives and clinical officers; nursing assistants; or drug dispensers. For each of these four solutions the brief presented a brief summary on if/how the respective option was already practiced in Uganda, before presenting and appraising the quality of global evidence from – where available – Systematic Reviews of largely Randomised Controlled Trials (RCTs) on the 'impacts' of these intervention-solutions (SURE Project 2010a: 13ff). The brief then discussed potential implications of implementing each intervention/option in Uganda in regards to issues such as costs-benefit considerations. The brief concluded with a section on more general *Implementation considerations* for task shifting (SURE Project 2010a: 26ff). This last brief section also utilised both 'global' and 'local' evidence: local evidence to identify potential 'barriers' to a successful implementation of task shifting in Uganda; and global evidence from Systematic Reviews on possible evidence-based strategies to overcome these barriers (Sure Project 2010a: 27ff).

With this format, the Task Shifting Policy Brief thus diligently followed 'global' EIHP/knowledge translation toolkits that call for the synthesis and appraisal of 'global' research evidence from Systematic Reviews and its 'contextualisation' with the help of 'local' evidence (Lewin *et al.* 2009; SPT11; SURE Project 2010a SURE Project 2011; SURE Project 2016). As one of my interviewees explained

> "So local evidence is supposed to help in contextualising the global evidence. For example, in terms of qualitative studies… –because usually, obviously, the systematic reviews are looking at quantitative impact of interventions. […] But qualitative studies, single studies from the local context… we hope to assess how local … – the public, or the population there – how it views, or interacts with particular intervention, how the providers interacts with [it], their views on a

particular intervention. So these we are looking at, in terms of if it will really be feasible, or successful, in that particular context, or not" (*EIHP2016_003, Interview, 21/1/2016*).

Despite the seeming straightforwardness of these processes, however, I want to show that the Ugandan Task Shifting Policy Brief is indicative of some of the challenges that come with this distinction between 'global' and 'local' evidence, and the privileging of the former. In the following I thus describe, on the one hand, the challenges of finding 'good quality' global evidence. On the other hand, I also point to the uncertainty as to whether this evidence may indeed be "transferable" (SURE Project 2010a: 23) to the Ugandan context.

To start with, the Task Shifting Policy Brief noted that Ugandan knowledge translators/brokers could only source Systematic Reviews for two of the four intervention-solutions under consideration (for the use of lay health workers and for optimising the use of nurses, midwives and clinical officers). For the other two options the Policy Brief noted that no Systematic Reviews on the impacts of these strategies had been found. For these two cases, the Brief instead provided short summaries of findings from a few available descriptive reviews or single studies – while also cautioning that the paucity of Systematic Reviews meant that "the impacts […] are uncertain" (Sure Project 2010a: 24). For the two options for which Systematic Reviews were indeed found, the brief presented a review and appraisal of each option in the form of an evidence table (see example below) and a short summary description. These evidence tables were structured according to the PICO (population, intervention, comparison, outcome) scheme (see Chapter 4), complemented with a note on the settings in which the trials included in the respective Systematic Reviews had taken place.

The image below shows one such evidence table from the Task Shifting Policy Brief that presents the global evidence base for the use of 'community lay workers as an add on to usual care' (Sure Project 2010a: 15ff). As the brief explained, the evidence in the table was sourced from one specific Cochrane Systematic Review of 82 RCTs, all of which had trialled task shifting interventions aimed at improving mother and child health with the help of lay health workers (for the original review see Lewin *et al.* 2010). As can be

seen below, the evidence table lists the key outcomes that were investigated in the studies included in the Systematic Review, together with the observed effects ('impact'), the number of studies included in the Systematic Review that indeed examined this particular outcome, and a GRADE score for the evidence quality.

Image 1: Evidence Table

Table 5: Using lay (community) health workers as an add on to usual care

Patients or population: Mothers or children under five
Settings: Mixed (high-income countries for immunisations, mixed for breast feeding, low-income countries for morbidity and mortality in children
Intervention: Lay health workers (LHWs) (members of the community who are not health professionals and have received some training to promote health or to provide some health care services)
Comparison: Usual care (varied across studies)

Outcomes	Impact			Number of studies	Quality of the evidence (GRADE)*
	Without Lay health workers	With Lay health workers	Relative change		
Mortality in children under five	5 per 100 children	4 per 100 children	25% relative reduction	3	⊕⊕◯◯ Low
Neonatal mortality	4 per 100 infants	3 per 100 infants	24% relative reduction	4	⊕⊕◯◯ Low
Morbidity in children under five (e.g. fever, diarrhoea)	50 per 100 children	43 per 100 children	14% relative reduction	7	⊕⊕◯◯ Low
Care seeking for children under five	20 per 100 children	27 per 100 children	33% relative increase	3	⊕⊕◯◯ Low
Completed infant immunisations	50 per 100 infants	61 per 100 infants	22% relative increase	4	⊕⊕⊕◯ Moderate
Initiation of breastfeeding	50 per 100 mothers	68 per 100 mothers	36% relative increase	12	⊕⊕⊕◯ Moderate
Exclusive breastfeeding	20 per 100 mothers	36 per 100 mothers	178% relative increase	10	⊕⊕⊕◯ Moderate

*GRADE Working Group grades of evidence
⊕⊕⊕⊕ **High:** We are confident that the true effect lies close to what was found in the research.
⊕⊕⊕◯ **Moderate:** The true effect is likely to be close to what was found, but there is a possibility that it is substantially different.
⊕⊕◯◯ **Low:** The true effect may be substantially different from what was found.
⊕◯◯◯ **Very low:** We are very uncertain about the effect.

Overall Assessment: This is a good quality systematic review with only minor limitations.

Source: SURE Project 2010a: 15

Based on the GRADE framework (Chapter 4), the Ugandan REACH/EVIPNet/SURE team subjected the underlying Systematic Review to two separate quality checks. The first involved quality-checking the Systematic Review itself based on its methods to search, select, appraise,

and interpret the included studies. The result of this check is reported at the bottom of the table ('Overall Assessment'). The second quality check required the team to rate the quality of evidence for each outcome reported in the Systematic Review and listed in the table (*EIHP2016_003, Interview, 21/1/2016*). For each outcome, the results of this evidence quality check are expressed in the GRADE score on the far right side of the table.

The above evidence table undoubtedly points to the challenge of re-packaging research evidence into information that is indeed 'user-friendly'. Even as the intricacies of GRADE quality ratings remain invisible, it also hints at the complexity and labour involved in the appraisal of 'global' evidence. More so, however, one issue that I want to suggest *is* visible in the table is the small number of listed 'effects' (outcomes and their impacts) of the tested interventions. I want to argue that this can be explained, at least partly, by the summative and comparative nature of Systematic Reviews – and, as such, highlights the difficulty of translating research findings into clear evidence on 'what works'.

RCTs measure the efficacy of interventions largely according to pre-defined target outcomes, in the case of pharmaceutical RCTs this typically relates to treatment effects. That is, what is reported in publications as the 'effects' of particular interventions is often limited to a number of very specific outcomes. The same is true for non-drug RCTs, but here the range of possible outcomes and effects is said to be even higher (Rychetnik *et al.* 2002; Rod *et al.* 2014). This is partly the case, as one of my interviewee explained, because "different researchers will be interested in different outcomes" (*EIHP2016_003, Interview, 21/1/*2016). When these trials are synthesised in Systematic Reviews, however, the number of top-line outcomes that the Review presents as 'global' evidence on intervention effects is often significantly condensed. One reason is precisely that different studies testing similar interventions may not have measured or reported the same outcomes; and, further, that different studies included in the Review may in fact differ in terms of the specific intervention tested. Within the comparative logic of Systematic Reviews, however, it only makes sense to pool and compare those outcomes or effects that have been measured across multiple studies. Indeed, in regards to the

above evidence table, this explains the limited number of listed 'effects'. Whereas the Task Shifting Policy Brief notes that the underlying Systematic Review included 82 RCTs, the Systematic Review itself points out that not all of these 82 studies reported on the same outcomes (Lewin *et al.* 2010). Indeed, the Systematic Review authors grouped most of the 82 included studies according to 13 cross-cutting outcome categories, but also note that for only seven of those categories outcomes were comparable enough to warrant calculating an overall estimate of the effect (Lewin *et al.* 2010). This precisely corresponds to the seven outcomes and their cumulated effects that are listed in the Task Shifting Policy Brief's evidence table. What the table thus shows is that, despite the high overall number of included RCTs in the Systematic Review, a much smaller number of studies did indeed offer evidence for each of these seven outcomes (ranging from three to 12 studies). More so, the table also shows that for more than half of the seven outcomes the included studies were actually assigned a low GRADE mark indicating low evidence quality – based on the fact that the Systematic Review authors deemed corresponding RCTs to be of limited methodological quality due to potential 'biases' (cf. Chapter 4). I want to suggest that all these issues raise the question of how much informative value such 'global evidence' from Systematic Reviews can indeed offer.

As per evidentiary rules and tools, the Ugandan Task Shifting Policy Brief oriented its own appraisal and interpretation of the evidence at the conclusion of the Systematic Review itself. As such, it proposed that using lay health workers as add-ons to usual care would "probably" lead to some specific positive outcomes in regards to maternal and child health (outcomes for which evidence is deemed of 'moderate' quality in the evidence table) and 'may' lead to others (those outcomes with 'low' quality evidence) (SURE Project 2010a: 15). But what can such 'global' evidence indeed attest to in terms of the measured retrospect effects of these task shifting options or, even more so, in terms of the potential anticipated effects of implementing either of these options in Uganda? These questions are arguably made even more pertinent due to the fact that, in this particular example, the evidence was drawn from a Systematic Review of 82 individual studies that varied considerably in terms

of a number of other aspects, not just the measured outcomes. Indeed, other than sharing some fairly general features – an RCT design, a broadly-defined set of interventions (the use of lay health workers to provide a health-related service) and some comparable outcome indicators – the studies included in the Systematic Review are arguably hugely diverse: in terms of study settings, the characteristics of 'lay' workers or their level of training, and the specific tasks that these lay health workers were meant to conduct (ranging e.g. from encouraging child immunization through postcards, to the actual administering of vaccines through a lay health worker) (Lewin *et al.* 2010). In other words, it could be argued that by being primarily aimed at distilling 'global' evidence into a series of numerical figures of the general 'effects' of task shifting, the Systematic Review privileged commensurability over detail and difference. This, however, clearly raises the question in how far this presumed evidence on 'what works' could indeed allow making any predictions about the potential effects of actually implementing similar task shifting options, under non-trial conditions, anywhere. For the Ugandan REACH/EVIPNet/SURE team and their Policy Brief, this posed the challenge of having to determine the possible 'relevance' of this evidence for addressing the problem of a shortage of health workers in Uganda.

The above issues could be argued to affect the interpretation of much 'global' cumulative evidence summaries and their 'translation'. But in regard to the Ugandan Task Shifting Policy Brief this seemed even further complicated by the fact that none of the 'global' evidence sources for task shifting that the brief appraised focused on trials that had been conducted in Uganda, or even East Africa. In fact, three out of five 'global' evidence summaries that could be sourced for the Task Shifting Policy Brief focussed exclusively on studies conducted in high-income countries or, even more specifically, the UK and North America. The Task Shifting Policy Brief specifically points this out only for one of these included Systematic Reviews, noting that, despite the good quality of the evidence itself, discrepancies in study settings meant that

> "(…) it is uncertain how transferable those results from high-income countries are to Uganda (Sure Project 2010a: 23).

As noted in Chapter 4, both GRADE framework and 'global' EIHP/knowledge translation kits propose 'applicability' checks as part of evidence appraisal procedures. Yet, it could be argued that the Task Shifting Policy Brief also highlights the difficulty of such applicability checks, especially considering that many Systematic Reviews provide very limited detail on study settings. Indeed, in Systematic Reviews such as the one above that comprises 82 RCTs from a variety of 'high and low-income' settings, providing such information might not only be discommodious, but also inconsistent with the aim of distilling evidence on 'true', i.e. context-independent, intervention effects. The consequence, or so I want to argue, is not only a limited possibility for assessing the 'applicability' of global evidence to 'target' contexts. But, more so, it largely shifts the focus towards assessing target contexts for their comparability with 'ideal' trial conditions – with the result that these contexts are all-too-often framed as 'barriers' to the implementation of proven interventions.

Indeed, closely following the processes prescribed in 'global' EIHP/knowledge translation toolkits, the Task Shifting Policy Brief largely assessed the 'transferability' of this global evidence and the solutions it attests to in its section on *Implementation Considerations* (Sure Project 2010a: 26ff). Here, the Task Shifting Policy Brief listed a small number of factors considered as providing a conducive environment for the implementation of task shifting in Uganda. This included mentioning already existing examples of task shifting that had been more or less informally practiced in Uganda – although these examples are not discussed in much depth. Instead, the brief largely focuses on a number of "barriers" (Sure Project 2010a: 26) that would potentially hinder the implementation/extension of task shifting in Uganda – as well as possible strategies to overcome these barriers. As noted above, implementation barriers were identified based on local evidence, including evidence from single studies and surveys conducted in Uganda. In contrast, strategies to overcome these barriers and facilitate implementation of task shifting were again based on Systematic Reviews and their 'global' evidence base on the effects of tested strategies. For example, the brief lists as one key local barrier for task shifting an already existing dissatisfaction among

Ugandan health workers in regards to their remuneration, based on published surveys conducted in Uganda (SURE Project 2010a: 30). As one possible strategy to overcome this issue the brief lists pay-for-performance schemes – before citing a Systematic Review that concludes that there was limited evidence these schemes would indeed work (SURE Project 2010a: 31).

The above descriptions give but a glimpse of the considerable amount of time, effort and skill required in producing Policy Briefs. But, as I have tried to highlight, they also point to some of challenges involved in adopting and adapting global EIHP/knowledge translation 'prototypes', where these privilege global evidence on specific solutions and their objectively proven effects. As already argued in Chapter 4, EIHP/knowledge translation toolkits are based on a perplexing procedure involving a series of de- and re-contextualisations of research findings. On the one hand, they are meant to take 'global' evidence from Systematic Reviews as their starting point, the production of which has involved cumulating and abstracting evidence on the 'true' workings of interventions, typically requiring the stripping away of 'contextual' influences in the name of scientific objectivity and 'generalizability. On the other hand, this global evidence is to be subsequently appraised and 're-contextualised' to assess if it is applicable to target contexts and which 'contextual' factors may be either conducive or obstructive to the implementation of the evidence-based interventions in question. As an example of the 'adoption and adaption' of these global prototypes, the Ugandan REACH/EVIPNet/SURE Task Shifting Policy Brief could be said to raise a number of important questions, including what to do if 'global' research evidence is largely sourced from studies in the Global North?; What can be inferred from a statistically-compounded summary figure of an intervention 'effect', especially when the summarised studies are hugely diverse?; Does this really offer evidence that something 'works' or not?; What makes evidence applicable or 'relevant' to contexts?; And what is it that policymakers can take away from such a brief?

To some extent, the Ugandan REACH/EVIPNet/SURE team did not have to tackle most of these difficult questions head on. Policy Briefs produced as part of the SURE Project were limited to the presentation of (the evidence base

for) different possible options/intervention-solutions, without providing specific recommendations to policymakers as to which of these options/solutions to pursue. Instead, the SURE briefs were meant inform so-called Policy Dialogues as 'deliberative forums' (SURE 2016: 2) among researchers, policymakers and other stakeholders. I describe such Policy Dialogues as the third translation device in the following section. According to EIHP/knowledge translation toolkits, Policy Dialogues are a key strategy to foster structured interactions between researchers and policymakers and, as such "improve the use of research" in decision-making processes (Lavis *et al.* 2009: 3; STP14). At the same time, they are said to allow research evidence "to be considered together with the views, experiences and tacit knowledge" of stakeholders (Lavis *et al.* 2009: 1; STP14). As such, Policy Dialogues could be said to operationalize what I described in Chapter 4 as a key insistence of EIHP architects: in rejection of supposedly misconceived critiques of a 'tyranny of evidence', these EIHP architects insist that their demand for evidence-*informed* policymaking appreciates that

> "[n]either decisions about individual patients nor policy decisions are determined by evidence alone. Judgements, values, and other factors, always play a role (Oxman *et al.* 2009: 5; SPT1; cf. WHO 2015).

In the following, I describe such Policy Dialogues organised around the Ugandan Task Shifting Policy Brief as a last key step in the translation and dissemination of research evidence. I suggest that at these Dialogues the process from evidence to policy – from knowledge to action – seemed to further stall. But I also argue that this cannot not be explained away by blaming policymakers' contrarian local judgements, values, or opinions.

Dissemination, deliberation, stalled translation

For the SURE Project, the Ugandan REACH/EVIPNet/SURE team organised so-called Policy Dialogues for each of their Policy Briefs. These Dialogues were primarily aimed at selected policymakers, but also included a range of other Ugandan 'stakeholders' selected based on their potential involvement with the issue under discussion (SURE Project 2011; SURE 2010c; SURE 2010d). In the following, I will focus on two Policy Dialogues organised by the Ugandan REACH/EVIPNet/SURE team in 2010 in connection with the Task

Shifting Policy Brief. Summary reports for each Dialogue were prepared by the Ugandan team and later published alongside the Policy Brief itself (SURE 2010c; SURE 2010d). Much of my following discussion of these events is based on my reading of these reports, complemented by interview material where indicated.

For their Task Shifting Policy Brief the Ugandan team organised two national Policy Dialogues, aimed at different sets of about 20 'stakeholders'. The first dialogue was primarily targeted at mid-level policymakers from the Ugandan Ministry of Health (MoH), and the second at Parliamentarians and more senior MoH staff (*EIHP2016_005, Interview, 20/1/2016*; SURE 2010c; SURE 2010d). In addition, both dialogues involved a range of other 'stakeholders', including a representative of the Ugandan WHO country office, selected members of Makerere's medical and social science faculties, a number of representatives of Ugandan professional organisations, and a few journalists (SURE 2010c; SURE 2010d). Invited participants were sent a draft of the Task Shifting Policy Brief prior to the meetings, with the actual Dialogues structured around this draft: framed by introductory and closing remarks, each section of the respective brief was presented by one of its authors followed by a 'mediated' collective discussion (*EIHP2016_005, Interview, 20/1/2016*; SURE 2010c; SURE 2010d).

Like other SURE Policy Briefs, the Task Shifting Brief had explicitly stated that its aim was not "to prescribe or proscribe specific options or implementation strategies" for policymakers (SURE 2010a: 4). But moreover, as indicated above, the evidentiary basis for any of the task shifting options also seemed indeed highly indeterminate. Even for those task shifting options for which a 'global' evidence had been found – and irrespective of the fact that these did not include studies conducted in Uganda – the evidence on the effects or impacts of these solutions seemed rather inconclusive. Indeed, the Task Shifting Brief itself noted in its *Preface* that "[m]ost of the systematic reviews included in this brief conclude that there is 'insufficient evidence'" (SURE Project 201a: 4).

That EIHP efforts may be affected by the lack or paucity of conclusive research evidence is an issue that is indeed well appreciated in

EIHP/knowledge translation toolkits, although these guides also assert that uncertainty should not preclude decision-making (e.g. Oxman *et al.* 2009; SPT17). A similar caution was included in the Task Shifting Policy Brief, suggesting that

> "uncertainty about the potential impacts of policy decisions does not mean that decisions and actions can or should not be taken" (SURE Project 2010: 5).

The implicit reverse conclusion, namely that evidence might indeed provide 'certainty about potential impacts', points to the oracular promises associated with demands for EIHP, and arguably its most contentious. Indeed, EIHP/knowledge translation toolkits could be argued to tend to either explain away uncertainty by pointing to a lack of enough research (e.g. Oxman *et al.* 2009; SPT17) and by conceiving of "as-yet-unexplained divergent results" (Lavis *et al.* 2004: 1616) from different studies as a another opportunity for future research – rather than taking seriously the possibility that uncertainty in and inconclusiveness of pooled study findings may relate to the singularity and divergence of experimental set-ups and situations.

But in either case, the inability to provide certainty in regards to the potential effects of intervention-solutions did not seem to present a serious obstacle to the SURE Project goals. As mentioned above, Ugandan Policy Briefs were not designed to include specific recommendations. And neither were Policy Dialogues designed to result in the immediate formulation of a policy or decision, or even a consensus among dialogue participants. As explained in an article by international evidence specialists,

> "[t]he rationale for not concluding evidence briefs with recommendations is that any such recommendations would have to be based on the views and values of the authors of the brief – even though it is the views and values of the participants in the subsequent deliberative dialogue that are assumed to be much more important. The rationale for not aiming for consensus in the dialogues is that most dialogue participants cannot commit their organizations to a course of action without first building support within their organizations" (Moat *et al.* 2013: 25).

This was also echoed by REACH/EVIPNet/SURE researchers, one of whom explained that

> "[…] the idea was: how best to get this information to the decision makers so that they can simply access it, so that research can be on the table, together with all the other considerations that they are taking into account when they are making policy decisions. Which includes, you know, political issues, cultural issues, social issues, religious issues, financing issues" (*EIHP2016_003, Interview, 21/1/2016*).

Indeed, neither of the two Policy Dialogues organised around the Task Shifting brief produced a consensus on the issue of task shifting. Instead, from both my interviewees' accounts (e.g. *EIHP2016_010, Interview, 04/2/2016*; *EIHP2016_005, Interview, 20/1/2016*) and the Dialogue documentations (SURE 2010c; SURE 2010d) it appears that the Task Shifting Policy Brief prompted a lively debate among Policy Dialogue participants. Indeed, task shifting seemed to be a topic that many Policy Dialogue participants were not only familiar with, but also had already strong opinions on. In fact, there seemed to be a clear division between participants who were already supportive and others who were opposed to expanding or formalising task shifting practices in Uganda – or, as one interviewee amusedly recalled,

> "of course we had two groups: those for the task shifting, and those who were against it" (*EIHP2016_017, Interview, 28/6/2016*).

Among those Dialogue participants 'against' task shifting, there seemed to have been a number of concerns regarding the appropriateness of proposals for the shifting of tasks to less trained health worker cadres in Uganda. Among other things, participants are said to have wondered if Ugandan health workers would be qualified enough to take on more complex tasks (*EIHP2016_022, Interview, 02/7/2016*; *EIHP2016_024, Interview, 08/07/2016*), and in how far the expected additional training needs, remunerations and supervision through more qualified staff would make task shifting indeed beneficial from a cost-benefit point of view (SURE Project 201c). One involved policymaker also suggested that some attendees had been concerned that shifting tasks to less qualified health workers may be problematic in terms of equity, since "'why should some group of people

access better services than others?" (*EIHP2016_017, Interview, 28/6/2016*). Indeed, I want to suggest that where there was opposition to task shifting this was not because stakeholders did not believe that it had been shown to work in other countries. Instead, most concerns seemed to relate to the question if it could work in Uganda, especially if, as one policymaker noted, practiced "by regulation as WHO had proposed", rather than by "convenience" as it was already being done in some facilities (*EIHP2016_024, Interview, 08/07/2016*). In other words, at least some participants were concerned that a formal national-level policy would involve a significant overhaul of existing training and clinical practice regulations which would involve high costs and uncertain benefits (*EIHP2016_024, Interview, 08/07/2016*).

In contrast, what seemed to be conspicuously absent – both in the written summaries and my interviews with some of the policymakers and 'other' participating stakeholders – was a concern for the global evidence base on if specific task shifting options generally 'worked' or not. Rather, policymakers I interviewed cited a much broader range of evidences relating to specific examples of specific task shifting efforts they were familiar with. For example, one policymaker who had participated in one of the Dialogues explained his opposition to task shifting as partly based on the fact that similar efforts had failed in Tanzania:

> "It [task shifting] was being done in Tanzania. Some medical assistants – or clinical officers, they interchanged the name – were being trained to work as doctors on some patients, which didn't work very well […] You need to have background knowledge on managing complications, which this task shifting was going to gloss over and train people for a short time" (*EIHP2016_022, Interview, 02/7/2016*).

But even among those I interviewed who were generally in favour of a Ugandan task shifting policy, the 'global' evidence base seemed not to be a decisive factor. Referring to a Ugandan example of a small-scale effort to train lay people in performing lumbar punctures during a recent sleeping sickness outbreak, one policymaker argued that,

> "I had seen task shifting happening. So I was like: 'evidence or no evidence, it can happen'" (*EIHP2016_017, Interview, 28/6/2016*).

These are of course particular and selected views that I am not suggesting to be representative of all Policy Dialogue attendees. I also wish to highlight that nobody I interviewed was critical of the work of the Ugandan REACH/EVIPNet/SURE team as such – and, moreover, even the policymakers quoted above seemed generally supportive of the need for some form of more evidence-informed policy. I do want to suggest, however, that these examples suggest a number of important things. Most notably, I want to argue that the range of concerns about task shifting in Uganda cannot easily be dismissed as 'values or opinions' and contrasted with 'objective' evidence. And neither can these specific concerns be dismissed as local 'barriers' that impede the implementation of scientifically proven and evidence-based solutions. Instead, I want to suggest that the expressed concerns should raise the question of what Systematic Reviews are indeed the 'best' evidence *for*. More so, I want to argue that this puts into doubt the claim that it is primarily policymakers' lack of access to and use of this 'best' evidence which impedes 'well-informed' decisions and the attainment of better health outcomes, as stipulated by the SURE Project (SURE 2016) and the notion of a 'know-do gap'.

What further underscores my proposals is that at least some Policy Dialogue participants seemed doubtful that task shifting was indeed a solution for the right problem. Whereas Uganda's shortage of front-line health workers appeared to be a widely accepted issue, it seemed less settled what exactly constituted the crisis and how best to address it (SURE Project 2010c; 2010d). Indeed, for some participants this shortage seemed to be but a symptom or consequence of a whole range of much greater problems. As the Policy Dialogue documentation suggests, some participants were indeed insistent that there was no *absolute* shortage of qualified health workers in Uganda, as medical schools were argued to train appropriate numbers of health professionals (SURE Project 2010d). Instead, inadequate staffing levels at public health facilities were blamed on a number of issues, including inadequate funding for these facilities, recurring recruitment bans for health workers installed by central government, a lack of financial incentives for doctors to work in rural areas, and better employment options in the private or

even non-medical sectors (SURE Project 2010d). This was echoed by one of the policymakers I interviewed, who suggested that:

> "I think one strong point was that… one example that was given, was that we have the number of nurses who have been trained, but they are not employed, you know? Mainly because the government cannot afford to employ them. So that example sort of washed down the issue of task shifting. Qualified people are there, you know, so why shift tasks?" (*EIHP2016_017, Interview, 28/6/2016*).

What this points to, or so I wish to argue, is a resistance against accepting the framing of a low number of healthcare workers as a fixed problem that should be solved by task shifting as a solution. Instead, these participants re-opened the 'problem' by alluding to the political, economic and social issues that in their view contributed to shortage of health workers in the first place. In other words, it could be said that there was reluctance to accept both, the shortage of health workers as an pre-defined and immutable problem; and global evidence as mutable proof for task shifting as a solution in Uganda. Indeed, whereas the final Ugandan Task Shifting Policy Brief listed many of the above-mentioned issues as factors *underlying* the issue of a health worker shortage (SURE Project 2010a), addressing such underlying factors arguably does not fit well with EIHP/knowledge translation frameworks and their demand for research-able problems and evidence-based solutions.

Without a doubt, the inadequate provision of health services due to a shortage of frontline health professionals across many health facilities has been a pressing concern in Uganda, for policymakers and health professionals but especially for those affected most, namely patients in need of care. As such, the efforts of the Ugandan REACH/EVIPNet/SURE team may have indeed contributed to and informed on-going discussions in Uganda about if and how a task shifting policy could be one of the strategies to mitigate this situation. But these efforts have not, or at least not so far, translated into a comprehensive 'evidence-informed' task shifting policy. Indeed, a number of studies published since have reiterated that policymakers remain deeply divided about the issue (Dambisya and Matinhure 2012; Baine and Kasangaki 2014). I am neither able to nor would want to explain – and explain away – the

many realities and concerns that make up the 'problem' of a shortage of health workers in Uganda. Instead, my above descriptions of the knowledge translation processes for the Task Shifting Policy Brief primarily aimed at highlighting some of the specific issues that Ugandan REACH/EVIPNet/SURE knowledge translators/brokers encountered in their efforts to adopt and adapt 'global' EIHP/knowledge translation toolkits and their standardised methods and devices for the circulation and contextualisation of global research evidence. In the following, I further expand on these challenges, as well as on some of the new concerns that these challenges created. But I also add to this my own concerns with science being presented as a solution provider for a problem of common concern – not in the pretence that I may know better what the 'real' problem is or how to solve it, but in the speculative hope that casting my lot with these Ugandan knowledge translators/brokers may, as Isabelle Stengers puts it, "add new dimensions to the issues they struggle for" (2015: 142).

Uncertainties & ambiguities

In this section, I will return to the three key translation devices described above – Priority Setting, the Policy Brief and the Policy Dialogue – to further highlight how the implementation of 'global' EIHP/knowledge translation toolkits in practice made visible a whole range of uncertainties and ambiguities that stand in stark contrast to the clear-cut-ness of these toolkits themselves. In doing so, my aim is not to simply reiterate that these standardised toolkits, their rules and tools, and resulting evidences face 'barriers' to their implementation. Rather, I propose that these uncertainties and ambiguities should prompt the question if and how both the notion of 'best' evidence and evidence-informed policy processes could be re-imagined in ways that may respond to these situated challenges.

Problems and Solutions

I want to begin by returning to the first step of the translation processes, the formulation of the priority topic or 'problem'. The perceived need to determine priority health problems and solutions in the face of resource scarcity has been a key trope in demands for both evidence-based and –informed health policy; as have been attempts to do so as transparently and systematically as

possible. As outlined in Chapter 3, the 'objective' setting of priority health problems based on burden of disease evidence was central to the aims and claims of the 1993 *World Development Report* and to the subsequent version of evidence-based policy (EBP) advocated at WHO. In contrast, I already noted that these tools play at best a subsidiary role in more recent EIHP/knowledge translation toolkits. These toolkits, too, advocate the following of systematic and transparent procedures for the elicitation of priority topics. But here, the emphasis is distinctly on consulting with and eliciting possible priority problems from policymakers, or even other 'stakeholders' that may potentially be affected by policy decisions (Lavis *et al.* 2009, STP3; SURE Project 2011). It is not that burden of disease data is deemed irrelevant in these guides – indeed both the SUPPORT Tools and the SURE Guides list burden of disease data as one possible criterion among several that may be used to clarify the importance of problems or inform a ranking of possible priorities (Lavis et al 2009; STP3; SURE Project 2011). Still, both the SUPPORT Tools and the SURE Guides primarily insist on the need for stakeholder consultations, jointly agreed criteria and collective judgement to systematically and transparently select priority problems (Lavis *et al.* 2009, STP4; SURE Project 2011).

Since both SUPPORT Tools and the SURE Guides concern evidence-informed decision-making beyond disease-specific biomedical interventions, the emphasis on participatory processes could be said to be largely a matter of practicability: irrespective of the critiques levelled at the burden of disease methodology, it is undeniably easier to link morbidity and mortality data to specific diseases – as opposed to 'systemic' issues such as a shortage of healthcare workers. But in contrast to a global health field that critics often describe as increasingly top-down and 'governed by numbers' (e.g. Rottenburg *et al.* 2015; Storeng and Béhague 2014; Adams 2016), it could be argued that these EIHP toolkits represent an explicit effort to incorporate procedures that are more bottom-up and participatory (see also Chapter 7). Still, I want to propose that, at least in regard to the Ugandan Task Shifting Policy Brief, these Priority Setting processes also made further visible the

complexity of the question of how and whose concerns come to matter in global health.

Against the background of WHO's 2008 global recommendation on task shifting, the fact that the issue was indeed a priority in Uganda could be said to have not been surprising. At the same time, this also hints at the intricate entanglements of 'local' concerns and international priority issues – especially in the light of Uganda's complex dependency relationship with many Global North 'donors' and foreign funders (Chapter 5). Whereas WHO is not a funding organisation, it has striven to maintain a norm-setting role by, among other things, producing global recommendations for healthcare interventions (cf. Chapter 3). Whereas these global recommendations may offer useful guidance for some countries, they may also result in pressure on national governments to translate global recommendations into national policies, especially in countries that are dependent on international aid. One policymaker I interviewed pointed to the important role that WHO recommendations play in Uganda, suggesting that

> "[i]n the Ministry of Health, there is quick reference to WHO. What does WHO recommend? And when WHO is recommending something, there is always a tendency to quickly cut and paste. And, of course, there is no jacket that fits all" (*EIHP2016_027, Interview, 13/7/2016*).

It could be argued that the fact that 'no jacket fits all' precisely justifies calls for national groups such as the REACH/EVIPNet team that can assess global recommendations for their local applicability. On the other hand, however, it also raises questions about how 'local' priorities emerge, and in how far the claim to systematic and transparent procedures to elicit these priorities may not also contribute to the obscuration of the undoubtedly complicated mechanisms – and power dynamics – that determine how an issue gets to become a national priority. This seems to have been especially the case for the first SURE/REACH/EVIPNet Policy Brief, where the identified priority problem – the 'shortage and maldistribution of health workers in Uganda' (SURE Project 2010a) – was already bound up with a proposed solution, namely task shifting. It may be said that this was linked to a particular set of

exceptional circumstances, including the very recent WHO global recommendation for task shifting. Instead, however, I wish to propose this is a more general issue that is a direct consequence of a key stipulation in EIHP toolkits, namely that the availability of (evidence for) viable solutions should be a key criterion for the prioritisation of identified problems (Lavis *et al.* 2009, STP4; SURE Project 2011). As such, what the initial step in EIHP/knowledge translation processes demands is the re-formulation of a policy issue not only into an intervention-addressable problem, but more so into a problem for which 'global' solutions are already available[25]. In the case of the Ugandan Task Shifting Policy Brief, this meant that the arguably complex issue of a shortage of qualified frontline healthcare staff became translated into the research-addressable question: 'what is the global evidence base for task shifting as a solution?; and what are implementation barriers in Uganda?'.

It seems noteworthy that such priority problem-setting exercises as the first step in the knowledge translation process uncannily mirror some of the descriptive analytical tools employed by Actor-Network theorists. Indeed, scholars like Latour (1983) have described the establishment of a shared problem and its framing as solvable by scientific means as the first translational step that enables the 'interressement' of (non-science) actors, the extension of networks, and, ultimately, the transition of scientific facts out of the laboratory. Based on such an analytical strategy, it may be argued that, in regard to the Task Shifting Policy Brief, the 'facts' simply failed to travel out of the lab and to Uganda because of diverging views on what constituted the problem. Instead of stopping at such an analysis of failure, however, I wish to argue that this raises important questions about EIHP/knowledge translation toolkits and their demands to turn a situated matter of concern into an pre-determined and address-able problem for which there exists 'objective' evidence for generalizable scientific solutions.

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[25] Compare Ferguson (1990) and Bonneuil (2000) for their arguments of a 'de-politicising' effect of development discourses that translate complex social, political and economic issues into technical problems to be 'solved' by development interventions. This is not my concern here – in fact, such framings could be said to re-iterate a view of science and technology as apolitical.

As already noted in Chapter 4, as in EBM, EIHP proponents argue that theirs' is a problem-oriented approach. The SUPPORT Tools, for example, claim that Policy Briefs start with "the issue and not the related research evidence" (Lavis et al. 2009: 2; STP13). As I also argued, however, such claims seem ingenious at best, considering that EIHP/knowledge translation toolkits, first, built on the need to source evidence-based intervention-solutions to pre-defined problems; second, that the most important evidence for these solutions is evidence on intervention impacts; and third, that the 'best' evidence for intervention impacts is said to be 'global' evidence from Systematic Reviews of RCTs. In other words, against all contestations by its proponents, global EIHP/knowledge translation toolkits could be argued to be indeed solution- rather than problem-oriented. As a result, this raises the question in how far these toolkits indeed allow for a process that pays attention to the situated dynamics of complex policy problems.

The 'best' evidence for global solutions

In my above descriptions of the Ugandan Task Shifting Policy Brief, I proposed that its adherence to EIHP/knowledge translation frameworks and their demands for Systematic Reviews on intervention impacts opened up a number of challenges – not least as it transpired that much of the 'global' evidence base derived from studies conducted in high-income countries (SURE 2010a). As EIHP/knowledge translation toolkits arguably build on the generalizability of proven interventions (see Chapter 4), this is an issue that these toolkits pay little attention to. Indeed, EIHP toolkits explicitly privilege 'global' over 'local' evidence in terms of determining 'what works'. Justifying the need for Systematic Reviews, the SUPPORT Tools, for example, note that

> " […] 'global evidence' – i.e. the best evidence available from around the world – is the best starting point for judgements about the impacts of policies and programmes. Although all evidence is context-sensitive, decisions based on a subset of observations that are presumed to be more directly relevant to a specific context (such as those undertaken in a particular country or population group), can be misleading" (Oxman *et al.* 2009: 3; STP1).

In contrast, however, members of the Ugandan REACH/EVIPNet/SURE team were arguably more doubtful about the value of evidence 'from around the world' and insistent on the need for 'local' evidence. As one key member of the REACH/EVIPNet/SURE team pointed out:

> "Systematic Reviews are being done globally, but when you look deeper – how many of those Systematic Reviews… or what is the contribution of *Africa* to those Systematic Reviews, and the issues that people are looking at in Systematic Reviews, what proportion is relevant to Uganda – you find the numbers are less" (*EIHP2016_001, Interview, 23/1/2016*).

This quote shows not only that many of my interviewees were very conscious of the fact that global evidence is hardly global. But it also suggests a clear doubt about the relevance of 'global' evidence for Ugandan policymaking. Indeed, the same interviewee also insisted that

> "[u]nderstanding the local context, like the Ugandan context, is critical for many health interventions or health systems, service delivery. So yes, you can't just look to what is produced out there, all the information available out there, but what is relevant for Uganda, and what are the priorities for Uganda" (*EIHP2016_001, Interview, 23/1/2016*).

In other words, in the face of an increasingly globalised science characterized by transnational research networks and strives for global evidence, place clearly continued to matter to my Ugandan interviewees.

As suggested by the quote above, some concerns about 'global' Systematic Reviews related to the perceived limited African contribution in terms of researchers and topics. At least in parts, some of my interviewees linked these issues back to what they perceived as the lack of infrastructure, or 'capacity', in their home country. As the interviewee above emphatically argued:

> "So how do we promote Systematic Reviews being done by Africans, or how do we enhance the contributions of Africans to Systematic Reviews? […] So, two aspects: the contribution of people from Africa to Systematic Reviews; but two, doing Systematic Reviews on *issues*

> that are of *particular* importance to this context. Who is likely to pick up those issues that are of particular importance to Uganda, to Kenya, to the local context? It is the people here!" (*EIHP2016_001, Interview, 23/1/2016*).

In an attempt to address some of these issues, the REACH/EVIPNet/SURE team thus set up an 'Africa Centre' for the production of Systematic Reviews at MakCHS in 2013, coinciding with the winding down of the SURE Project. I was told of a number of successful workshops to train Ugandan and East African researchers in the production of Systematic Reviews, as well as a small number of Systematic Reviews that were produced. As the set-up of the centre was again funded by a small and short-term international grant scheme, however, its future remains uncertain.

Moreover, even though the Africa Centre may increase Ugandan-produced Systematic Reviews, many of my interviewees also voiced a number of additional concerns in regard to the fact that most evidence seemed to be "coming from elsewhere" (*EIHP2016_028, Interview, 14/7/2016*), including limited research activity in Uganda. Some interviewees pointed to the constraints of doing 'local' research based on the shortage of funds, suggesting that

> "[r]esearch is expensive. It is very expensive. So where do you get resources to do research?" (*EIHP2016_022, Interview, 02/7/2016*).

Indeed, a lack of resources for scientific research is frequently blamed for the rising but continuously low number of scientific publications from Uganda (Irikefe 2011), as well as other Africa countries (e.g. Uthman and Uthman 2007). Whereas these are complicated issues in themselves, they seem only further compounded by the fact that publication in peer-reviewed journals not only bestows legitimisation by the global quality marks of scientific knowledge production, but also, by extension, usually precludes inclusion in Systematic Reviews. Furthermore, as noted in the previous chapter, against a background of constrained domestic funds for research, several interviewees also insisted that much research that *is* being conducted in Uganda remained irrelevant for local policy issues. As one policymaker matter-of-factly put it, "[o]f course, countries that fund researches here also have their own interests"

(*EIHP2016_022, Interview, 02/7/2016*). Or another policymaker who suggested that

> "if a funder comes in to fund a research… the way the proposal has been prepared, to get a grant, it must be in line with the interest of the funder. And in *mos*t cases, the funder's interests are *not* the same as the government entity's interest […] So that brings some mismatch, in the way research findings address public policy issues" (*EIHP2016_027, Interview, 13/7/2016*).

It could be argued that the introduction of EIHP/knowledge translation infrastructures in Uganda thus made visible, or more visible, some much broader and abiding challenges of knowledge production in Uganda, including the frailty of domestic research infrastructures. Still, rather than focusing on the limitations or infrastructural 'lacks' that these issues point to, I want to propose that these issues should be taken as a prompt to raise the question of what, in fact, the 'best' evidence to inform policymaking is.

Indeed, in contrast to the clear primacy assigned to 'global' evidence by EIHP toolkits, my Ugandan interviewees seemed much more ambiguous about the role of Systematic Reviews, and the value of different types of evidence more broadly. One former REACH/EVIPNet/SURE researcher, for example, pointed out that

> "[e]vidence is not always 'that must be in the test tube' […] Systematic Reviews would be more of a gold standard. But not everything we live with is gold. So you look for any other evidence available to you" (*EIHP2016_007, Interview, 16/7/2016*).

Similarly, an interviewee from WHO's Uganda office suggested that

> "[…] in the Ugandan context, maybe I can even say in the African context, we needed to accept that evidence goes beyond research. I think we need to accept this. So... routine health information also generates evidence. And when you talk to people, some people say that this is contextual evidence, it refers more to implementation of plans, which can help us to make informed decisions and active management, you know, redraft our policies. This is evidence as well. You cannot disregard [this] and say you restrict your definition of

> evidence to research evidence" (*EIHP2016_010, Interview, 04/2/2016*).

In the above quotes, the importance of 'other' evidence seems to relate at least partly to the perceived shortage of 'gold-standard' research evidence that is both sanctioned by global quality appraisals and relevant to the Ugandan context. Furthermore, the second interviewee's insistence on local non-research evidence, especially to inform implementation considerations, does not necessarily contradict EIHP toolkits with their demand for the 'contextualisation' of global evidence. Still, the need for 'local' evidence was a recurring theme in many of my interviews, as was the need for different types of evidence to support local decision-making. One REACH/EVIPNet/SURE member, for example, also argued that the notion of evidence should not be limited to research evidence, proposing instead that 'evidence' in fact comprised all kinds of "information collected in a country" that – if gathered properly and systematically – could be used to make "rational decisions" (*EIHP2016_001, Interview, 23/1/2016*). This was even more forcefully put by a policymaker who suggested that much could be achieved by introducing better systems to document and learn from existing operational procedures, or from situations where changes to these procedures were being introduced to deal with particular situations:

> "You know, research is always money, it needs money. Whereas the experience… – it is happening! All you need to do is write it down, it's much cheaper. And I think more... – according to me – more effective […] Whereas if I have to design a study... people even critique the design of the study, critique the kind of people you recruited... so you end up with a dialogue, all right, but... nothing out of it. Whereas this other one would be practical experience, locally, in the field." (*EIHP2016_017, Interview, 28/6/2016*).

The same policymaker argued that task shifting was indeed already taking place across Uganda due to a shortage of staff, but that, in most cases, these efforts were not formally documented or recorded:

> "Task shifting is everywhere. Even when you go to a health facility up in the rural areas, you'll find nursing assistant putting up IV lines. It is

> not their work, but, you know, conditions force them to do it. Their work is not documented. If that was compiled – without necessarily calling it research – just documenting the experiences, wherever they are… I think, that would even be a bigger driver than... you know, calling people, presenting a paper, and so on. Because that's enough evidence" (*EIHP2016_017, Interview, 28/6/2016*).

Similarly, an interviewee from the WHO Ugandan country office explained that they would conduct a lot of small-scale research, but that this information might not be intended for academic publications or for the "international scene for sharing". As they put it:

> "[…] in our day to day work, we may look into an issue. The issue may be a health systems issue relating to… maybe health workers. And we visit facilities. And what we find and document is compelling for a decision to be made locally, because of what you have found, because of the significance of it, what it will mean either to that community, or what it will mean to the political leaders. So you may get that little piece of evidence and then a policy reform can be made or a policy adjustment. But just that is not enough to put forward so you can generalize to other countries that may be in the same position. Because of the way you collected it and the circumstances, or the issue you are trying to address […] So you could be unearthing something that is good, or a lesson that you would want to share – with Tanzania, or Rwanda, or whatever – but because of the way it has been generated you will find that it can't stand that test" (*EIHP2016_026, Interview, 13/7/2016*).

What this quote arguably points to is that research may indeed be highly locally relevant without adhering to global quality marks of knowledge production – and without being generalizable. Conversely, even among REACH/EVIPNet/SURE researchers there seemed to be some doubts as to the local relevance of Systematic Reviews:

> "So Systematic Reviews, historically, it started off as... it's a quantitative methodology. Because they look at impacts, measuring impacts, which is size of effect, which is numbers. And of course they

> are relying on quantitative designs... RCTs, clusters RCTs, individual RCTs, control before and before after … you know all these sort of things. However over time, it has become recognised… the other bit we have talked about, the local context. So yes, they do that, but then they fail to provide this other crucial information. In terms of the qualitative experience around this intervention. And this is important. Because they discovered, yes, you say it works and then you go ahead and implement it and in reality it does not have the effect you say on paper, because people don't like it, because providers don't like it, because funders don't like to pay for it […] But the way people think about it, either as consumers, or as providers of that interventions, or as politicians, or as funders determines whether it's going to work or not." (*EIHP2016_03, Interview, 21/1/2016*).

Indeed, as this interviewee indicates and as I briefly mentioned in Chapter 4, a recent trend has seen the explicit promotion of qualitative research on issues such as 'feasibility' and 'acceptance' as crucial for smoothening the implementation of interventions – an issue that I will discuss in more detail in the next chapter. But I want to suggest that the above quote also points to the tensions that Ugandan knowledge translators/brokers grappled with, including the tensions created by demands for decontextualized evidence as generalizable proofs that something 'works', and the importance of situated factors or 'context' for the workings of interventions. Indeed, the above quote could be read as proposing that in their efforts to 'measure impacts', trial designs indeed fail to take into account what *matters* for interventions to work. The same split between *measuring and mattering*, however, is arguably rehearsed in the way EIHP/knowledge translations toolkits demand the separate appraisal of evidence according to its quality and its relevance – with the former based on evidentiary rules for eliciting the 'best' evidence on 'true' intervention effects, and the latter on the subsequent assessment of the applicability of the best evidence through a comparison with contextual 'barriers' and stakeholder values and opinions. I shall return to this below.

At least some interviewees also proposed that the usefulness of 'global' research evidence would differ depending on the type of intervention. As the interviewee from WHO's Uganda country office put it,

> "I think the scientific evidence is more around the technical areas, where you are looking at disease components, and their treatment, and their management. But the less scientific will be around the health systems... the health system areas, where you are looking at governance, or you are looking at human resources, you are looking at decentralised environments, you are looking at the role of local governments, civil society... and things like that" (*EIHP2016_026, Interview, 13/7/2016*).

Drawing on interviews with health professionals in several Global South countries on their views on EIHP, Béhague *et al.* (2009) identified a similar distinction in how professionals judged the usefulness of 'scientific' evidence between clinical and non-clinical health policy decisions. Béhague *et al.* identify resistance against the import of 'evidence-based' non-clinical intervention with attempts of "asserting national experts' autonomy and capacity" (ibid.: 1544). This may of course be the case for some Ugandan professionals as well. But I would suggest that many of the above quotes from my own interviews could also be read as containing a veiled critique at – or at least an ambiguity towards – the drive for and relevance of global scientific evidence, especially in the case of non-biomedical or health systems interventions. Indeed, one former REACH/EVIPNet/SURE researcher argued that

> "I think Systematic Reviews need to improve. Seriously. I think the people who started Systematic Reviews came from the medical [world]. Not from health systems research. Because… what they perhaps should do is to divorce the one that is the medical one and the health systems one. And when I want it I can combine both. But they are combining it at the expense of the health systems research" (*EIHP2016_05, Interview, 20/1/2016*)

What I wish to suggest is that – in contrast to EIHP/knowledge translation toolkits with their clear privileging of global evidence on solutions – for the

Ugandan researchers who applied these toolkits in practice the question of what constitutes 'good' evidence to inform local decision-making seemed strained by tensions and ambiguities. Indeed, I want to argue that many of my interviewees seemed to implicitly or explicitly challenge the clear-cut distinction, demanded by EIHP/knowledge translation toolkits, into evidence quality and its relevance. As I suggested in Chapter 4, according to this distinction quality refers to the adherence to general rules and methods for gaining objective evidence on the 'real' workings of interventions; relevance to the outcome of subjective judgments of the applicability of evidence and the transferability of evidence-based interventions. The former encapsulates the strive for 'objective' measures that demonstrate the 'true' and thus – *per se* – globally-relevant effects of interventions; the latter renders relevance as a subjective value applied *onto* evidence and subject to opinions and preferences. In contrast, however, many of my interviewees seemed much more ambiguous as to what would constitute the 'best' evidence for policymaking. I will return to this in the conclusion to this chapter. But before, I want to suggest that, for REACH/EVIPNet/SURE researchers, some of this ambiguity may relate to the different demands associated with their role as both knowledge translators and knowledge 'brokers'.

Translating, transferring, brokering

In referring to the Ugandan REACH/EVIPNet/SURE team in this chapter, I have used both the term knowledge translator and knowledge broker. The reason is that whereas the primary aim of the SURE Project was to foster EIHP and knowledge translation efforts in Uganda, REACH was initially set up as a 'knowledge brokering' mechanism to "mediate between policy makers and the research community in an iterative fashion" (EAC 2006: 5). Indeed, REACH/EVIPNet/SURE researchers would occasionally describe themselves as 'brokers'. As one interviewee explained

> "I am a knowledge broker […] I'm trying to help that decision-maker to make a decision" (*EIHP2016_03, Interview, 21/1/2016*).

The taxonomy around knowledge translation and brokering in the literature is not always clear. Typically, however, knowledge translation is treated as an umbrella term for linking research and policy, including both the synthesis of

evidence and dissemination efforts. The term 'knowledge brokering', on the other hand, is used to describe specific activities and practices aimed at fostering interactions, relationships and trust between researchers and policymakers, and the building of bridges between different 'communities' (WHO 2004; Lavis 2006; Lomas 2007). This term was quickly incorporated into the EIHP lexicon, where a need for 'knowledge brokering' was linked to arguments that strong relationships between researchers and policymakers would be key to improve the uptake of evidence in decision-making (Lavis *et al.* 2005; El-Jardali *et al.* 2014). Recent critiques, however, have pointed out that these different tasks – the mediation between researchers and policymakers and the promotion of particular types of research evidence – may not necessarily compatible (Kislov, Wilson, and Boaden 2017). I want to suggest that these conflicting demands seemed to indeed put Ugandan REACH/EVIPNet/SURE researchers into a challenging position.

As noted in the previous chapter, the SURE Project was proclaimed to have the potential to "revolutionise the way health policy is made in Africa" (SURE Project 2010b). As the project drew to a close in 2014, however, its impact seemed to be much more uncertain. When asked about their assessment of the project's success, one Ugandan REACH/EVIPNet/SURE noted:

> "Yes, in terms of the evaluation it has been successful. All the products and the services that we developed have been evaluated well – by the consumers, by the intended audiences, the policymakers and other stakeholders – as useful mechanisms to communicate research evidence, you know, that make decisions" (*EIHP2016_03, Interview, 21/1/2016*).

The fact that my interviewee focussed their assessment on the positive evaluation of specific 'products' could be said to be indicative of the challenges for – and limitations of – attempts to determine the SURE Project's impact in Uganda. The project itself involved extensive evaluation procedures, primarily questionnaire-based surveys of Policy Dialogue participants to elicit their views on and satisfaction with Policy Briefs and the dialogues themselves. As alluded to by my interviewee, published evaluation results suggested high rates of satisfaction among surveyed participants with these

‘products’ (Moat *et al.* 2014). Indeed, with its neat outline, well-defined and evaluable products, and prolific paper trail, SURE ticked many boxes of what Krause (2014) refers to as a ‘good project’. Beyond short-term satisfaction ratings, however, it seemed much less conspicuous in how far EIHP/knowledge translation efforts in Uganda were indeed successful and for whom – or, in fact, what the parameters for success might actually be.

In a later effort to evaluate the wider impact of Ugandan EIHP/knowledge translation efforts on national policymaking, findings suggested a “nascent conducive climate” for EIHP – based on a slightly increased count of terms such as ‘evidence’, ‘research’ and ‘systematic review’ in policy documents produced before and after SURE (Ongolo-Zogo *et al.* 2015). But the evaluation authors also conceded that the increase of such terms in documents might in fact be linked to wider developments – including the “global push” (ibid.: 13) for EIHP – whereas there remained an “enduring undervalue of evidence syntheses” (ibid.: 2). In other words, policy documents exhibited an increased reference to keywords such as evidence and research, but policymakers seemed to make little use of Systematic Reviews to plan their policies. Put differently, whereas terms such as ‘evidence’ and ‘evidence-informed policy’ seem to travel fast and easy, this did not seem to be the case for EIHP methodologies, or indeed ‘global’ evidence.

I cannot achieve – and neither is it my aim here – to provide an evaluation of the SURE Project, or Ugandan EIHP/knowledge translation efforts more widely. As noted in Chapter 5, many Ugandan knowledge translators/brokers I interviewed spoke highly about the SURE Project as such, especially in terms of the opportunities for developing their own skills and expertise. But most seemed much more cautious when it came to assessing the wider impact of their work. One former team member suggested that

> “SURE was like walking in a forest – if you pass there... there will be no impact” (*EIHP2016_7, Interview, 17/06/2016*).

Others reiterated that the ‘climate’ for evidence-informed policymaking in Uganda seemed to have indeed improved, but also pointed to the issue of sustainability as a major challenge for EIHP efforts in Uganda:

> "[w]hereas we are saying that the environment has changed and there is increasing discussion of the need for evidence-informed policy and practice... in actual practice there needs to be a deeper commitment with all stakeholders, including the public, in this area" (*EIHP2016_01, Interview, 23/1/2016*)

Indeed, one former REACH/EVIPNet/SURE researcher noted as a positive impact an increased openness among policymakers to engage with researchers (*EIHP2016_05, Interview, 20/1/2016*). As this researcher told me, when the team was initially established it had taken considerable effort to assure policymakers of the impartiality of the team's work. Policymakers had been sceptical about the team's intentions, suspecting the Ugandan REACH/EVIPNet/SURE team, as this researchers put it, of "pushing for" task shifting and

> "[…] they didn't see it is as evidence. They thought this group in the College of Health Sciences is asking government to go and implement task shifting. That's what they thought initially" (*EIHP2016_05, Interview, 20/1/2016*).

In contrast, the REACH/EVIPNet/SURE researchers were insistent that their role was not to advocate for any particular policy solutions. Accordingly, the same interviewee insisted that

> "They don't have to go where the evidence that you have produced [says they should go]. They can use the evidence and say: instead of task shifting, which works, we will rather go for this, because there is this this this…" (*EIHP2016_05, Interview, 20/1/2016*).

This quote reiterates the main aim of EIHP/knowledge translation as to simply *inform* discussions among those responsible and affected by the issue. As such, the formulation of specific policies as a result of the production of evidence-based Policy Briefs was not an explicit goal of the Ugandan team's efforts. As another REACH/EVIPNet/SURE researcher put it:

> "So for us we are focusing on the methodology that is adequate to produce products or services that meet the need for the policymakers, which is to get research to them. Simply get it to them. And not to bear on them to take our side – versus the political side, or versus the

> religious side, or versus the cultural side. So our job is not… we are not there to make the laws, we have not been mandated to make the laws or the policies. (*EIHP2016_03, Interview, 21/1/2016*).

And further:

> "That is why it is evidence-*informed* policy – that policy may not only be based on evidence. Why? Because research is not the only thing on the table" (*EIHP2016_03, Interview, 21/1/2016*).

At the same time, however, *that* evidence should be on the table seemed equally clear. Indeed, as already mentioned in the previous chapter, several Ugandan knowledge translators/brokers voiced their frustration about a perceived lack of 'demand' for evidence among policymakers, which they perceived as one of the biggest challenges for EIHP efforts in Uganda. As one former REACH/EVIPNet/SURE researcher put it:

> "The idea is that if there is demand, then it will work. People ask 'where is the evidence'. But people are not yet into that 'what is the evidence'" (*EIHP2016_07, Interview, 17/6/2016*).

Indeed, the REACH/EVIPNet/SURE team's final SURE Policy Brief was dedicated to the 'problem' of sustainability in regards to knowledge translation activities Uganda. Interestingly, this brief diverted quite significantly from previous briefs. It made very limited use of 'global' evidence but instead drew in large parts on primary research and interviews conducted by the REACH/EVIPNet/SURE team. Even more notably, the brief also markedly diverted from previous attempt at neutrality, by quite clearly 'pushing' for the need of sustaining knowledge translation and EIHP activities in Ugandan. As three key strategies for the continuance and extension such efforts, the brief highlighted the need for capacity building, institutionalisation, and more advocacy of the "value of evidence" (SURE Project 2014: 9).

This hope for a greater appreciation of the 'value of evidence' was indeed a recurring theme in my interviews with Ugandan knowledge translators/brokers. Sometimes, this was in the context of success stories, such as one policymaker who my interviewee suggested had become "a converted guy on evidence now" (*EIHP2016_05, Interview, 20/1/2016*). More often, however, the notion was used in conjunction with what

REACH/EVIPNet/SURE researchers described as a continuing lack of a 'critical mass' of policymakers who appreciated the 'value' of evidence' (*EIHP2016_07, Interview, 17/6/2016*; *EIHP2016_02, Interview, 26/7/2016*). As one interviewee described it, getting an appreciation for the value of evidence and science "entrenched into the life of the available systems" was the biggest challenge for Ugandan EIHP efforts going forward (*EIHP2016_02, Interview, 26/7/2016*).

As noted at the beginning of this section, it could be argued that aims of knowledge translation and convincing policymakers of the 'value' of evidence do not sit easily with the aim of 'brokering', or with that of 'knowledge sharing' as EIHP guides also describe the aims of Policy Dialogues (Lavis *et al.* 2009; STP14; SURE Project 2011). Further, there also seems to be a tension between wanting to convince policymakers of the 'value' of evidence and 'meeting policymakers' needs' as described as a key aim in the above quote by one Ugandan knowledge translator/broker.

Indeed, I want to suggest that 'global' EIHP/knowledge translation frameworks allow for adaption of specific tools or translation devices precisely to better meet policymakers' needs. As one Ugandan knowledge translator/broker explained in regard to their Policy Briefs:

> "Ours [Policy Briefs] were kind of trying to learn from the prototypes that where being developed, trying to learn from all those processes, you know, and their shortcomings, trying to bridge those shortcoming, still keeping in mind the consumer at the end, the policy consumer, the product that would meet their need" (*EIHP2016_03, Interview, 21/1/2016*).

Indeed, such a process of 'learning from' also seemed to be an appreciated part of the Policy Dialogues organised by the REACH/EVIPNet/SURE team. As one interview explained,

> "[a]t the dialogue sometimes they [policymakers] would provide comments or questions. And then we would go and polish it [the Policy Brief] up" (*EIHP2016_05, Interview, 20/1/2016*)

At the same time, however, much of these 'adaption' efforts seemed to primarily concern the format or design of the Briefs to ensure 'user-

friendliness', or involved adjusting Brief sections on the 'contextual' factors or implementation considerations. However, the central logic that these Briefs built on – the privileging of Systematic Reviews of global evidence on 'what works' – remained unaffected. Even though, as I have tried to propose in this chapter, it seemed unclear how 'valuable' this global evidence indeed was to policymakers, or in how far it indeed responded to the 'needs' of policymakers.

Conclusion: the value(s) of evidence(s)

With a focus on a particular Policy Brief on task shifting and its associated Priority Setting and Policy Dialogue processes, this chapter examined some of the specific EIHP/knowledge translation activities undertaken by Ugandan researchers as part of the EVIPNet-associated SURE Project. I argued that – against the simple EIHP formula of identifying a problem and finding a solution by integrating 'global' research evidence with 'local' evidence on barriers and with stakeholder values and preferences – in practice, this formula evoked a series of tensions, at least in the specific example of the Ugandan Task Shifting Policy Brief. I suggested that, partly due to a recent 'global' recommendation by WHO, the identified problem of a frontline health worker shortage in Uganda was already bound up with task shifting as a solution/policy option. Further, whereas EIHP/knowledge translation toolkits privilege high-quality global evidence from Systematic Reviews on the effects of solutions/options, such global evidence failed to clearly prove that task shifting as a solution 'generally' worked. More so, it seemed as if high-quality global evidence for the workings of specific task shifting interventions *some*where may not have been enough – or even the most relevant – information for policymakers having to make a decision in response to the problem of a shortage of frontline health workers in Uganda.

Indeed, despite WHO's global recommendation and the Ugandan Task Shifting Policy Brief's evidence for the positive effects of at least some task shifting options, Ugandan policymakers have persistently refrained from implementing a wide-ranging task shifting policy. What this chapter showed is that, at least among some policymakers, doubt about the appropriateness of a task shifting policy links to a number of concerns about the adequacy and

work-ability of task shifting as a solution in Uganda. More so, at least for some Ugandan decision-makers, task shifting as a solution seemed inadequate to address the 'real' problem, presented as a much more complicated and multifarious issue linked to insufficient public spending on healthcare infrastructures. These are undoubtedly very complex and demanding matters that this thesis cannot achieve to engage with in detail. What this chapter insisted, however, is that the concerns raised by policymakers cannot be discounted as subjective preferences, values or opinions that oppose the 'objective' scientific evidence on the best solution. And neither should the issues pointed out by policymakers – such as the resulting need for additional and costly training, or the lack of funds to even employ existing cadres of health workers – be disqualified as contextual 'barriers' that may obstruct the implementation of solutions that have been scientifically proven to 'work'.

At the same time, this Chapter has sought to further underline the need for alternative social science engagements with evidence-for-policy demands. Key Actor-Network Theory insights that Chapter 1 argued continue to reverberate in current-day STS-influenced studies on the global circulation of science and technology are that, for modern facts to travel, either the world needs to be transformed to 'look like a laboratory' (e.g. Latour 1983; Latour 1999), or science and technology need to be fluid and adaptable (e.g. Timmermans and Berg 1999; Laet and Mol 2000; Montgomery *et al.* 2017). In regard to the Ugandan Task Shifting Policy Brief, one might accordingly argue that the formulation of a task shifting policy failed precisely because Uganda did not look like a laboratory. Whereas the Systematic Review discussed in this chapter concluded that at least some task shifting options had been shown to 'work' in controlled trial settings, both the Policy Brief and Ugandan policymakers proposed a number of reasons for why task shifting may not work under 'real-life' conditions in Uganda. The conclusion may thus be that the scientific 'facts' remained stuck in the lab. The network for the global circulation of scientific knowledge failed. But what would the consequences be if my analysis stopped here?

I wish to suggest that, on the one hand, such a strategy would risk simply reiterating the EIHP logic – whereby messy 'real-life' contexts are treated as

‘barriers’ that limit the transferability of science-based solutions. As such, it may also be unable to formulate a response to what could be described as on-going efforts to make the world look more like a laboratory. Indeed, as I will further argue in Chapter 7, the perceived need to assess how proven interventions can be made to work within ‘real-life’ settings has contributed to bourgeoning efforts to complement quantitative evidence on intervention effects with qualitative evidence on intervention ‘acceptability and feasibility’. In other words, rather than questioning the on-going proliferation of rules and tools aimed at eliciting ‘global’ evidence on global solutions, this is instead being paralleled by a proliferation of research efforts to subsequently assess how these global solutions can be made to fit into particular contexts. But on the other hand, such an analytical strategy would also risk closing down the opportunity to re-imagine if and how things could indeed be otherwise.

Indeed, although much of this chapter has focussed on pointing out tensions and challenges that emerged in the ‘doing’ of EIHP/knowledge translation, I have also tried to convey that – despite these challenges – none of my Ugandan interviewees contested that policies should be informed by evidence. From my interviews and conversations with members of the REACH/EVIPNet/SURE team, it was obvious how deeply committed these health professionals were to science and scientific research, and how closely this commitment was linked to hopes that science could indeed make a difference, first and foremost by improving health and healthcare in Uganda. Further, none of the policymakers that I interviewed claimed that policymaking should involve guesswork or that science was unimportant. What I propose this demands is to not just seek to debunk scientific evidence or point to the failures of efforts to link proofs and politics. Instead, the situated challenges that I highlighted in this chapter should be taken as a prompt to ask what ‘better’ evidence may be, or how EIHP could be re-imagined in ways that may allow paying attention to the many concerns and questions that emerge with the situated dimensions of a (policy) problem.

The key aim of this chapter has thus been to show that by reinforcing the role of science as the provider of rational evidence-based (policy) solutions, global EIHP frameworks may well fail in their aim to link proofs and politics. I

described Policy Briefs, Priority Setting exercises and Policy Dialogues as 'translation devices' that are perceived as crucial components of the infrastructure to facilitate the circulation and dissemination of research evidence from laboratories and publications into the hand of policymakers. But I also suggested that each of these devices undergirds this view of science as a solution provider to common problems. As the first crucial step in EIHP/knowledge translation guides, EIHP Priority Setting mechanisms may increasingly try to incorporate stakeholder views and priorities. Yet, I also showed that they nonetheless require the translation of a complex policy issue into a pre-defined problem address-able by science-based solutions. Policy Briefs, on the other hand, operationalize the demand to integrate global scientific evidence on solution effects/impacts with 'local' evidence on "modifying factors in specific settings" (Oxman et al 2009: 3; STP1). But I also suggested that this remains all-too-often bound up with a language that frames messy contexts as problematic barriers that obstruct the implementation of evidence-based interventions that have been proven to 'work'. Furthermore, EIHP/knowledge translation toolkits may propose to integrate scientific proofs with local stakeholder values and preferences; yet, this does not affect their claim that the most important and 'best' evidence is global evidence on 'what works'. As I suggested, these toolkits insist on EIHP as a problem-centred approach that aims to respond to policymakers' needs. At the same time, however, these EIHP frameworks are bound up with the idea that the 'best' evidence is global evidence on intervention effects, as well as with a hierarchy of particular methods (first and foremost RCTs and Systematic Reviews) to elicit this evidence in the name of 'objectivity' and 'true' effects.

This has a number of important consequences. First, it arguably responsible-ises those meant to implement proven interventions or those targeted by them: its seems inevitable that if interventions are perceived as scientifically proven to 'work', their (anticipated or actual) not-working in particular situations will be blamed on contextual 'barriers', oppositional 'values and opinions', or recalcitrant patients (cf. Michael and Rosengarten 2013). Second, it forecloses a sustained debate on the 'value' of supposedly global

proofs on true intervention effects. And yet, the typical design of RCTs as intervention-vs-control studies means that these studies have little to say about how to chose one particular interventions over others. In other words, they cannot answer the question likely to be of concern for policymakers, namely which intervention to choose among a whole range of potentially unlimited alternatives. More so, Systematic Reviews could be said to be aimed at answering the general questions 'does it work?' – yet, at least in the example of task shifting, they did not seem to provide the evidence for a key question or concern among Ugandan policymakers, namely 'could task shifting work in specific places or specific facilities in Uganda?'.

Considering that task shifting is already practiced more or less informally in a variety of settings in Uganda, this raises the question if disembedded 'global' evidence on the workings of task shifting somewhere is indeed more 'valuable' than, for example, an in-depth examination of existing task shifting attempts in Uganda that might assess if and how these task shifting attempts worked in specific facilities (or why not). I do not wish to suggest that study findings from other places must be irrelevant – indeed, there are undoubtedly many instances where much can be learned from trials of particular interventions done elsewhere, and reviewing the studies may indeed raise new questions and concerns that pertain to a particular policy problem. But rather than positing the averaged measure of an intervention's impact elicited from studies conducted 'around the world' as per se the most important type of evidence, we may ask what this evidence can attest to, and what not. And further, what other types of information may be needed to learn about the situated concerns and challenges posed by a policy problem. Altogether, I would thus suggest that, by privileging the best global evidence on 'what works', EIHP/knowledge translation toolkits risk imposing on policymakers demands that may not concern them, at the same time that they fail to pay sufficient attention to how a problematic situation comes (in-)to matter.

As this chapter highlighted, the implementation of global EIHP/knowledge translation frameworks indeed posed a number of challenges for the Ugandan REACH/EVIPNet/SURE, and to their efforts to translate evidence into better healthcare decisions to improve the health situation in Uganda. Further, I wish

to suggest that some of the ambiguities I highlighted in this chapter may have stemmed from a recognition that these efforts precisely did not straightforwardly translate knowledge into 'action', as its is often claimed; as well as to their frustration that the 'critical mass' of policymakers continued to lack an appreciation for the 'value' of evidence. As such, I want to suggest that these ambiguities could be taken as a prompt to re-imagine what a 'better' science and better evidence-informed policy could be. As I argued in Chapter 4, EIHP/knowledge translation toolkits' strive for global evidence partly rests on treating quality and relevance as discreet properties of evidence to be appraised – whereby quality is conceived as a value of truth that is an inherent and immutable property of evidence to be appraised according to the rules of evidence, in contrast to relevance as a relational and context-specific subjective value applied *onto* the evidence. And yet, the many ambiguities around evidence in Uganda – as expressed, for example, in the doubts around Systematic Reviews as truly 'global' evidence, the questions about the role of contextual factors for the workings of interventions, and the insistence on the importance of local evidence – could be taken to imply that Ugandan knowledge translators/brokers were indeed also aware that the 'value' of evidence is inseparably linked to its significance and adequacy to the question being posed.

For a long time after I returned from Uganda, I struggled with the interpretation of my fieldwork data. One of these reasons was that, in my interviews with Ugandan health professionals, the notion of evidence seemed at once all pervasive, and yet largely elusive. Put differently, everyone I interviewed – mainly knowledge translators/brokers and policymakers, but also a number of Ugandan NGO staff and representatives of professional bodies – stressed the importance of evidence and expressed their support for more evidence-informed policymaking. Yet at the same time, it seemed difficult to grasp, to *hold on to* or *delineate*, from their descriptions what exactly evidence actually *is*. Indeed, it took me a long time to realise that this was precisely because I, too, was looking for the 'stable' object evidence. In other words, even though I was crafting my thesis around a careful critique of EIHP frameworks that juxtapose 'objective' and generalizable scientific proofs

with subjective judgements, values and perspectives, I failed to see that I was also attempting to find in and extract from my interview material the evidence for a general(-izable) and transposable concept of evidence. As a consequence, I failed to see – and, or so I want to suggest, failed to see that my interviewees understood this so much better than me – that what evidence *is* is indeed highly relational. In other words, there is no 'stable object' 'best' evidence independent of the question 'for what?'.

In hindsight, this seems indeed to be precisely what Ugandan REACH/EVIPNet/SURE knowledge translators/brokers had insisted on all along in our interviews. I already quoted above one team member who insisted that evidence could be all kinds of "information collected in a country" that could be used to make "rational decisions" (*EIHP2016_001, Interview, 23/1/2016*). In our interview, this knowledge translator continued elaborating on this by arguing that this information

> "does not need to be the conventional research that is done.., what academics do. But it could be information that is collected as part of day-to-day activities. It's not research but it's… if I look at a health system... the documentation of how many people present to health units with a particular health issue… in a region of the country or the entire country… *that is* evidence, *that is* information that can be used […] to make rational decisions" (*EIHP2016_001, Interview, 23/1/2016*; emphasis in original).

This emphasis on treating as evidence all kinds of information that can be used to make a decision was also echoed in my interview with another former REACH/EVIPNet/SURE researcher (EIHP2016_05, Interview, 20/1/2016). In response to my question of how they would define 'good' evidence, this interviewee involved me in their example, more precisely the decision-making process that had determined my mode of transport to our meeting point:

> Interviewee: "For every decision that you make […] you generate evidence. When you want to get here, and you decide that 'I'm not using a car', you are looking at funds, you are looking at time, you are also looking at other…

> NJ: …safety [laughing and pointing to my motorcycle helmet, acquired once I had realised that the ubiquitous motorcycle taxis were the quickest, cheapest and easily the most perilous mode of transport in inner-city Kampala].
>
> Interviewee: Safety [laughs]. You see what I mean. You say: 'ok now for safety: it's risky, I'll buy a helmet. And I also use one [a motorcycle taxi driver] who would understand what I'm saying'. You see what I mean? You don't document it, but you have collected some evidence that is related to the decision you are going to take".

In both these examples, my interviewees seem to suggest not only that evidence can in principle be all kind of relevant information, but also that for something to be evidence it needs to be relevant to a specific problem or decision. More so, some REACH/EVIPNet/SURE knowledge translators/brokers also expressed an explicit appreciation for the diverging concerns and priorities of researchers and policymakers. Despite insisting on the importance of research evidence to inform policy decisions, another REACH/EVIPNet/SURE team member, for example, maintained that "research is not the only thing on the table". As they explained,

> "research is important, but policy issues are political issues. So research is not the only thing they [policymakers] are going to consider. For me as a researcher, research is everything. But for the politicians it's not everything. They have other things to think of, because they will impact on how the whole of society functions as a whole and will react or respond to that".

To me, these three examples indicate that these REACH/EVIPNet/SURE researchers – perhaps more in line with their role as 'knowledge brokers' – appreciate that researchers and policymakers may be guided by different concerns as well as different demands on evidence. But also that these concerns and demands are part of the processes through which evidence comes to matter, and comes to matter differently. In other words, I would suggest that in their explanations – in the emphasis that routinely collected information at health units *is* evidence; in the insistence that evidence is generated for every situated decision; and the acknowledgement of different

concerns – evidence is not a mobile and stable 'global' object. Instead, evidence comes (in-)to matter in a way that is inseparable from the situated demands that it has to fulfil and the questions it has to answer. I want to propose that these examples could be taken as 'gestures' (cf. Rosengarten and Savransky 2018), as a prompt towards the possibility of re-formulating what good (scientific) evidence may be, in ways that challenge the separation of objective quality and subjective relevance – of measuring and mattering. And, as such, as gestures towards re-imagining the link between proofs and politics. I will elaborate on this in Chapter 7.

Epilogue: Towards uncertain futures

As already noted in the previous chapter, the SURE Project officially wound up in early months of 2014, terminating what had been the major funding source for Nelson Sewankambo and his team of REACH/EVIPNet knowledge translators/brokers at MakCHS. By the time I visited the remainders of the team in 2016, a number of new projects had been initiated in an effort to continue driving Ugandan EIHP/knowledge translation efforts forward. In addition to the above-mentioned Africa Centre, this also included the setting up of a dedicated *Office for Knowledge Translation* at Makerere University – albeit this time to specifically encourage the dissemination of research findings produced by Makerere health researchers to wider non-academic audiences.

Still, it also seemed apparent that without core funding, the team was struggling to keep up its efforts. As noted in the previous chapter, some current and former team members seemed frustrated with the lack of support from the Ugandan government. But there were also some who expressed their ambivalence about the best source for financial support and cautioned that their job required being shielded from "undue influence" and to be "independent", financially and otherwise, of those making the decisions, including the Ugandan government (*EIHP2016_02, Interview, 26/7/2016*). At the same time, these researchers were also aware that their chosen autonomy from Ugandan authorities would almost certainly come at the cost of a continuing reliance on foreign funders – which, in turn, translated into unpredictable and short-term programmatic funding contingent on shifting

international priorities. Ultimately, there thus remains a striking dissymmetry between the promises of knowledge translation/EIHP frameworks to enable more certain futures, and the persistently uncertain future for Ugandan knowledge translators/brokers themselves.

Chapter 7: Good proofs, different politics

Drawing together material from archival research, document analysis and fieldwork at the Ugandan REACH/EVIPNet/SURE 'country node', the preceding chapters sought to re-assemble EIHP in global health as a matter of and for care. That is, rather than critiquing EIHP as a hegemonic 'evidentiary regime' or debunking the desire for trustworthy scientific evidence, my aim in this thesis has been to carefully engage with concerns for EIHP while also examining the problematic questions articulated by demands to link proofs presumed by evidence-making processes and politics in practice.

This concluding chapter begins with a review of what prompted the shift in my analytical orientation from corrosive critique to a generative engagement with demands to link proofs and politics. Taking seriously Ugandan efforts to foster evidence-for-policy processes, as well as the challenges that hamper such efforts, has compelled me to examine the problematic way that 'global' EIHP/knowledge translation frameworks insist on the separatedness of facts and values, measuring and mattering, proofs and politics. To further highlight what is at stake, this chapter returns to two examples of what I propose are ongoing efforts by EIHP proponents to include a wider range of expertises, knowledges and experiences in evidence-for-practice processes. In discussing the promises and pitfalls of these efforts, I underline both the urgency of alternative modes of engagement with evidence-for-policy efforts, as well as the challenging nature of the task ahead.

In the speculative hope of cultivating a different future, I conclude by proposing to conceive of evidence-making as a situated and contingent achievement as a necessary first step towards alternative ways of imagining the link between proofs and politics.

Beyond corrosive critique

As I noted at the beginning of this thesis, in the 'critical' global health literature, growing demands for evidence-based/evidence-informed policies and practices are often treated with suspicion. Proclamations of expanding 'evidentiary regimes' (Biehl 2016), a new 'regime of truth' (Fan and Uretsky

2017), or a ‘dominant regime of veridiction and falsification’ (Biehl and Petryna 2013) abound. Mostly, these proclamations are linked to concerns that such regimes progressively re-configure global and national healthcare landscapes with often unintended and/or negative consequences. Such concerns undoubtedly derive from scholarly commitments to expose existing inequalities and insist on the need to account for difference in the world – in light of what is often seen as a global health ‘juggernaut’ (Crane 2013) dominated by Global North-dominated organisations and institutions and driven by universalist claims and technological quick-fixes (cf. Montgomery *et al.* 2017). By contrast, this thesis has sought to highlight that such an emphasis on monolithic and hegemonic evidentiary regimes imposed in the name of a Global North-dominated global health may also come with its own ‘blindspots’. Not only does it run the risk of paying insufficient attention to the active role played by health professionals in the Global South in fostering evidentiary approaches. But, moreover, an overemphasis on how such evidentiary ‘regimes’ intrude on other knowledge practices, are contested, break down or entail adverse effects risks eliding the question of how and why scientific achievements and policies accountable to evidence(s) matter.

In places like Kampala’s Mulago Hospital grounds, the influence of a Global North-dominated global health can – often quite literally – be measured by the size of new treatment and research facilities bearing the names of foreign NGOs, foundations, and universities. Indeed, Ugandan EIHP/knowledge translation experts seemed acutely aware of this influence, and of the way it impacts on local research and policy priorities. At the same time, however, these researchers would almost certainly reject the characterisation of their EIHP/knowledge translation efforts as part of an imposed ‘evidentiary regime’. Chapter 5 not only highlighted that Nelson Sewankambo and members of his team have been early and tireless champions of evidence-for-policy efforts in Uganda. But, more so, I argued that this was not just *despite* being aware of the influence of foreign programs and funds, but, at least partly, *because* of them. That is, their EIHP efforts seemed grounded in a faith in the importance of scientific research and in a hope for policymaking to be more transparent, systematic and accountable. But they were also linked to concerns for a better

alignment of (often foreign-funded) research priorities with national policy priorities, aspirations to contribute to a strengthened healthcare system, as well wider hopes to contribute to Uganda as a modern, self-governing and sovereign nation.

I do not wish to question or explain away such an "aspiration to modernity", as Ferguson (2006: 32) may put it. Instead, as Ugandan health professionals "struggle through and with" (Verran 2001: 38) what are undoubtedly uneven pasts and presents, I have felt obliged to take seriously their concerns and their hopes in the achievements of (biomedical or health) science(s), as well as for more accountable policymaking. My re-presentation of EIHP as a matter of and for care has aimed to articulate some of these concerns and hopes. As part of this, I also highlighted some of the challenges that the application of 'global' EIHP/knowledge translation toolkits pose in practice, and argued that they link to the problematic way that these toolkits present science as the provider of objective solutions to pre-defined (policy) problems.

Chapter 4 described how this is articulated in the way EIHP/knowledge translation toolkits emphasise the circulation and contextualisation of 'global' scientific evidence to support 'local' decision-making. I showed that these toolkits privilege synthesised evidence on experimentally-tested 'solutions', preferably in the form of Systematic Reviews of Randomised Controlled Trials (RCTs). Through a process of 'contextualisation', this global research evidence should then be integrated with local evidence on the acceptability and feasibility of the proposed solutions, as well as with the values and preferences of local stakeholders. One of the underlying arguments of this thesis has therefore been that – with EIHP/knowledge translation toolkits increasingly insisting on the need to integrate scientific evidence with 'modifying factors' and values and preferences in situated decision-making processes – new analytical strategies are required to account for these developments. How can we engage with demands for evidence-based/-informed practices based on evidentiary rules and tools if the standardisation of healthcare practices is no longer – if it has indeed ever been – a key objective of EBM and EIHP efforts? Provocatively, one might argue that notions such as 'adaption', 'translation' and 'contextualisation' have served as

analytical tools to undergird constructivist STS accounts seeking to challenge science's universalist claims by emphasising the persistence of difference (cf. Timmermans and Berg 1997; Prakash 1999; Anderson 2002). But they *also* serve as concepts in EIHP/knowledge translation frameworks that allow framing messy contexts as 'barriers' while maintaining the status of a universalist science as the provider of rational and objective solutions. One key challenge that Chapter 4 thus introduced to the thesis was the need to develop a different strategy to engage with evidence-for-policy efforts; a strategy that allows for a careful engagement with demands for trustworthy evidence and its utilisation in policymaking, at the same time as it can point to the problematic ways that these demands are articulated in current 'global' EIHP/knowledge translation toolkits.

In order to pursue this, Chapter 4 linked the claims attached to the primacy of Randomized Controlled Trials (RCTs) and their evidence to what Isabelle Stengers calls, after Whitehead, the 'fallacy of misplaced concreteness': I argued that, first, producing RCT evidence that an intervention 'works' in a particular situation is not treated as a situated achievement but as a read-off of some singular and transcendental reality out there: 'it works'; and second, the motivating concerns leading to the construction of RCT evidence are not appreciated as situated constraints, but promulgated in the name of a general method for obtaining objective knowledge representative of this singular reality. As a result, I argued, concerns for objective evidence on the 'true' causal relationships that undergird the workings of interventions continue to hold up RCTs as the gold-standard method.

At the same time, I also suggested that the growing importance placed on Systematic Reviews appears to attest, at least in part, to an element of doubt regarding the generalizability of findings from single RCTs. As 'global evidence', Systematic Reviews are proposed to respond to this perceived problem by introducing what I have argued to be a further series of 'de- and re-contextualising' steps. Moreira (2007), based on his ethnographic observations of the work of Systematic Reviewers, describes the Systematic Review process itself as a two-fold process of 'disentanglement and qualification': first, reviewers extract and recalculate data from original

publications with the aim of 'neutralising' the rhetorical strategies that researcher-authors commonly employ to convince readers of the value of their research; in a second step, Moreira notes that study results are 're-qualified' through a process whereby Systematic Reviewers subject individual study data to a series of comparisons against pre-established quality criteria as well as current scientific and political debates (Moreira 2007)[26]. What this thesis has pointed to is a somewhat similar but parallel de- and re-contextualisation process. On the one hand, cumulating evidence from different studies in Systematic Reviews involves extracting evidence of the 'true' workings of interventions beyond the particular experimental situations in which it was produced. That is, it requires largely disregarding the context that contributed to the working of a tested intervention and thus to the production of evidence in order to compare and synthesise findings from different studies. This serves to arrive at a statement on the context-independent effects of the intervention across studies in the name of a 'global' evidence base. On the other hand, EIHP/knowledge translation frameworks demand that this global evidence is then 'translated' and 're-contextualised' to assess its applicability in specific 'local' situations.

I proposed that this points to an apparent paradox at the heart of these frameworks: the insistence on the need for disembedded and objective 'global' evidence on true, and thus generally valid, intervention effects – and a concomitant acknowledgement that values, preferences and 'contexts' matter. Whereas the latter undergirds efforts to 'contextualise' evidence, organise deliberative forums and adapt evidence-based interventions, it arguably does not activate a more sustained debate on the situated nature of evidence. Put differently, the *applicability* of evidence and *implement-ability* of evidence-based interventions are acknowledged to be value-, preference-, and context-sensitive; but the privileging of global scientific evidence on 'what works' appears to be sustained by the assumption that the same factors have little import on the 'true' workings of healthcare interventions and, as such, on what

[26] Moreira (2007) draws here on Callon and colleagues' description of 'qualifications tests' as a series of processes through which objects and the characteristics assigned to them come into being reciprocally (Michel Callon, Méadel, and Rabeharisoa 2002).

enables the production of evidence. I also argued that this further undergirds the claim that science delivers value-free facts, whereas everything else is contextual 'barriers' or (contrarian) values and preferences that may impede the implementation of interventions that have been proven to work. In other words, at the same time that 'global' EIHP/knowledge translation toolkits propose to integrate objective scientific evidence with subjective values and preferences and to link proofs and politics, these toolkits also have to insist on their separatedness.

Rather than being of just theoretical concern, Chapters 5 and 6 argued that these conceptions contributed to some of the challenges that emerged as Ugandan knowledge translators/brokers adopted and adapted EIHP/knowledge translation toolkits in practice. For once, the unambiguous way that these toolkits conceive of the different types of and roles for 'global' and 'local' evidence was contrasted by the much more contested nature of these categories in practice. Nelson Sewankambo's parallel efforts to increase the contributions of Ugandan or East African researchers and research to the production of Systematic Reviews, for example, highlight that ideas of a 'global pool of knowledge' cannot gloss over the fact that, in practice, it continues to matter where, how, what and by whom knowledge is produced. Similarly, many of my interviewees emphasised the importance of 'local' evidence for decision-making processes, at the same time that there were concerns that locally-conducted but internationally-funded research may fail to align with national research and policy priorities. In Uganda, both the fostering of evidence-for-policy mechanism and the concomitant insistence on the need to enhance local contributions to such efforts seemed inseparable from long-standing hopes of aligning scientific endeavours with nation-building efforts, and of reasserting Uganda's independence against a backdrop of enduring foreign influence on research and policy agendas. And yet, what this thesis has carefully suggested is that this contested terrain also harbours a challenge to both, modern science and to the "modern tie" (Geissler *et al.* 2015: 1) between science and political governance.

Indeed, the impact of the REACH/EVIPNet/SURE team's knowledge translation efforts on Ugandan policymaking seemed far from clear. Ugandan

knowledge translators often expressed dismay at the lack of a 'critical mass' of policymakers committed to the greater use evidence in their decision-making. And yet, I suggested that the barriers to turning evidence into action could not easily be explained away by either policymakers' lack of access to global evidence on 'what works', or by their dissenting 'opinions' or 'values'. As I argued in Chapter 6, at least in the particular case of the REACH/EVIPNet/SURE Task Shifting Policy Brief, the policy 'problem' of a shortage of frontline health workers seemed far more multifarious and mutable than could have been addressed by a process based on sourcing science-based solutions to pre-defined problems.

Drawing on these insights, I carefully suggested that as long as EIHP/knowledge translation efforts are geared towards evidentiary rules and tools for the translation of 'global' scientific evidence on 'what works', they may indeed perpetuate the problem that such efforts are meant to address. Put differently, if they continue to elevate science to the status of provider of rational solutions, EIHP efforts might indeed fail to link proofs and politics – precisely *because* these rational solutions may not in fact be deemed workable in 'messy' contexts, and because such efforts may fail to pay attention to the many concerns and questions that emerge with the situated dimensions of a (policy) problem.

So how may evidence-for-policy processes better account for the role that 'contexts' play in the workings of healthcare interventions, and better able to negotiate the difficult challenge of bridging scientific expertise and democratic decision-making?

Ongoing challenges: unification vs. co-existence

The following section discusses two ongoing efforts by EIHP proponents that I suggest could indeed, at least partly, be seen as an effort to address the challenges I highlight above. The first example concerns the push from within biomedicine and the evidence-for-practice field towards incorporating a wider range of evidentiary sources as the basis for healthcare decision-making. The second example returns to Policy Dialogues as part of bourgeoning efforts to foster more deliberative healthcare decision-making. In (re-)engaging these examples, I aim to highlight both their possibilities as well as potential pitfalls.

In regard to the first example, I focus on 'Qualitative Systematic Reviews' as a new frontier in both EBM and EIHP to suggest that they exemplify an ever-growing acknowledgement of the contributions that other disciplines and their evidences can make within the field of (global) health. Yet, I also point to the limitations to such inclusion efforts where they are used to prop up 'business as usual'. The second example returns to the rhetorical shift from evidence-*based* to evidence-*informed* policymaking and my argument that this shift made explicit a growing acknowledgement that in (political) decision-making "[j]udgements, values, and other factors, always play a role" (Oxman et al. 2009: 5; STP1; cf. WHO 2005). This appreciation of policymaking as a more distributed process arguably served to clearly disassociate EIHP efforts from visions of scientific management and enlightened techno-scientific governance that were the target of much scholarly critique in the 1990s/2000s (e.g. Ezrahi 1990). At least in part, it also counters well-versed critiques of evidence-for-policy approaches as relying on overly simplistic models of linear policymaking processes (e.g. Greenhalgh and Russell 2009; Cartwright, Goldfinch, and Howick 2010). And yet, I will argue that where deliberative processes, such as those fostered in EIHP Policy Dialogues, continue to be primarily conceived as mechanisms to foster the integration of scientific evidence with 'opinions and values', they remain a missed opportunity for a more collaborative and generative engagement with (policy) problems.

What this section seeks to achieve is to acknowledge growing efforts to include a wider range of expertises, knowledges and experiences in evidence-for-practice processes, but to also highlight the problematic and topical questions they raise, including in regard to how we as social scientists should respond to these developments. Indeed, I argue that these efforts ostensibly chime with social science demands for a more inclusive (global) health research space, as well as STS concerns for how to 'bring science into democracy' (Latour 2004). As such, I provocatively suggest that some of the pitfalls of EIHP's inclusion efforts also raise difficult questions for a social science that treats greater inclusion and participation as a panacea for better science, or better politics.

Diversifying evidentiary sources

Throughout this thesis, I highlighted the crucial role assigned to Systematic Reviews of RCTs in EIHP/knowledge translation toolkits. Although such Systematic Reviews continue to count as the most important evidence on intervention effects, at least some EHIP proponents have also called for a wider range of study designs to assess the workings of interventions, especially in regards to (non-biomedical) health system strengthening (HSS) interventions (e.g. Pang 2007; Bosch-Capblanch *et al.* 2012; WHO 2012b). Rather than a real challenge to the status of RCTs as per se the most superior study design, such calls are usually linked to concerns that RCTs for non-clinical interventions may not always be "ethical, appropriate or feasible" (WHO 2012b: 39). Still, they are arguably part of a growing openness among biomedically-oriented researchers towards a broader range of study designs and the need to diversify evidentiary sources to inform healthcare decisions. Indeed, as I also highlighted, EIHP/knowledge translation toolkits such as the SUPPORT Tools and the SURE Guides include provisions to incorporate evidence from other sources than efficacy/effectiveness studies in evidence-informed policy recommendations. Specifically, EVIPNet-associated international EIHP experts have been increasingly vocal about the need to better integrate qualitative research and social scientists in EIHP processes (Lavis *et al.* 2005; Lewin *et al.* 2009). Under the guidance of these experts, WHO, too, has more recently started to promote the better inclusion of qualitative evidence in the development of recommendations and guidelines (e.g. WHO 2012a, 2014a).

To some extent these developments certainly suggests a growing appreciation for the contributions of a wider range of disciplines, approaches and methods to a global health field traditionally dominated by biomedical and public health sciences. At the same time, however, EHIP experts have been at the forefront of efforts to standardise the process of incorporating more diverse evidence sources into EIHP products, as well as how such evidence should be appraised. In other words, a growing appreciation of qualitative research seems to go hand in hand with a determination to subsume such research under existing evidentiary rules and tools.

A key example are so-called Qualitative Systematic Reviews. Considered a crucial new frontier in both EBM and EIHP, such Qualitative Systematic Reviews are a central component of growing efforts to systematize and standardize the inclusion of high-quality qualitative evidence with existing knowledge translation frameworks (Noyes 2010; Hannes *et al.* 2013; Colvin 2015; Lewin *et al.* 2015; Glenton, Lewin, and Norris 2016). Accordingly, the version of Qualitative Systematic Reviews promoted by leading EIHP (and EBM) advocates – and also taken up in recent WHO guidelines – broadly follows the tried-and-tested steps of quantitative Systematic Reviews, including the search, quality appraisal and synthesis of qualitative evidence (Glenton, Lewin, and Norris 2016). Despite some acknowledgement that these steps may not be straightforwardly transposable to the realm of qualitative research (ibid.), efforts to do so as best as possible have also resulted in the adaption of a range of other tools traditionally used in the context of quantitative research. This includes, for example, a recently proposed modification for the PICO scheme (see Chapter 4) to support the search for qualitative evidence. Designed to complement quantitative evidence on the *effects* of interventions, the modified PICO scheme serves to help identifying evidence on the *perceptions, preferences and values* surrounding these interventions (e.g. stakeholder perceptions of the **P**roblem, of the acceptability of the **I**ntervention, of the **C**omparators/options, and preferences regarding **O**utcomes) (Glenton, Lewin, and Norris 2016). Other proposed tools include new methods to cumulate evidence from qualitative studies, such as 'aggregation' or 'meta-ethnography' (Noyes and Lewin 2011; Colvin 2015; Glenton, Lewin, and Norris 2016). Furthermore, a GRADE-derived framework was recently proposed as a key tool to standardise appraisal procedures and allow separating 'good' from 'bad' quality qualitative evidence (Lewin *et al.* 2015).

For some social scientists these bourgeoning efforts to incorporate qualitative evidence in knowledge translation/EIHP processes may be a clear sign that, as anthropologist Chris Colvin has argued, it is time to put to rest "overdetermined and unidimensional" critiques of evidentiary regimes to instead claim a "seat at the table" (Colvin 2015: 102–3). In many ways, such

calls for a more constructive engagement with evidence-for-policy efforts resonate with the task that I set myself with this thesis. At the same time, however, I would insist that the increasing acceptance of the contributing role of qualitative evidence to EIHP poses important questions regarding the role we as social scientists can, want to or may even be demanded to play.

It is for these reasons that I shall briefly highlight two topical examples that highlight the salience of these questions. Over the past 20 years, and paralleling the ever-growing emphasis in global health discourses on strengthening countries' health systems, public health specialists have pushed for the establishment of a new disciplinary field dedicated to health systems and policy research. As part of this, there have been repeated calls for a greater appreciation of the complexity of questions pertaining to the organisation of health systems and, relatedly, for the diversification of approaches and methods to address these questions (e.g. Sheikh *et al.* 2011; Gilson et al 2011; Bennett et al 2011). And yet, in 2017, the editors of *Critical Public Health* lamented what they perceived as an enduring overemphasis in health systems research on controlled study designs and linear cause-and-effect models (Salway and Green 2017). Around the same time, two other academic journals published open letters signed by dozens of public health researchers that criticised major health and medical journals for consistently discounting the importance of qualitative research and called for a more 'pluralist approach' to research (Greenhalgh *et al.* 2016; see also Daniels *et al.* 2016). The second example is the 2013-2016 West African Ebola epidemic. As international organisations struggled to contain an outbreak of unprecedented severity and reach, the need for locally-appropriate containment and education efforts were said to have sparked an unprecedented interest in mobilising 'social science intelligence' (Abramowitz *et al.* 2015). Some social scientists thus cast the 'Ebola moment' as a defining turning point for their disciplines' contribution to global health (Holden and Jensen 2017). Others, however, publicly voiced concerns that they were largely perceived as 'service providers', enrolled to smoothen the implementation of pre-determined evidence-based biomedical interventions (Menzel and Schroven 2016; also e.g. Chandler *et al.* 2015).

Both examples clearly hint at the frustration of many social scientists with what are often perceived as the exclusionary politics of a global health field traditionally dominated by biomedical researchers and interventionist approaches (see e.g. also Ooms 2015; Lee 2015; Hanefeld 2016). But more importantly, they also highlight that what is at stake – at a moment when there may indeed be a growing acknowledgement of the contributions of social science researchers to (global) health topics – is precisely the question of by whom, how and with what a 'seat at the table' may be claimed. Put differently, I argue that these developments necessitate being able to formulate a response to the demand that, in order to gain a 'seat at the table', we as social scientists would have to consent to having our research valued and evaluated according to gold-standardly evidentiary rules and tools developed in the name of finding 'objective' solutions to predetermined problems.

Indeed, above-cited concerns about social sciences being allocated the role of 'service providers' are arguably justified considering how the role of qualitative research is often framed vis-à-vis 'hard' evidence of intervention effects. The former head of Cochrane's Qualitative Research Methods Group, for example, suggests that a Systematic Review of RCTs remains the gold standard

> "for clear evidence of the effectiveness of an intervention, but does not include evidence on how people experience the intervention or how it fits with their lifestyle or matches with their preferred choices or expectations" (Noyes 2010: 526).

As a result, she further proposes that synthesised qualitative evidence on these issues can "add value and improve the utility" of Systematic Reviews on intervention effects (Noyes 2010: 527).

These statements are noteworthy for a number of reasons. They echo what I argued to be a prevailing sentiment as to the role of qualitative research, namely that it remains largely seen as providing supplementary information to improve the implementation of interventions, especially by providing evidence on stakeholder's views and preference that can testifies to the 'acceptability and feasibility' of proven interventions (see also WHO 2012a; WHO 2014a; Lewin *et al.* 2015; Glenton, Lewin, and Norris 2016; Chapter 4). As such, they

also reiterate what I have argued to be a central paradox in the way both EBM and EIHP account for the role of 'contexts' in the workings of interventions. As I suggested in Chapter 4, the importance placed on Systematic Reviews of RCTs on intervention effects is at least partly based on their assumed ability to disentangle objective facts of the 'true' workings of interventions from subjective interferences of not only of investigators but also of those targeted by or involved in these interventions. In other words, it seems to involve the expectation that people's 'experiences, lifestyles, choices, or expectations' have no bearing on the 'true' workings of interventions. And yet, the above statements seem to affirm that these factors may indeed have a qualifying influence on if/how interventions work. I will return to this below.

In the way that the above statements frame the 'value' and 'usefulness' of social science and/or qualitative research they also substantiate concerns about what kind of roles social scientists and our evidences are assigned to play in (global) health debates, and how and who gets to decide if our contributions are indeed valuable. In other words, what this further highlights is the pressing need for us, as social scientists working on (global) health-related topics, to engage with and intervene in debates around what counts as 'best' research evidence and good evidence-informed policymaking in global health – and to do so not only out of ethico-political concerns for those most directly affected by them, but also because these debates ineluctably impact on our own knowledge practices.

As such, I am also concerned that neither a concession that 'hard' natural/biomedical sciences are best able to discover the 'true' facts of nature, nor a denunciation of the ability of any science to truly relate to the world provide any "sure ground" (Latour 2004b: 227) from which to articulate the contribution that social scientists can make to global health debates. Or from which to defy current efforts to impose on us particular evidentiary rules and tools to make our research more 'valuable' in the eyes of biomedical researchers. In terms of the latter, a similar argument has been put forward by Savranksy (2016) in regard to the bourgeoning demands imposed on (social science) academics to justify our value in the name of 'relevance' and 'impact'. Resisting such demands, Savransky argues, may require reclaiming

the notion of 'relevance' as part of "a different care of knowledge" in the social sciences (ibid: 209). What this entails, he proposes, is to neither try and emulate natural sciences' modern quest for 'objective' knowledge where this is taken to denote gaining access to the 'real' facts and causes through an "operation of estrangement" (ibid.: 67); nor to succumb to a relativism that claims that all knowledge is socially constructed. Instead, Savransky argues, a different care of knowledge would instead involve aiming to make relevant connections in the world in order to learn how things come (in)to matter in each situation.

The on-going debates on the need for greater disciplinary and evidentiary diversity in health research and evidence-for-policy efforts are thus encouraging. But much work is to be done for us, as social scientists, to claim our stake in these debates. This requires resisting the imposition of particular evidentiary rules and tools in the name of smoothening the implementation of 'objective', evidence-based solution. But conversely, it may also require refraining from justifying the value of health-related social science research in the name of social constructivism (for precisely such an attempt, see e.g. Gilson *et al.* 2011). My own effort to do so has thus involved not only engaging with the problematic questions posed by the demand for scientific evidence in global health. But in proposing to re-assemble EIHP as a matter of and for care I have also aimed to re-engage the question of my own evidentiary practice: how my own ways of studying and re-presenting EIHP relate to how it comes (in-)to matter, and the futures this may engender. I return to this below.

Deliberation on the facts

In this section, I examine more closely the idea of policy informed by scientific evidence, by drawing on wider discussions in science studies on how to analyse – and formulate differently – the relationship between science and politics. As Chapters 4 and 6 showed, EIHP/knowledge translation frameworks actively encourage the participation of policymakers and 'other' stakeholders in knowledge translation processes and insist on the importance of taking into consideration their preferences, values and opinions. However, I also argued previously that this formulation upholds, and further articulates,

the problematic distinction between facts and values – the former as the responsibility of science, the latter as what preoccupies politics (and social sciences, see above). So far, I largely focused on how this distinction further cements the problematic conception of the role of (modern) science as the provider of objective and rational solutions. In the following, I want to critically discuss what this distinction means in regards to the notion of politics supposed by EIHP/knowledge translation frameworks. In discussing possible alternative conceptions, I suggest that STS scholarship, too, has struggled to conceptualise the relationship between science and politics[27].

As I described before, knowledge translation/EIHP frameworks such as the SUPPORT and SURE Tools provide for specific steps to allow for 'stakeholder' participation in EIHP/knowledge translation processes. Chapter 6 showed that a key step involves so-called Policy Dialogues, whereby drafts of Policy Briefs are circulated among, presented to and discussed with participants that often included policymakers, civil society organization, and the media. Where such Dialogues are treated as an opportunity for a variety of stakeholders to consult on a policy issue they may well be seen as an encouraging move towards a more collaborative mode of engagement with a policy problem or a problem of public concern. And yet, I also suggested that the EIHP model of Policy Dialogues primarily serves to integrate scientific evidence with stakeholders' views, opinions and values. As exercises to foster deliberations *on the facts*, such Dialogues thus appear to mainly foster the

[27] As noted in Chapter 4, in clinical medicine, parallel efforts to better integrate scientific evidence with patient values and preferences are currently bourgeoning under the banner of 'shared decision-making' and 'patient-centred' or 'participatory' medicine (e.g. Charles *et al.* 1997; Elwyn *et al.* 2012; Montori *et al.* 2013; Richards *et al.* 2013). At first sight, these developments seem to chime with STS studies that explicitly or implicitly link the participation of those affected by a condition to hopes for a democratisation of knowledge and evidence-making practices (cf. Chapter 1). And yet, in regard to participatory medicine or shared-decision-making, scholars have also expressed doubt that such efforts indeed allow for a renegotiation of expertise or a more collaborative biomedicine (Allen and Cloyes 2005; May *et al.* 2006; Callén *et al.* 2009; Jordan and Court 2010; McNeil 2013; Pols 2014). What seems at least partly at stake in these debates is similar to the issue that I wish to address in this section, namely in how far more participatory processes necessarily recast the relationship between (biomedical) sciences and other forms of knowing and doing.

dissemination and 'contextualization' of 'global' scientific evidence on intervention-solutions to predetermined problems.

Deliberative and participatory decision-making models have in recent decades gained increasing traction in a variety of fields from health to international development, commonly linked to efforts to counteract the dominance of technical or scientific experts in the making of decisions of public concern (for useful overviews see e.g. Abelson *et al.* 2003; Cass 2006). In aiming to ensure democratic decision-making, deliberative or participatory models typically seek to subject technical or scientific expertise to public scrutiny through the involvement of different stakeholders. Despite their seemingly good intents and popularity, however, such models have also faced sustained criticism. In development studies, for example, critics argue that participatory approaches have been turned into tick-box exercises used to engineer public consent to and implementation of (usually foreign) expert-driven pre-determined policies and programs (Cooke and Kothari 2001; Leal 2010). A particular concern has been with the issue of representation, with critics arguing that participatory models may obscure the difficult issue of who or what included participants can indeed be representative of, especially in the context of a largely donor-funded and hierarchically-structured development field (O'Neill 2001; Cass 2006; Mosse 2011). As one particular example of this difficulty, Ferguson (2006) argues that development organisations' involvement of (often) heavily donor-funded civil society organisations as a 'surrogate demos' is a doubly cunning move that at once legitimises donor-driven policies *and* shifts the blame for the failure of such policies onto the shoulders of countries' citizens and their representatives.

Many of these critiques seem pertinent to the way current EIHP/knowledge translation frameworks champion deliberative models, such as Policy Dialogues, in settings like Uganda to ensure policymaking processes that are both, evidence-informed and participatory. As indicated above, this is not to negate that these frameworks are genuinely well-intentioned in their promotion of the inclusion of policymakers and other stakeholders that may be affected by policy decisions. And yet, these frameworks also offer little critical reflection on how these formalised processes can deal with issues of

representation, exclusion, and meaningful knowledge exchange. One particular issue that I have pointed to in previous chapters is the problematic configuration of 'local' knowledge in EIHP frameworks. Beyond what I have argued (and will return to below) to be a problematic juxtaposition between global evidence and local knowledge, there are also questions about the nature of knowledge that these frameworks consider 'local' and relevant. According to the SUPPORT Tools, relevant 'local' evidence comprises "routine data, survey data and data from one-off studies" (Lewin *et al.* 2009: 2; STP11). In other words, local knowledge here largely refers to either 'planning knowledge' (Mosse 2001) in the form of statistical and epidemiological knowledge collected by national and subnational administrative units (and often at the behest of donor organisations), or to local research produced according to the quality marks of a global science. As such, it is precisely not the kind of 'local' knowledge that is typically referred to as 'vernacular', 'traditional' or 'indigenous' knowledges as alternatives to modern science. As noted in Chapter 1, framings that pit scientific against indigenous non-scientific knowledge may themselves risk re-dichotomisation or essentialising such knowledges. Still, in the way EHIP/knowledge translation frameworks predetermine what forms of 'local' knowledge and expertise are relevant to include they also risk excluding truly alternative, critical or even disruptive voices.

This risk is only further enhanced by the way Policy Dialogues are framed as participatory processes that allow integrating scientific *evidence* with the *values or views* of stakeholders. What such a framing arguably achieves is that it turns the political process of deliberation into the mere exchange of disputable views and opinions on the indisputable facts established by scientists. Put differently, the participatory model promoted in global EIHP/knowledge translation frameworks only further reiterates the dualist framework that juxtaposes a plurality of stakeholder values, opinions and preferences with the singularity of nature that can be attested to by objective scientific evidence – "multiculturalism", as Latour put it, as "the flipside of mononaturalism" (Latour 2002: 14). As I noted, what this arguably risks is that it responsible-ises those meant to implement proven interventions or those

targeted by them: it seems inevitable that if interventions are perceived as scientifically proven to 'work', their anticipated not-working in particular situations will be blamed on contextual 'barriers' or oppositional 'values and opinions'. Furthermore, it also forecloses any scrutiny of the 'value' of supposedly global proofs on true intervention effects. Provocatively, one might say that scientific facts no longer have to prove themselves outside of the laboratory.

Yet, Chapter 6 pointed to some of the tensions that may emerge at the interface of demands for evidence of both global excellence and local relevance and that clearly resisted easy dichotomisation into global scientific solutions versus local barriers or adverse preferences/opinions. Using the example of the REACH/EVIPNet/SURE Task Shifting Policy Brief, I suggested that at least some policymakers seemed to question the primacy of evidence on the working of task shifting interventions from 'around the world' over findings that could attest to if, how and under what circumstances particular forms of task shifting may work in Uganda. Moreover, there seemed to be some doubts as to whether the problem to be addressed could be straightforwardly identified as a shortage of health workers. I argued that these objections challenge the easy dichotomisation into scientific facts and stakeholder values and opinions. But more so, I proposed that, by holding on to this dichotomy, current EIHP/knowledge translation frameworks are likely to remain unable to pay sufficient attention to the many concerns and questions that emerge with the situated dimensions of a policy problem – and thus risk failing to link proofs and politics. But how could this link be conceived otherwise?

Over the past decade or so, STS scholars, too, have become increasingly interested in the role that scientific expertise may legitimately play in political decision-making processes. At least for some scholars, this has been motivated by concerns that STS efforts to undermine scientific authority based on appeals to 'objectivity' and 'truth' left scientific expertise and facts vulnerable in the face of growing attacks from climate change deniers, war-mongers, and conspiracy theorists (see e.g., Latour 2004; Law 2009; Stengers 2016). In many ways, these STS scholars could be said to have

thus grappled with a problem that is not dissimilar to that posed by proponents of evidence-for-policy approaches, namely how to conceive of a link between science and politics in a way that both acknowledges scientific expertise and at the same time establishes limits of scientific authority.

In drawing these parallels I do not wish to propose that it is possible, or even desirable, to reduce to one 'meta-problem' what are undoubtedly a plethora of multiple concerns of various scholars from diverse disciplines. Nonetheless, emphasising such parallels, as I have aimed to do at various points throughout this thesis, underscores that the problematic questions articulated by efforts to link proofs and politics are indeed demanding. Rather than dismissing others' efforts of grappling with these challenging questions, this thesis has been committed to 'staying with' and learning from the 'trouble' that could be said to necessarily arise when analytical propositions (including my own) are put to the test. Indeed, it could be argued that within STS, too, the more concrete – or, in John Law's words, 'prescriptive' (Law 2009) – propositions by STS scholars have been for how sciences may be 'brought into democracy' (Latour 2004), the more they have been challenged by colleagues.

A key example is Bruno Latour, who followed his initial project aimed at re-defining science (by arguing that is has never been modern (Latour 1993b)) with the self-imposed challenge of reformulating politics (Latour 2004). As in his previous work, these latter efforts have focused on the assemblage and articulation of human and non-human actors, yet this time with the goal of re-imagining politics as the "progressive composition of a good common world" (Latour 2004: 8). In other words, whereas Latour's descriptions of scientific fact-making were concerned with the co-emergence of nature and society as consequences of their artificial division, his latter aim has been to rethink politics as if such a division did not exist. Key to this is precisely a reclaiming of the meaning of 'politics' from what Latour describes as its usual restriction to the "values, interests, opinions, and social forces of isolated, naked humans" (Latour 1999: 290). As he argues, this narrow understanding of politics relies precisely on the concomitant understanding of nature as a singular and discoverable reality: while viewpoints may diverge, consensus

and truce will always be possible in the name of rationality and a shared commitment to a singular reality – "[p]assions may divide us, but we can rely on reason to reunite us" (Latour 2002: 7).

Latour's proposed solution for a "politics without nature" (Latour 2004: 228) involves the formation of a new type of collective that deliberate on issues of shared concerns. This 'Parliament of Things', he proposes, should be based on a constitution that lays out the tasks and procedures that gather humans and non-humans as part of such new collectives:

> "Instead of two powers, one hidden and indisputable (nature) and the other disputable and despised (politics), we have two different tasks in the same collective. The first task will be to answer the question: How many humans and nonhumans are to be taken into account? The second will be to answer the most difficult of all questions: Are you ready, and at the price of what sacrifice, to live the good life together?" (Latour 1999: 297).

Accordingly, Latour's constitution is based on six functions – perplexity, consultation, hierarchy, institution, separation of powers, and scenarization of totality – to which different groups, notably scientists and politicians, may contribute differently. The specific contributions of scientists, Latour proposes, include using their instruments to detect "the swarming of different imperceptible propositions that demand to be taken into account" (Latour 2004: 138), experimentation to produce reliable witnesses, and the ability to resolve controversies and produce black boxes. Politicians, on the other hand, contribute to all functions of the collective as spokespersons for 'different matters', whose tasks include bringing back previously excluded voices, responding to the requirements of the 'external reality', and judge matters of concern based on criteria of relevance (ibid.: 143ff). According to Latour, this new set-up abandons the modern settlement of the relationship between scientists and politicians that rests on splitting the world into two: a realm of facts/nature (as the purview of science) and values/the social (as the responsibility of politicians). His constitution, he argues, involves a "division of labor, but there is not a division of the collective" (ibid.: 148).

Latour certainly deserves credit for taking up the task of thinking through the potential consequences of some his own propositions, namely how to live together well without recourse to a given nature as arbiter. At first sight, his proposal for the relationship between science and politics thus differs significantly from the one proposed in EIHP/knowledge translation frameworks. Current EIHP/knowledge translation frameworks could be said to precisely insist on the right evidentiary rules and tools to find evidence of 'matters of fact', of an independent and mute reality, as the basis for rational political deliberations. The Latourian proposal, in contrast, conceives of scientific findings as 'propositions' or matters of concern. As such, it avoids the a priori assumptions of a world split into facts and values, but also stipulates the need for scientists and policymakers to "work on the same propositions" (Latour 2004: 148) to determine if these propositions should be instituted or rejected as part of the common world. Policymakers, according to Latour, are not just opinion-holders but spokespersons that represent 'external reality', and are thus part of the jury that evaluates scientific propositions once they leave the sheltered space of the laboratory (ibid.: 144-145).

And yet, Latour's proposal has also been critiqued as an overly prescriptive attempt to formulate the legitimate procedures for the workings of world-building collectives (e.g. de Vries 2007; Law 2009). More so, in its prescriptiveness, it could also be argued to show certain similarities with EIHP/knowledge translation toolkits. For once, Latour arguably treats notions of participation and deliberation as ends-in-themselves, that is: the more of both the better. As a consequence, he largely ignores existing problematisations of these terms, including some of those mentioned above that concern questions of representation and exclusions. Provocatively, it could be said that Latour's account shares EIHP frameworks' uncritical advocacy of participatory democracy. At least partly, this arises precisely from Latour's aim to produce a prescriptive or normative account of the 'right' procedures to do politics. In many ways, this account is a mirror imagine to EIHP/knowledge translation frameworks that insist on right procedures to elicit the best scientific evidence: both approaches stipulate the need for a set of

general procedures or methods to distinguish the 'good' from the 'bad', and to determine the appropriate role for everyone involved in establishing an agreed way forward. For Latour, a "single, homogenous order" (Latour 2004: 243) may not be the starting but the end point of deliberative processes. But he, too, could be said to foreground the need for general rules, legitimacy and unity – with the consequence that specificity, contingency and heterogeneity emerge as barriers that need to be overcome rather than sustained.

As noted above, my elaborations here do not serve to pit different approaches against each other in order to highlight each of their shortcomings. Rather, it is to highlight the demanding nature of the challenge of thinking through the relationship between science and politics. As such, it also reflects my own processes of trying to come to terms with these issues as I grappled with them across multiple domains at once: the extensive and often highly technical EIHP literature, my interviews and interactions with Ugandan knowledge translators and health professionals, and the STS and wider academic literature. The aim of this thesis, I realise, cannot be to propose a solution to these complex issues. Rather, it must be to try and learn from and with others as a process that bears the possibility of moving forward together.

Indeed, I proposed that – in contrast to the clear-cut-ness of EIHP/knowledge translation frameworks – Ugandan EIHP/knowledge translation experts seemed not only aware of the tensions between demands for global excellence and local relevance, but also much more attuned to the situated nature of evidentiary claims. I suggested that these translators'/brokers' ambiguities towards global evidence and the role of contexts in the workings of interventions could be seen as 'gestures' or prompts towards a more careful conception of the situated value(s) of evidence(s), and towards a more careful engagement with how a problematic situation matters to other 'stakeholders'. Gestures, that I found resonating with the proposals of some of the scholars whose work I engaged with in parallel.

Towards the end of this thesis, I thus wish to briefly return to the work of Isabelle Stengers and Helen Verran, each of whom I propose offer valuable tools for imagining the possibility of peaceful co-existence premised on the sustenance of heterogeneity and difference. Whereas the aim is to re-think

the relationship between proofs and politics, I do not pretend to offer a solution for the problem(s) that evidence-for-policy efforts seek to address. Rather, my aim is for a speculative 'peace offering' that may provide a less divisive starting point for future work.

Re-connecting Proofs and Politics – re-embedding science in a messy world

Isabelle Stengers shares with Latour a concern for the possibilities of a (re-)invention of politics. She proposes the notion of 'cosmopolitics' to denote, similar to Latour, the slow and demanding process of enabling collective existence. Yet, Stengers' cosmopolitics also explicitly shuns political theory with its legacy of Greek philosophy and debates on participatory systems of governance. Such participatory and deliberative processes, Stengers insist, may allow the gathering of diverse concerns and experiences, yet they also rely on those who are gathered to accept the legitimacy of these processes. The prefix 'cosmo', she argues, thus serves to

> "[…] signal the limitation of such a political process […] cosmopolitics recognizes that we also need to pay attention to the potentially disruptive, the uninterested, the unknown, and – most of all – those humans and non-humans that 'bear the consequences'" (Stengers 2016: 10).

Stengers pays tribute to the Latourian idea of a Parliament of Things as an idea for an arrangement that gathers, in Stengers' interpretation, practitioners as 'spokesperson of things' around an issue that is given "the power to problematize each diverging contribution" (Stengers 2016: 9). But she also cautions that this is an utopian idea and one that needs to pay attention to its own doubts and limitations, since for every collective adventure there is a "silence" (Stengers 2011: 368) that speaks of the unknown and unfamiliar that lie beyond the common ground. In contrast to Latour's rules-based approach to achieve a homogenous order, Stengers' cosmopolitical proposal is thus primarily concerned with the sustenance of heterogeneity and difference. Where Latour advocates for a proliferation of actors and concerned parties as a way to legitimize the agreement on a 'single order', Stengers advocates for a proliferation of those able to object the hasty closure of things, to prevent

"rushing toward a solution" (Stengers 2011: 361)[28]. More so, what is central to her cosmopolitics is not the adherence to rules that ensure agreement on a common world, but both an ethos and a practice that make possible "a world where many worlds fit" (Stengers 2016: 3). Stengers 'cosmopolitics' is thus inseparable from her notions of ontological politics and ecologies of practices that I discussed in Chapter 2: all practices, including (diverse) sciences, are situated by the obligations and commitments placed on their practitioners; and key to what is required for a peaceful coexistence is the ability of spokespersons to 'make present' what it means to belong to their (diverging) practices and accept the singularity of point of view they produce. In other words, cosmopolitics combines a radical demand for the appreciation of difference with the speculative hope that peaceful collective existence may be possible based on a "(partial) articulation between antagonist commitments" (Stengers 2016: 3).

While Stengers insists on the necessity to defend the specific achievements of experimental sciences, at the heart of her cosmopolitics are two therefore proposals. On the one hand, the hope for a better, 'slow' science that is creative, experimental and curious, and that does not loose itself in claims to rationality and conventional notions of objectivity. On the other hand, a proposal for re-constituting of the relationship between sciences and other practices. In terms of the former, she proposes a 'slow' science characterised by

> "the demanding operation which would reclaim the art of dealing with, and learning from, what scientists too often consider messy" (Stengers 2011a: 10).

What this requires of scientists, she proposes elsewhere, is to resist submitting to 'the rule of objective knowledge' and instead embark on 'an adventure of relevant relations' (Stengers 2011b: 83). What these relevant relations may look like will differ for the various sciences (cf. Stengers 2011a),

[28] Her related demand that there are no rules that are or should be valid for everyone leads her, for example, to propose the figure of the 'idiot' as a conceptual disruptive character "who slows others down, who resists the consensual way in which the situation is presented" (Stengers 2005: 994).

and I cannot achieve to discuss this in detail here. But in many ways, Stengers' plea resonates with a recent call by anthropologists for more 'slow research' in Global Health that pays attention to the concern of those affected rather than just measurable and standardizable outcomes (Adams, Burke, and Whitmarsh 2014). In other words, with a call for scientific endeavours that give time and careful attention to an inquiry into how things come (in-)to matter within their entangled environment, rather than imposing what matters to scientists in the name of obtaining 'objective' knowledge.

It should be noted that Stengers' proposal does not involve a demand for a new science that can fully apprehend the 'messiness' of the world. On the contrary, following Whitehead, Stengers insist that all sciences "abstract what matters for each of them from an always entangled world" (Stengers 2011a: 4). However, she equally insists on the need to "be vigilant about one's abstractions" (Stengers 2011a: 4) – that is, to appreciate abstractions as situated achievements contingent on the conditions of their production. What slow science then means to Stengers is the two-fold process of choosing the right tools to pay due attention to what matters in each specific situation, and to appreciate that paying attention to some things necessarily involves paying less attention to others. In other words, a slow science avoids

> "any confusion between the questions that are actually answered and the questions that will arise in the wider and inevitably messy environment" (Stengers 2011: 10).

These proposals resonate with my own propositions, developed in the previous chapters, regarding evidence-informed policymaking: namely for a conception of evidence that insists on the inseparability of quality and relevance – of measuring and mattering – in the value of evidence. In other words, what 'good' evidence is is always already situated as it corresponds to the ability to respond to the concerns and fulfil the demands that are part of the context of its production. On the one hand, such a conception may indeed encourage biomedical and health systems research that is less oriented towards producing generalizable evidence that an intervention 'works', and more towards a degree of flexibility that allows for greater attentiveness towards what it may take for an intervention to work in specifics situations, or

how it could be made to work for those targeted by an intervention even if this may require adapting standardised research protocols[29]. In other words, it may foster modes of inquiry that – rather than treating the messiness of the word as a disruptive barrier to be overcome in the name of objectivity – take up the challenge of messiness as a something that we "have to learn to live and think in and with" (Stengers 2011a: 10). In practice, this may involve experimenting with research designs that aim to learn to pay better attention to how 'contexts' or values and preferences are not separate from but an inextricable part of and contribute to the workings of healthcare interventions in situated milieus. But on the other hand, it may simply involve the demand for a greater appreciation of the situatedness of each evidentiary claim.

In terms of the latter, this may mean to, first, paying greater attention to both, what researchers pay attention to and what, conversely, is 'abstracted away' in the specific experimental situation that produces an evidentiary claim; and second, a greater understanding for the limited reach of evidentiary claims beyond the specific experimental demands they fulfil. What this may allow, or so I want to suggest, is to avoid the outright dismissal of currently dominant modes of biomedical/healthcare knowledge-making, such as RCTs and Systematic Reviews. Indeed, I argued in Chapter 4 that a careful engagement with others' knowledge practices may well require that we appreciate that experimental methods such as RCTs can achieve to produce evidence that experimenters take as trustworthy proofs for their experimental claims. At the

[29] What this may look like in in the context of EBM was recently explored by Rosengarten and Savransky (2018) at the example of so-called 'adaptive' trials to test Ebola vaccines, Rosengarten and Savransky describe efforts by investigators to balance the need for a methodological gold-standard with the need to adapt the trial protocol as an attempt to remain responsive to 'the demands of the situation' in a process of 'ongoing learning' (ibid.: 7-8). As Rosengarten and Savransky also caution, adaptive trial designs are usually subsumed under existing biomedical logics that prioritise generalizable results. Indeed, adaptive trials are often promoted as a modification to the RCTs model to make drug testing faster and cheaper (e.g. Bhatt and Mehta 2016; Bothwell *et al.* 2018) rather than as part of a slower and more 'careful' biomedicine that Rosengarten and Savransky advocate. Yet, work such as theirs opens exciting avenues for *thinking with* existing biomedical practices as a way to imagine what an 'adventure of relevant relations' (Stengers 2011b) may look like within these fields.

same time, however, it would also demand that proponents of such experiments acknowledge that the construction of what they see as trustworthy proofs is an achievement “with a price”, as Isabelle Stengers (2008: 100) puts it. That is, the construction of trustworthy evidence cannot be disentangled from the question whose answer this evidence may be able to attest to. Conversely, because experimental proofs are constructed as part of specific experimental situations that involve situated concerns and demands, they can only ever pay attention to some things at the expense of others. Simplified, one might say that the ‘price’ that RCTs pay for the achievement of objectivity also entails that they are less apt to pay attention to the many contingent factors that contribute to the ‘workings’ of interventions in each specific context. Relatedly, RCTs may be an appropriate tool to provide proofs for the claim that an interventions ‘works’ in a particular and ideal experimental situation, but such proofs should not be taken to be able to attest to the workings of this intervention in a different, non-experimental situation.

A similar argument could be made in regard to Systematic Reviews. Although some proponents may be adamant that Systematic Reviews are a indeed a scientific method precisely because they incorporate the same steps as other scientific modes of enquiry (e.g. Chalmers 2003), I do not think that it would conducive to treat Systematic Reviews as an ‘experiment’ in the sense used by Stengers. A key aspect that, according to Stengers, makes experimental sciences worth defending is that experimenters subject themselves and their theories to the test and thus, crucially, accept the risk of failure (Stengers 2000). That is, rather than imposing their questions onto their objects of study, experimenters acknowledge that it is the objects of study that put their questions to the test (Stengers 2000: 133). In contrast, there is ostensibly little risk involved in the production of a Systematic Review, where among the key aims are the detection of ‘biases’ in others’ research practices and the selection of only those studies able to answer a pre-determined question of concern for the reviewer. What this arguably also involves is actively discounting the reasonings of researchers themselves for why their research mattered in the first place in favour of pursuing a higher-level ‘objective’

knowledge. As such, I have no ambition to *defend* Systematic Reviews as a mode of knowledge-making. This is not to deny, however, that Systematic Reviews do indeed involve the production of new knowledge (cf. Chapter 4; Moreira 2007); and neither does it foreclose accepting that there currently seems to be a broad consensus among biomedical researchers that such reviews may answer some of the questions, and address some of the challenges, that matter to them. The hope, however, would be that proponents of Systematic Reviews, as proponents of any knowledge-making practice, became more attuned to the situated nature of their motivating concerns, of what they pay attention to and what is, conversely, 'abstracted away', and of the claims that Systematic Reviews as evidence may attest to. Conversely, it also entails the need for resistance where proponents of Systematic Reviews choose to ignore the particular and situated nature of their practice and instead insist on the primacy of their methods and the authority of their findings in the name of an 'objective' science (see above).

I want to propose that a re-conceptualisation of evidence-making as a contingent achievement and a greater appreciation of the situatedness of (all) claims and their evidentiary proofs may be a first crucial step towards alternative ways of imagining the link between proofs and politics. Because it involves the demand that research evidence – and the scientific facts to which this evidence is claimed to bear witness – has to prove itself outside the laboratory where it is faced with the concerns and objections of other practitioners and non-scientists. In other words, when scientific findings are taken beyond the context of their production, the question of their value and trustworthiness automatically becomes a political issue (cf. Stengers 2011a). Related to my argument above, this entails that scientists – or their EIHP proponent spokespersons – would not be able to claim that their evidence(s) provide proofs for the objectively 'best' solutions to a (policy) problem, especially not where this involves the simultaneous requirement to re-configure the problem in a way that makes it amenable to existing solutions (cf. Chapter 6). As such, it may open up a space for engagements between EIHP proponents and policymakers that are not geared towards the transfer and dissemination of science-based solutions to pre-defined problems.

Instead, EIHP may be re-imagined as a process that gather diverse practitioners around a (policy) problem that makes them think and learn together.

As I have highlighted in this thesis, in many ways, such openings are already present in current knowledge translation/EIHP frameworks, as certain EIHP components, such as Policy Dialogues, and ideas, such as 'knowledge brokering', indicate a genuine concern for democratic decision-making and collaborative processes. Even more so, such openings emerged from the way Ugandan researchers tried to negotiate their roles as both 'translators' of particular forms of knowledge and 'brokers' between different communities of practice, roles that did not always seem congruent. As Chapter 6 argued, Ugandan REACH/EVIPNet/SURE researchers seemed not only attuned to the 'value' of a range of different evidences, and insistent that the question of what constituted the 'best' evidence could not be disassociated from the demands that this evidence would have to fulfil. But, as part of this, they also expressed appreciation for the different roles and concerns of researchers and policymakers. In the following, I shall elaborate in how far these examples could indeed be seen as 'gestures' towards possible alternative forms of (Policy) Dialogues as the basis for a different form of evidence-informed health policymaking. To further explore what this may look like, I briefly return to Helen Verran's work on the possibilities of working together and across diverse knowledge practices.

Verran (2015) recently proposed the notion of a 'generative dialogue' for successful engagements between diverse communities of knowledge and practice in the name of a shared concern or 'public problem'. Drawing on observations gathered as a participant of a workshop on farming firing practices involving both environmental scientists and Aboriginal landowners, Verran (2015) highlights the generative potential of such gatherings where they are not conceived as exercises aimed at the exchange of knowledge but as a particular form of collective practice[30]. According to Verran, where such gatherings concern a 'public problem' they impose additional commitments

[30] See also Verran and Christie (2011) and Green *et al.* (2015) for similar efforts to describe 'ontic innovation' as part of working across diverse knowledge traditions.

and demands that attending practitioners have to attend to. Involved practitioners have to thus honour their obligations in/to the present situation *and* their (likely conflicting) obligations in/to their particular knowledge practices in what Verran calls an ethos of "good faith and bad will" (Verran 2015: 53). That is, a successful dialogue, the 'going-on together', requires both a commitment to collective learning and doing that attends to the shared problem in ways that may generate new responses, *and* a recognition that existing divergences make this a fragile and always partial achievement. Verran would of course bridle against the integration of these insights into a generalizable set of tools to improve working across knowledge practices. Still, her insights have acted as a further 'lure' in regard to my own question of what it may take to speculatively re-imagine the link between proofs and politics in global health.

What this thesis has argued is that such a re-imagination would be based on a greater appreciation that the value(s) of evidence(s) are inseparable from the (different) claims they attest to and the specific questions that are being posed. That is, it would require resisting a formulation of 'best' evidence as evidence that is disembedded and validates objectively-verified and universally applicable solutions in the form of 'what works'. Or, at the very least, it would involve opening up the question of what disembedded 'global' evidence on 'what works' can indeed attest to – and what not. I want to suggest that such an appreciation for the situatedness of evidence may be the basis for re-imagining Policy Dialogues as generative gatherings. In other words, such dialogues would no longer serve as communication exercises to 'transfer' stable knowledge and evidence on 'what works' to policymakers, or to exchange views or preferences (as projectable onto facts of a singular reality). Rather, such dialogues may be imagined as an assembly of multiple and diverse practitioners – including researchers and policymakers – who diverge in their specific concerns and attachments but are gathered by a problem that obliges them to learn and think together. In an effort to address 'real-world' policy issues, 'messy' contexts could no longer be dismissed as 'barriers' and objections discounted as mere 'values, preferences and opinions' and juxtaposed with objective evidence on solutions that have been

shown to ‘work’. Instead, such messy contexts would be appreciated as part of the situated dimensions of a policy problem. Where this problem would be given, as Stengers might put it, the “power to problematize” (Stengers 2016: 9) participant-practitioners’ diverging evidentiary contributions, such dialogues would indeed be generative of new questions or may even transform the issue at stake, precisely because practitioners would learn from the way that others are concerned.

Beginning with a shared problem or matter of shared concern, these dialogues could ask: what are the questions that are being raised in relation to this issue?; what is at stake and for whom; who are the ones affected?; what may be diverging contributions that are required in response?; (how) are these contributions problematized by – and (how) may these contributions re-configure – what is at stake?; and what would it take to partially connect such diverging contributions in ways that may allow not the implementation of a verified solution, but the collective formulation of an evidence-informed but contingent proposition?

In other words, to cultivate a different approach to linking proofs presumed by evidence-making processes and politics requires re-thinking the problem: to take as a starting point not the *separatedness* but the *inseparability* of facts and values, and of science and politics.

Conclusion: towards different futures

As noted in the Introduction chapter, this project developed in response to what has presented itself an ever-evolving problem. In many ways, this process was activated through a series of moments of crisis. This included the early challenges I encountered during my archival research at the WHO, prompted by the archive’s confidentiality period and my struggle to find and select relevant documents. It also involved being confronted, during my first visit to Uganda, with the fact that my initially rather critical views contrasted significantly with the enthusiasm for and commitment to evidence-for-policy processes among Ugandan EIHP experts/knowledge translators and policymakers. The sense of crisis this induced was further exacerbated by a realisation that those EIHP/knowledge translation efforts I had set out to study in Uganda were on hold due to a shortage of both foreign and domestic

funding. This not only presented a significant obstacle to my initial plan to ethnographically study the 'doing' of EIHP/knowledge translation in Uganda. But the frustration and even despair expressed by Ugandan knowledge translators I met further prompted the difficult question of who and what my research would be for, and what a 'critical' approach could achieve.

As I elaborated in Chapter 2, I chose to approach these challenges not as barriers to be overcome, but as entry points to explore some of the analytical and ethico-political questions they raise in regard to my own efforts to engage with EIHP as an object of study. This involved being an 'apprentice' (Savransky 2016) in a dual sense: at the same time that I learned about EIHP/knowledge translation processes and the (diverse) problems that they are meant to address, I also sought to learn from and experiment with the analytical tools available from across a broad range of social science literatures. This iterative approach prompted a shift in my mode of engagement with EIHP from corrosive critique to constructive engagement. What has persistent, however, has been my concern with the relationship between (biomedical) modes of knowledge-making and the enduring legacies and contemporary reverberations of Western colonial expansion.

Global health as a field remains – despite the explicit demarcation efforts vis-à-vis its predecessor projects (e.g. Koplan *et al.* 2009) – marred by scholarly critiques of its neo-colonial and imperial character (Crane 2013; Anderson 2014; Biehl 2016). One key target of such critiques have been the enduringly uneven North-South relationships that stem from unequal access to resources and funds. As scholars have shown, in many sub-Saharan African countries such unevenness all-too-often continues to translate into top-down decision-making by Global North funders, agencies and researchers, with limited input from Global South governments, organisations, managing staff and/or researchers (Geissler and Molyneux 2011; Crane 2013; Wendland 2016; Graboyes and Carr 2016; Geissler and Tousignant 2016; Geissler *et al.* 2016). At the same time, scholars often highlight the ambiguities and chafing that continue to characterise modern biomedicine's presence in many places. Whereas postcolonial STS scholars have long urged social scientists to pay greater attention to 'contact zones' (Anderson 2002) or zones of 'friction' to

capture the “effects of encounters across difference” (Tsing 2004: 6), recent scholarship has also pointed to the perils of critiquing (biomedical) science in Africa as a hegemonic and seamless apparatus that displaces indigenous knowledge – arguing that this (re-)configures science and biomedicine as essentially ‘Western’ (Verran 2001; Wendland 2010; Crane 2013).

During my visits to Uganda, the presence of foreign funds, organisations and researchers was conspicuous, and their perceived influence on policy and research priorities a common topic in my interviews and conversations with Ugandan health professionals. And yet, I also learned that against this backdrop, evidence-for-policy efforts in many ways did not feature as part of the problem of a Global North-dominated global health, but as part of a possible solution. The REACH Initiative, for example, has been envisaged to not only translate research findings into tangible benefits for the Ugandan population and to strengthen independent and sovereign policy decision-making. But it is also hoped to incorporate a feedback-loop that fosters better alignment of what remain largely foreign-funded research projects with national priority health issues (cf. Chapter 5). In order to account for this, my thesis has sought to refrain from critiquing evidence-for-policy approaches by either treating them as a part of a hegemonic ‘evidentiary regime’ or by trying to debunk the quest for trustworthy scientific evidence. Instead, this thesis has been committed to carefully engage with the (varying) concerns of those who support and foster knowledge translation/evidence-for-policy process, at the same time as examining the problematic questions articulated by the demand to link scientific proofs and politics in practice. In engaging with biomedical/health experts in Uganda, the focus on this thesis has thus not been on ‘other’ (i.e. ‘indigenous’ or ‘traditional’) knowledge practices. Rather, it has been with biomedical science itself, or better, with some of its rules and tools taken up in health systems research and incorporated in EIHP/knowledge translation frameworks. And yet, my concern has been with a (biomedical) science that is fit for post-colonial times, a science that, as Helen Verran (2011: 237) puts it, “gives the chance for doing a politics of difference”.

As highlighted by Chapter 1, the question of how epistemological and ontological difference figures in and is re-configured by biomedicine has produced an ever-growing body of STS literature. Important work has, for example, highlighted the multiplicity of practices subsumed under what is often treated as a unified field (e.g. Berg and Mol 1998; Mol 2002), as well as produced insightful accounts of how biomedical practices and standards actively co-construct and re-define difference (e.g. Bowker and Star 1999; Epstein 2004; Epstein 2007; Hammonds and Herzig 2008; Roy 2012; Pollock 2012). I also pointed to Timmermans and Berg's seminal work on EBM in North America and Europe, which sought to alleviate concerns that the expansion of standards necessarily entails the progressive homogenisation of clinical practice by arguing that EBM standards are in fact generative of difference in practice (Timmermans and Berg 2003). More so, they proposed that it is precisely the adaptability and differential use of biomedical standards across various locales that undergird their successful diffusion (Timmermans and Berg 1997).

These literatures have offered valuable inspiration for my own efforts to come to grips with evidence-for-policy approaches as my object of study. Without a doubt, recent decades have witnessed the proliferation and expansion of particular evidentiary rules and tools in the name of linking proper research evidence to not only clinical but also policy decision-making. And yet, in emphasising the 'liveliness' of evidence-for-policy efforts, this thesis has sought to highlight that such efforts have been far from homogenous across different times and locales. In that regard, Chapter 3 highlighted two different evidence-for-policy 'regimes' that took hold at WHO between the late 1990s and the early-to-mid-2000s, each associated with a particular articulation of the problem to be addressed and a proposed solution. Chapter 5 and 6, on the other hand, proposed that the hopes associated with evidence-for-policy efforts in Uganda far exceeded the narrow framing contained in international demands for the closing of a 'know-do gap'.

Still, my own concern with emphasising the 'liveliness' of evidence-for-policy efforts has not primarily been with trying to describe and multiply the many human and non-human things that converge in the various makings of EIHP

across various contexts. In this sense, my concerns diverge from those of scholars like Bruno Latour, but also from, for example, Annemarie Mol's efforts to multiply objects by describing how they are enacted differently across different contexts and practices. Rather, my aim has been to learn how evidence-for-policy efforts *matter* differently across diverse contexts and locales; but to also propose that standardised 'global' EIHP/knowledge translation frameworks fail to account for such differences.

Chapters 5 and 6 thus further underscored the heterogeneity of evidence-for-policy efforts, but also aimed to point to some of the consequences that may arise when EIHP/knowledge translation frameworks themselves leave little space for variation. This is not to say that these frameworks do not explicitly acknowledge difference in various ways. Indeed, I noted that as part of the SURE project Ugandan knowledge translators were tasked with 'adapting' these global frameworks as well as specific tools such as Policy Briefs, the latter with the aim of matching the design of briefs with the preferences of local policymaker- 'consumers'. More so, I argued that key underlying ideas of these frameworks – the 'cumulation', 'translation', 'adaption' and 'contextualisation' of research evidence and its 'integration' with stakeholder values and opinions – all attest to a recognition that healthcare interventions may not work the same or be equally appropriate everywhere. But at the same time, I suggested that these frameworks render difference in a particular way, namely largely restricting it to the 'local' social, cultural or subjective, in continuing opposition to 'hard' facts that can and should be established and globally circulated in the name of objective scientific solutions. Based on what I learned during my fieldwork in Uganda, I proposed that such 'global' EIHP/knowledge translation frameworks/toolkits that focus on the circulation and contextualisation of 'global' evidence on 'what works' thus pay insufficient attention to the many concerns and questions that emerge with the situated dimensions of a policy problem – and, as such, risk failing to link proofs and politics.

And yet, as repeatedly noted, I have also committed myself in this thesis to refrain from a criticism of evidence or evidence-for-policy efforts, in favour of a careful and generative critique that can contribute to possible re-formulations

of what ‘good’ (scientific) evidence is and how it may come (in-)to matter. My proposal to re-conceptualise evidence-making as a situated and contingent achievement thus seeks to make possible a different approach to evidence-for-policy efforts that is based on an appreciation that things matter differently, not only across different situations and locales, but also for different (knowledge) practices.

This emphasis on constructive engagement rather than corrosive critique is an essential part of this thesis’ commitment to enact the politics that it wishes to see. Re-assembling EIHP as a matter of and for care has thus involved paying attention to what mattered to those supporting evidence-for-policy approaches, especially Ugandan EIHP/knowledge translation experts for many of whom their efforts seemed so inextricably linked to hopes for a different, better future for their home country. It has also involved taking into account the consequences of my own knowledge practices. Key to this has been my aim to tell stories and engage in a mode of storytelling that may open up, not close down, a wider debate on some of these issues. In other words, by engaging with some of the problematic questions that are being posed in regard to contemporary demands of EIHP, my hope is that we may be able to not just reject but collectively re-think what it may mean to better link proofs and politics in global health. As such, my aim in re-assembling EIHP as a matter of and for care has not been to show what evidence-informed policy *is*. Rather, this thesis has laboured towards imagining what it *could become* – beyond what I framed as the opposition between submission to its current claims of providing truth-based solutions for rational decisions and its rejection as a ‘hegemonic’ regime that deserves to be debunked.

In the end, my hope is that this thesis may indeed create some new and relevant ideas, especially for global health scholars who, like me, feel committed to a constructive engagement with ‘other’ biomedical and health sciences; but even more so, for those Ugandan EIHP/knowledge translation experts who have reminded me that good science indeed matters. This can only be a speculative hope – and I acknowledge the risk that has come with this endeavour. Still, I also trust that it has been a risk worth taking. To paraphrase Isabelle Stengers (2011a): while we cannot know the future or

how our interventions may affect it, we should nonetheless aim for our own interventions to contribute to the creation of a future worth living.

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