Knowledge and power in policy-making for child survival in Niger

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ABSTRACT

Calls to enhance the use of scientific evidence in international health and development policy have increased in recent years; however, analytic frameworks for understanding evidence use focus narrowly on scientific research and were created using data and observations nearly exclusively from Western countries. We examine processes of health policy development in a case study of Niger, a low-income West African country that adopted integrated community case management of childhood illness (iCCM) beginning in 2007, resulting in measurable declines in child mortality. Data collection included in-depth interviews with policy actors in Niger (N = 32), document review (N = 103) and direct observation of policy forums (N = 3). Data analysis used process tracing methodology and applied an Aristotelian definition of "knowledge" as 1) *episteme* (facts), 2) *techne* (skills) and 3) *phronesis* (practical wisdom), while also using a critical perspective to understand issues of power. We found sharp differentials in policy-makers' possession and use of codified forms of knowledge (*episteme*), with Nigerien policy officers' access highly mediated by actors at international agencies. Government policy-makers possessed skills and capacities (*techne*) to negotiate with donors and deliberate and weigh conflicting considerations; however they lacked capacity and resources to formally evaluate and document programs and thus reliably draw lessons from them. Practical wisdom (*phronesis*) emerged as key to the iCCM policy enterprise, particularly among Nigerien government actors, who used logical and ethical arguments to make decisions later found to be critical to iCCM's success. While codified knowledge confers power on members of policy discussions who can access it, this represents only one form of knowledge used in the policy process and perhaps not the most important. Future research on evidence-based policy should use broader definitions of evidence or knowledge, examine on how power conditions the use of knowledge, and examine challenges specific to low-resource policy environments.

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1. Background

Evidence-based policy-making is believed to produce higher quality policies and when it comes to child survival policy, the stakes are incredibly high: each year nearly 6 million children under 5 die, nearly all in low- and middle-income countries (LMICs), with the three leading causes of death being pneumonia (15% of deaths), diarrhea (9%), and malaria (7%) (Liu et al., 2012; You et al., 2015). To increase access to prompt and effective treatment of childhood illness, global-level policy-makers developed integrated community case management of childhood illness (iCCM), an evidence-based strategy to provide life-saving care for these three diseases (Young et al., 2012). To date, nearly all African countries have adopted some form of iCCM policy (Rasanathan et al., 2014).

In recent years, calls have increased to move toward evidence-informed decision-making in global health and public policy following observations in the 1990s and 2000s that policies did not reflect evidence as much as they could and that stores of useful research were going to waste (Davis and Howden-Chapman, 1996; Hanney et al., 2003; Lavis et al., 2002). Concurrently, new directions are emerging in the types of knowledge considered relevant to health policy making, with a growing consensus that earlier conceptions of evidence, defined "statistical inference about events in populations that are studied prospectively," were too narrow and

should be expanded to include observational and qualitative studies and health policy and systems research (HPSR) (Black, 2001; Fox, 2005; Sturm, 2002). However it is unclear the extent to which these recommendations, alongside global initiatives such as WHO's Evidence-Informed Policy Network (EVIPNet) and Alliance for HPSR, among others, which produce policy briefs, research syntheses and analyses of policy options, have achieved the broader goal of informing health policy decision-makers in LMICs (Rosenbaum et al., 2011).

Systematic reviews drawing mainly on studies from Western countries have identified numerous barriers to the use of evidence in policy-making, including nonexistent or low-quality evidence (Oliver et al., 2014a; Orton et al., 2011), lack of contact between policy-makers and researchers (Innvaer et al., 2002; Orton et al., 2011) and policy-makers' insufficient research skills or awareness of research findings (Oliver et al., 2014a; Orton et al., 2011). Meanwhile the public health and public policy literature are just beginning to explore the use of evidence in policy-making in LMICs and identify specific challenges inherent to low-resource settings (Rodríguez et al., 2015b; Greenhalgh and Wieringa, 2011). While policy-makers in LMICs nearly universally cite evidence as being crucial to making good policy decisions (Burchett et al., 2012), existing studies tend to emphasize the under-use of relevant evidence or data to inform decision-making (Gupta et al., 2003) or specific barriers to using research, echoing the barriers noted above for Western countries but also including political, budgetary or bureaucratic obstacles (Aaserud et al., 2005; Mubyazi and Gonzalez-Block, 2005; Woelk et al., 2009). In addition to problems of under-investment in research, governments in LMICs also have fewer human resources to devote to policy development processes, quantitatively and often qualitatively, resulting in lesser capacity to assess evidence and incorporate it into policy (Ogundahunsi et al., 2015; Olivier de Sardan & Tidjani Alou, 2012).

Existing theoretical and empirical work on evidence-based policy-making has focused, implicitly or explicitly, on uptake of peer-reviewed academic research evidence, a narrow definition of knowledge attributed to the rationalist epistemological stance found in evidence-based medicine. Whereas policy-makers themselves interpret "evidence" in a broader sense, including forms of knowledge beyond research evidence strictly construed (for example practical experience and tacit knowledge), the public health literature as yet mainly has not, leading to under-emphasis on sociological aspects of knowledge use in policy development and particularly the role of power (Greenhalgh and Wieringa, 2011; Oliver et al., 2014b). This is less true of relevant work coming out of other literature, such as sociology, where the contested meanings of "evidence-based policy" are frequently interrogated, for example around climate change policies (Pearce, 2014; Pearce et al., 2014), and in Science & Technology Studies, where theories of "co-production" have been proposed to examine how technical experts and society interact to produce knowledge, in ways that are inextricably linked to societal mechanisms of organization and control (Jasanoff, 2006). With such considerations in mind, analysts have called on researchers to adopt a critical perspective and examine power dynamics in the use of evidence in policy development in LMICs (Behague et al., 2009; Greenhalgh and Wieringa, 2011; Shiffman, 2014). Greenhalgh and Weiringa additionally propose using an Aristotelian view of knowledge or evidence with three components: *episteme* (facts or explicit knowledge, including notably research evidence), *techne* (skill or practice) and *phronesis* (situation-specific practical wisdom). *Phronesis*, perhaps the slipperiest concept, has traditionally been translated as "prudence," and is sometimes defined as the ability to apply general rules to particular situations; it involves ethical and practical considerations about which ends to pursue (Montgomery, 2006).

In this article we present a case study of the use of evidence in the policy development process for iCCM for child illness in Niger, a low-income West African country which historically has had among the world's highest rate of child mortality and was one of the first African countries to adopt iCCM. Following Greenhalgh and Weiringa, we critically examine the three types of knowledge discussed above and explore how these were used during policy development, with a particular attention to power throughout the policy-making process. Finally, we summarize our findings, discuss lessons learned and suggest future directions for research on evidence-based policy making in LMICs.

2. Methods

This study uses case study methodology, a form of research useful for reconstructing processes holistically to examine the processes at work (Pope et al., 2000), to identify the sources of knowledge in policy-making in Niger and explain how power conditioned their use. Our sources of data were in-depth semi-structured interviews, a document review and direct observation of policy forums, all techniques useful for unraveling complex situations and teasing apart inter-related causal mechanisms. These methods and data sources are appropriate to studies of national-level policy made and, with the exception of direct observation, commonly used in studies on the use of evidence in policy-making (Hanney et al., 2003).

Data collection took place in Niamey, Niger from February to August 2012 (Table 1). We consulted 103 documents related to iCCM policy, performing close reading and systematically extracting information on documents' authorship, purpose, technical documentation, and key arguments and justifications put forward. Interviews were conducted with 32 key informants (28 in-country) involved in iCCM policy development, identified via the document review and snowball sampling; the average length of interviews was 57 min. Interviews were conducted mainly in French and transcribed in-country. Key informants were asked about the origins of iCCM policy; key events in the policy process; and the use of scientific evidence, data, experiential knowledge, and other types of information consulted when designing the strategy. Lastly we observed three national policy events on issues related to iCCM and child health in Niamey, namely national-level workshops in which policy-makers validated aspects of community-level child health care (such as the minimum package of care) or discussed expanding care in various ways (for example by increasing the availability of neonatal care or allowing home malaria care). Observing these events allowed us to witness interviewees and other policy actors interacting in real-life situations of policy negotiation, conditions propitious for identifying controversial issues and revealing power relations (Hunsmann, 2012).

Data analysis was based on process tracing, a technique useful for combining multiple sources of information to "minimize bias, establish common patterns of causality, and reveal social and political processes" (Pope et al., 2000; Shiffman et al., 2004). Drawing upon all data sources, we used process tracing to produce a sequential description of the policy-making process with "thick" detail and attention to sequencing (Dalglish et al., 2015), so as to draw causal inference based primarily on qualitative data (Collier, 2011). Specifically, we took a national (Nigerien) perspective of knowledge systems with global reach, using process tracing to 1) compile a timeline of policy development (1960s-2013), 2) categorize and track the use of different types of knowledge across actors and over time, and 3) demonstrate patterns of directionality in evidence sharing among actors, looking at citations and accounts of how evidence moved through the policy network (Lee and Strang, 2006). [The first author] applied thematic coding to