

Aligning evidence, authority, and representation: insights from a comparative analysis of evidence advisory systems for health policy making in six countries.

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The improved use of evidence to inform policy making has been championed as a means of increasing the effectiveness and efficiency of social policies, and of improving governance and accountability through more transparent decision making processes. Yet however theoretically viable these assumptions may be, the mechanisms through which the utilisation of evidence may engender these outcomes deserves deeper investigation. We hypothesise that achieving such goals will be dependent on having an evidence advisory system in place that is institutionally structured to achieve alignment between three key elements: *evidence*, *authority*, and *representation*. To ensure that *evidence* can effectively be used to inform policy (and improve the efficiency of policy interventions), the entry points for that evidence need to align with the local decision making terrain, so that relevant information will be seen and utilised by those decision-makers or agencies with *authority* to influence relevant policies and programmes. To achieve the hypothesised improvements in governance, however, the organisations that shape which evidence will be used and how it will be used, must do so in ways that represent public interests, needs, or values.

As part of a larger study investigating the political and institutional factors influencing evidence utilisation within the health sector, we mapped the evidence advisory systems for health policy making in six countries - Cambodia, Colombia, England, Ethiopia, Ghana, and Germany. In this paper, we present an analysis comparing the structures and functions of these evidence systems, in particular considering the alignment or disjuncture between the systems of *evidence* advice with the key decision making *authorities* (agencies making relevant decisions) and the ways in which evidence providing or utilising bodies may *represent* the public. Drawing on qualitative interviews and documentary sources, we question how responsibilities over decisions are distributed, undertaken and discharged among agents and at various levels of governance with respect to the structural arrangements for the provision of evidence. Our discussion reflects on the implications of the evidence advisory system arrangements for the achievement of the goals of improved evidence utilisation within policy making.

1 Introduction

Within the calls for increased use of evidence to guide policy making, a number of claims have been made about the benefits of improved evidence use. One of the most common is to state that more or better uses of evidence can improve decision making in terms of policy effectiveness and programme efficiency (c.f. Coalition for Evidence-Based Policy, 2015; UK Government, 2013). Evidence, we are told, will make it more likely to achieve programme goals, to obtain better outcomes, and to save valuable limited resources by selecting more cost effective solutions to social problems. ‘Evidence-based policymaking’ (EBP) is about doing ‘what works’ to achieve these gains in program effectiveness or efficiency. Such beliefs have been expressed across the range of social and public policy sectors from health care (Brownson et al., 2013; Macintyre et al., 2001), to education (P. Davies, 1999; de Vries, 2011), crime prevention (MacKenzie, 2000; Martinson, 1974; Welsh & Farrington, 2001) to international development (International Initiative for Impact Evaluation, 2009; Sutcliffe & Court, 2005).

It is worth noting that many authors see the origins of the modern EBP movement as having its roots in the field of evidence based *medicine* (Berridge & Stanton, 1999; Young, 2011), which is specifically a technical process concerned with improving medical practice through enhancing the process of evidence use. Yet a second claim often heard is that greater use of evidence can lead to ‘good governance’ as well - including the commission of the European Union claiming improved use of knowledge for education policy will improve governance of education systems (Commission of the European Communities, 2007), or the Organisation for Economic Co-operation and Development (OECD) stating that “good-governance practice suggests that policy should be based on sound evidence derived from rigorous analysis of the available facts on the issue that the policy is supposed to address”(OECD, 2013 pp. 149).

This faith in the ability for evidence to achieve various goals raises questions as to whether and how such goals might be brought about. So for instance, a significant body of work has developed in the field of Knowledge Transfer (also referred to as knowledge *brokering, utilisation, or translation* – hereafter KT) that is particularly concerned with ensuring evidence reaches relevant decision points, and that it is understood by decision makers (c.f.: Innvaer et al., 2002; Mitton et al., 2007; Oliver et al., 2014). It is reasonable to expect that the desired improvements in policy effectiveness or programme efficiency would rely on ensuring that relevant evidence actually makes it to the appropriate decision making body in a timely and understandable fashion. Yet the vast majority of work striving to achieve this appears to focus on individual actors or single projects that might increase use of evidence for a specific decision. Strategic recommendations tend to focus on improving the supply of or demand for evidence: such as efforts to provide research findings in simple formats, to link individual researchers to decision making bodies, or to train decision makers in how to understand scientific findings (Nutley et al., 2007; Oliver et al., 2014)(Smith, 2013). Much less considered in this work are the institutions and structures in place that constitute the system in which knowledge transfer will take place, and which can influence how evidence reaches key decision points (Koon et al., 2012; Liverani et al., 2013).

Alternatively, how the use of evidence may improve governance is an area that appears much less developed in the EBP literature. Many definitions of good governance exist of course, and while some claims of improved governance may simply refer to more effective/efficient programmatic *outcomes*, definitions of ‘good governance’ are typically concerned with the *processes* of decision making as well - particularly with respect to democratic representation and responsibility (c.f.

Grindle, 2007; United Nations; United Nations Economic and Social Commission for Asia and the Pacific, 2014). Indeed some EBP work has begun to reflect on how the use of evidence might affect governance processes in terms of public participation within decision-making processes. Duckett (2003) explains that the origins of evidence-based health policy arose in part from “the development of greater accountability in public sector management” (pp. xv). Davies et al. (2000b) similarly argue there is pressure for EBP from an increasingly well-informed public. Others, such as the science author Ben Goldacre, have gone even further claiming that evidence use can help to improve democracy (BBC Newsnight, 2015).

Yet if we understand policymaking as fundamentally concerned with making choices between competing political priorities, this idea that EBP can improve links to the public, or even democracy, raises the question about the representation of different interests within the system through which evidence informs policy. Given the explicit concern over democratic principles built into many definitions of ‘good governance’, an important starting point to consider how the use of evidence affects ‘good governance’ will be to more specifically ask how public interests or concerns are embedded within that system. Just as institutional arrangements can shape when and how evidence may reach decision points where it may provide technical value, the system will also have rules or structures in place that further shape how the public is represented within the process of evidence use. This can include how particular social values are considered by those agencies synthesising and providing evidence, as well as how the public is represented by those bodies making decisions utilising evidence.

In this paper we explore these issues through a comparative analysis of health policy making in a set of six countries. In particular, we consider:

- i. How the system of evidence provision is structured to enable pieces of relevant evidence to be provided to the relevant authorities that have decision making power. This is described as an alignment between *evidence* and *authority* within the evidence advisory system; and:
- ii. How stakeholder interests or representation are constructed within the bodies providing and utilising evidence for policy making – in particular considering representation of the public. This is described as a concern over *representation* within the system.

2 Conceptual approach

In this paper we propose that an explicit focus on the institutional arrangements through which evidence is used to inform policy can provide valuable insight into how the structure of the system may influence the above concerns. By ‘institutions’ we include not only established structures and agencies, but the rules, norms, and practices within and between those bodies which can be influential in shaping processes and outcomes (c.f. Lowndes & Roberts, 2013; Peters, 2005). In this vein, we conceptualise a national ‘Evidence Advisory System’ (EAS) as consisting of the organisations and structures, rules, and norms or practices shaping if, when and how evidence will be utilised in policy making.

2.1 Improving outcomes: aligning evidence and authority

For evidence to be used to inform any type of health policy it must have a conduit through which it can reach the decision makers who might be usefully informed by it. The idea that increased evidence can improve decision making outcomes is based on an underlying assumption (which we do not challenge) that rigorous and more systematic uses of evidence are more likely to lead to effectiveness/efficiency than invalid or piecemeal uses of evidence, all else being equal (Chalmers, 2003; Chalmers et al., 2002). It also rests on the assumption that in order to be technically useful, the relevant evidence has to get to decision points which have ability to use it in such ways. We describe this as an alignment between *evidence* and *authority* within the EAS.

‘Evidence’ in this conceptualisation is primarily focused on policy relevant data and research findings that are useful to inform technical decisions. While we realise that the term ‘evidence’ can be used in different settings to include factors such as opinions or legal arguments, and is often intertwined with even broader concepts of ‘knowledge’ (c.f. Cartwright & Hardie, 2012; H. Davies et al., 2000a; Nutley et al., 2007), we follow Davies et al.’s (2000a) example to restrict our focus to research and data collection that represent reasonably systematic attempts to increase a body of knowledge. These are the forms of evidence most commonly associated with the EBP movement and for which there has been most effort to increase use in KT efforts due to perceived usefulness for technical decisions.

By ‘authority’ we are specifically referring to the delegation of responsibility of decisions. That is to say, the ‘authorities’ that must be informed by evidence will be those bodies responsible for making the decisions which ultimately affect programmatic outcomes. In our health-specific case, we shall focus on those bodies making decisions that influence health service provision. We recognise there can be broader conceptual issues within the concept of *political* authority (including aspects of legitimacy or sovereignty, for instance (Best, 2002; Grande & Pauly, 2005)); but for the purpose of our analysis we start simply with recognition that decision making power is vested in particular groups, and see the ‘alignment of evidence with authority’ as focused on ensuring potentially useful information reaches those key decision points.

2.2 Improving governance: considering public representation

The second suggested improvement that arises from increased evidence is that of improved governance. While the EBP and KT movements may have had limited engagement with governance principles to date, the field of Science and Technology Studies (STS) begins from an understanding of knowledge as a ‘realm of politics’ (Jasanoff, 2004). As such, authors have explicitly raised concerns over how the science-policy interface integrates public interests, values, or needs (Jasanoff, 2011; Liberatore & Funtowicz, 2003; Rayner, 2003). Much of STS is focussed on evidence creation, rather than utilisation (Hoppe, 2005), yet these insights about how science (and evidence) relate to social values can be useful to consider even within work such as ours which remains focussed on utilisation. In particular, STS authors have raised questions about *transparency*, *public values/interests*, and *public representation* in their discussions of how science relates to democratic principles.

Ezrahi (1990), for example, argues that science can provide transparent and rational actions to follow which allows the public gaze to better understand and scrutinise what is done in the name of public service. Liberatore and Funtowicz (2003) has further argued that the ‘democratisation of expertise’ requires *transparency* through “processes enabling the ‘tracking’ of how decisions are made, by whom, on what basis” (pp.147). Finally, STS work has also expressed a particular concern

with *public participation* within the science-policy interface, especially warning against the ‘scientization of democracy’ and pledging for the need to ‘democratize science’ (Levidow, 2007; Stirling & Scoones, 2009; Wynne, 2007). Rayner, for instance, notes that public participation in the form of community advisory bodies, consensus conferences, and other forms have emerged to increase representation to the public in an era of electoral (voting) decline (but notes there has not been sufficient evaluation to see if these actually have any impact)(Rayner, 2003). Jasanoff (2011) also talks about an instrumental need to consider the practices of governance that best serve to solicit wider public input (although she similarly warns of simply “placating citizens with rituals of participation” (pp.624) and a need to study these proceedings in more depth). Finally, Weale (2001) outlines several arguments made for greater public participation in the scientific advice process including: rectifying imbalances of political influence, identifying competing perspectives (e.g. moral dimensions) on issues, achieving democratic need for public justification, and achieving decision legitimacy.

Together these insights provide a starting point to consider how governance can be explored within the evidence advisory process. In particular, if good governance is concerned with aspects of democratic representation, then the political nature of decision making requires reflection on the ways that public interests are represented in the process of evidence use. One fundamental element of public representation will no doubt be to identify if the evidence providing agencies (those *constituting* the EAS) or decision making bodies (those *informed by* the EAS) are part of the public sector, private sector, or independent in some way. One can further distinguish if the body is directly elected, part of the directly appointed bureaucracy, or rather delegated in authority from the state, as the level of insulation from direct public control may have implications for which issues are considered, or how responsive the body is to changing public interests. In cases where a body is not directly elected (indeed, many expert advisory bodies work at arm’s length from direct public accountability to ensure independence), then an additional consideration can be if any explicit social values are built into the rules or operation of the body with regard to evidence use. Finally, STS literature particularly highlights the importance of considering systems of *transparency* and *public participation* that might be built into the system.

Our analysis compares how different EAS’s are constituted with regards to public representation or public values in these ways. Taken in total, this can be seen as a concern over how *evidence* (in terms of policy relevant data and research) and *authority* (in terms of key decision making points) align with each other, and then further how the system systemically incorporates elements of public *representation*. It is worth noting that this is a slightly different question to an evaluation of whether uses of evidence *actually manifests* in greater accountability or greater representation, or whether or how using evidence *actually achieves* improved governance (as is assumed by some EBP advocates). We propose that the lack of conceptual development of these ideas, however, requires first starting with an understanding of how the system is constituted with regard to some of the central good governance principles including public representation. We are aware of little work that has attempted to compare these elements across national EAS’s. A natural agenda for future work, however, would be to subsequently explore how these systems play out in practice with regard to democratic representation or other governance concerns - for example by studying at the process and outcomes of evidence use within specific health policy decisions.

3 Methods

As part of a large programme of work investigating the political and institutional factors influencing the use of evidence to inform health policy, six country case studies were conducted in low, middle, and high income settings. Countries were selected to achieve a spread across four key indicators commonly used as explanatory in the field of public administration: government capacity (indicated by income level), structure of central authority (unitary or federalist), level of freedom, and a measure of government effectiveness (used to capture strength or efficiency of the bureaucracy). Table 1 below presents our countries and how they vary on these indicators

Country Name	Variable 1: Income	Variable 2: Freedom Status	Variable 3: Government Effectiveness (percentile rank)	Variable 4: Centralisation/Decentralisation
Cambodia	Low	Not free	Low 22	Unitary state. Administrative divisions (23 provinces and 1 municipality)
Ghana	Lower Middle	Free	Medium 52.2	Decentralised: 10 regions
Ethiopia	Low	Not free	Medium 40.2	Federal republic: 9 states
Colombia	Upper Middle	Partly free	Medium 56.9	Unitary state. Administrative divisions (32 departments and 1 capital city)
England	High	Free	High 91.9	Unitary. Administrative divisions (27 two-tier counties, etc.)
Germany	High	Free	High 93.3	Federal: 16 states
Source:	World Bank http://wdronline.worldbank.org/worldbank/a/incomelevel	As listed by the Freedom in the World Survey 2012, Freedom House http://www.freedomhouse.org/sites/default/files/inline_images/FIW%202012%20Booklet--Final.pdf	The Worldwide Governance Indicators, The World Bank (2012 data) http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=worldwide-governance-indicators * Note: low-medium-high-very high ranking is our own classification of percentile ranks given for 'government effectiveness': 0-40 Low; 41-70 medium; 70-100 High;	CIA: The World Factbook https://www.cia.gov/library/publications/the-world-factbook/

Note – Countries were selected for inclusion in 2013, variables were as indicated at the time of country selection, often based on 2012 data.

As part of the specific country studies, a primarily descriptive mapping exercise was conducted to describe the Evidence Advisory System for health policy making in each setting. This consisted of: 1) identifying the key decision making points where main types of health-related decisions were made (such as broad public health or health promotion decisions, resource allocation or health service management decisions, or clinical practice decisions); 2) describing the formal and informal structures in place through which relevant evidence was provided to decision makers; and 3) investigating how interests are represented within the key decision making points or key advisory bodies.

While there is a general use of terminology such as ‘Evidence Based Policy’ or ‘Evidence Informed Policy’ in the health sector, policy studies recognises that ‘policy’ can take many forms. In reality there is no single definition of policy – with a range of concepts from projects and programmes, to sector-specific plans, to broad statements of intent all considered policy at times (Hogwood & Gunn, 1984). For ease of comparison, and also to provide a manageable limit to a single paper, our discussion focusses primarily at decisions affecting health service provision.

Data consisted of a range of sources from existing published literature to unpublished government documents as well as key informant interviews with government and non-government (often researcher or policy actor) sources conducted in each country. This paper reflects on a comparison of the results of these mapping exercises to discuss how the institutional arrangements within the evidence advisory systems may be aligned to help address the dual goals of the EBP movement of improving policy outcomes as well as improved governance processes. Specifically we consider:

- 1) Whether or how sources of *evidence* provision are aligned with those decision points with the *authority* to make relevant (health) policy decisions (to increase the potential of evidence to inform relevant decision outcomes); and
- 2) The features of *representation* constructed within the EAS in each country, in particular considering key elements of public representation detailed in the conceptual discussion above.

4 Results

One of the first challenges that our comparison highlights is the huge diversity in national decision making points relevant to health service provision and health systems operation. Policy is rarely allocated to a single body; rather, policy decisions affecting health can take place across a range of governmental levels, and may be divided between different authorities. In most settings there are many decision makers shaping policy and programme outcomes. Most of these may be within government, and often within a Ministry of Health (MoH), but this is not always the case. Similarly, there are also many different types of decisions related to health and health care – from financing regulations mandating insurance, to specific clinical decisions on individual patient cases. To maintain some feasibility in comparison, we have decided to specifically focus on policy making regarding health service provision at the system level.

4.1 England

England was selected as a high income country with a unitary political system, judged to be free and democratic with very high levels of government effectiveness. The national government acts as both financier and budget holder for the majority of health services. Health care is primarily provided to the public through the state-run National Health Service (NHS). In the last few decades changes have been made to shift more responsibility for planning to local levels, including commissioning of services by NHS trusts (government-owned hospitals) or clinical commissioning groups. Many of the Department of Health responsibilities for health service decision making are vested within a politically independent state body, NHS England ([UK] Department of Health, 2012).

Research and data used to inform health service planning and decision making for both NHS England and devolved bodies primarily comes from the national level. One of the most studied features of the English system has been the formal establishment and authority placed in the National Institute of Health and Care Excellence (NICE), a semi-autonomous body tasked with developing clinical guidelines and with undertaking Health Technology Assessments (HTA) which evaluate the effectiveness and cost-effectiveness of health care interventions. There are other key national bodies providing research evidence within the English system as well – such as the National Institute of Health Research and the Medical Research Council. But NICE is particularly noteworthy in that its decisions on which health services to provide are often binding for the NHS, with formalised rules to use the logic of cost-effectiveness measured through Disability Adjusted Life Years – DALYs - averted as the primary mechanism upon which to decide if a treatment will be provided (NICE, 2012, 2013). This approach reflects a highly ‘rational’ idea of priority setting in health care in which the particular values used to choose between options are made explicit, decided in advance, and then applied consistently.

Yet even within this exemplar of ‘rational’ priority setting (in terms of being transparent and consistent in decision value judgements), in what is seen as a fairly ‘simple’ (in terms of nationally controlled) health service – which appears to show reasonable alignment of an EAS with the relevant authorities making health service decisions - the British parliament retains its ability to legislate in ways that bypass or overrule NICE. A recent example was the government’s decision to set up a special £200 million drug fund for cancer treatments that did not meet the threshold of cost-effectiveness used by NICE (Linley & Hughes, 2013). Parliament is not informed by evidence in the same ways as the devolved agencies that directly plan NHS service provision, however, relying on a more ad-hoc approach to evidence use that can at times be formalised in formation of expert committees, but at other times leaves decision making with minimal systematic or rigorous evidentiary advice, or subject to lobbying from (and evidence provided by) a range of interest groups and think tanks. There are guidelines for ‘giving evidence’¹, but these do not refer to research evidence in particular, nor to the sources and the type of evidence that should be provided (besides an indication that sources of ‘factual evidence’ should be referenced).

In terms of public representation within the system, the major shifts in recent years in England for health policy making has been to place both evidence advisory structures and decision making responsibilities in public sector bodies that are insulated from direct parliamentary control. These bodies remain part of the public sector, directly funded and ultimately run by the state. There are a number of formalised rules and processes guiding these organisations with respect to accountability and governance. Transparency, for instance, is widely built into the system, with NICE decisions and

¹ See <http://www.parliament.uk/documents/commons-committees/witnessguide.pdf>

guidelines publically available, and with government bodies bound by freedom of information legislation. Public participation is similarly widely integrated: NICE has a Citizens Council that advises the body, and it has a formally developed set of written principles on the social values used to make health service provision decisions (NICE, 2013, undated) It also has recently held a public consultations as well inviting members of society to provide opinions on its social value criteria (NICE Centre for Health Technology Evaluation, undated) (e.g. end of life treatment is currently given a higher priority in terms of budget than other services, with a higher threshold of cost effectiveness). Clinical commissioning groups similarly have established rules and recommendations on public participation as well, such as lay person representation on governing bodies (NHS England, 2013).

4.2 Colombia

Colombia provides a clear counter example of a rather different governance structure to health decision making than that seen in England. A middle-income country judged as reasonably free and democratic with a high level of bureaucratic effectiveness, the Colombian health care system is principally provided through not-for-profit and for-profit private insurance schemes. The central government plays more of a regulatory and oversight role in this case, and although the Ministry of Health defines the services for insurers to provide, it has been found that the judiciary plays a particularly important role in health service decision making in Colombia. The Judiciary has been described as a “protagonist” in health and health policy making to an extent unparalleled in any other country (Rodríguez, 2012), in particular because when insurers choose not to pay for a treatment or an intervention, special legal processes known as *tutelas* serve as the adjudication system. *Tutelas* have been defined as “writs of protection of fundamental rights” (Cepeda-Espinosa, 2004 pp. 552)(552), by which any person that feels that his/her fundamental rights are being threatened or violated can go to any judge in the country and request protection. The judge is required to give priority attention to the request over any other business and resolve within 10 days. Lacking technical capacity, specialist training and dedicated resources, most judges make decisions on the *tutelas* without looking at significant evidence and without macro-level knowledge of health system. Some literature has coined the term “judicialization of health policy” to mark the involvement of the judiciary in health and health policy developments as well as the tendency to take to the courts issues that would, in other countries, be resolved by the health system administrative and regulatory instruments.

In recent years there has been the establishment of a health technology assessment body in Colombia that in many ways was modelled on NICE in the form of the *Instituto de Evaluación Tecnológica en Salud* (IETS) – which provides recommendations to that the Ministry of Health uses to shape decisions on health service provision. But unlike NICE, IETS has no binding authority over such decisions. As such, the evidence provided by IETS in the form of HTA appears to have less influence over health service provision outcomes, particularly as insurers may make decisions on individual treatments, leaving the adjudication to *tutelas*. In terms of transparency and public participation, Castro (2014) has stated that “In Colombia, stakeholder engagement or the consideration of societal values are not current practice and the institutional arrangements for reimbursement decision-making and communicating of decisions to the general public are yet to be implemented” (pp: 131). Freedom of information is established in the 1991 constitution, with a 2014 law expanding this and removing some restrictions. The IETS website does appear to make assessments public, however, and has a ‘participation’ area where the public can upload or request information.

In Colombia, the judicialisation of decisions affecting service provision raises important questions to the idea of accountability. While the judiciary is no doubt a public sector body, typically they are seen to be, and structured to be, outside of the systems of public representation common in legislatures and ministries. Jasanoff (Jasanoff, 2011) has noted that at times (in the US) courts have been constructed as “guardians of the public interest” (pp. 628) in their oversight of executive agencies utilising evidence. Direct ability to take health service decisions to courts, however, does provide a relatively unique formal process for citizen participation in the process.

4.3 Ghana

Our study of Ghana provides a case that illustrates how the influence of non-state actors – particularly international donors – can complicate the alignment of evidence with decision making authority points as well as raise challenges of public representation. Ghana is a lower-middle income country which is structured as a centralised state with the Ghana Health Service (GHS) administered under the Ministry of Health. Ghana’s National Health Insurance Scheme (NHIS) provides most citizens access to the GHS. It is funded through a mix of tax and contribution revenue (Gobah & Zhang, 2011; Witter & Garshong, 2009), and administered by the National Health Insurance Agency (NHIA) that decides on the basket of services available under the NHIS provided by the GHS. In this way the NHIA would be the primary decision body in which to use evidence to guide health service provision issues. There is also a routine data collection system that exists in theory to guide sector planning (allocation or targeting areas or services showing poor outcomes).

An interview from a senior official within the GHS, however, noted the weak use of routine data by health service managers, with the onus apparently on the data providers to be convincing to encourage the use of the data, rather than an established norm or rule for managers to draw on data to inform their decisions (Interview GH-5). In addition, however, donors are an important source of support to many health services, often funded through vertical programmes. Interviews and documentary sources pointed to how this has led to the development of decision making structures outside the existing lines of authority vested in the national, district, and local government arrangements. There is an annual Health Summit and a Common Management Arrangement between donors and the state that provide a second, de facto, decision space that dictates availability of many health services in Ghana, particularly those supported vertically. This dual system leads to challenges for evidence input for planning, however. The Ghanaian bureaucracy does have formal bodies tasked with research, such as the Policy, Planning, Monitoring and Evaluation Division of the MoH, as well as the District Health Information Management System serving to collect and feed upwards routine data for planning. Yet these structures appear to exist in parallel to, rather than integrated with, the donor-influenced policy space. Interviewees noted that donor sources of evidence often comes from evaluations commissioned in ad hoc ways, for instance.

The donor supported structures also raise questions about public representation. While Ghana is seen as reasonably free and democratic, there is a disjuncture within the dual system of planning as donors are not directly representative of the Ghanaian people in any clear way. Donors often embraced the language of ‘evidence-based policy’, arguing that it served as a mechanism to improve accountability and increase stakeholder involvement in decision making. Yet critical voices argued that the use of evidence was directed by the interests and demands of the donor organisations which were not accountable to local citizens.

Regarding transparency or public representation, Ghana does have freedom of information legislation in place, and the MoH does make health summit reports available publically, for example, but there have been accusations of corruption in the health sector that may reflect transparency problems as well (Agbenorku, 2012). In terms of public representation, we found limited direct citizen involvement. Rather there appears to be a reliance on non-government organisations (NGOs) to often serve as a proxy for civil society representation in many cases, with NGO representation but limited decision making authority in key policymaking arenas.

4.4 Cambodia

Cambodia is classified as having a highly hierarchical and less democratic political system. It is a low income country with limited government effectiveness scores. In the health sector, efforts have been made to decentralise administrative structures and political processes. The public health service is divided into two levels of care – a ‘Minimum Package of Activity’ provided at health centres, and a ‘Complimentary Package of Activity’ provided at hospitals. There are serious weaknesses in the system, however, with it reported that less than half of health centres were providing the full minimum package. Nearly three quarters of health expenditure is out-of pocket, much of that going to private providers (WHO & Ministry of Health (Cambodia), 2012).

Management of the health system is organised according to a three-level structure, with a central, provincial, and district level; under this framework, the administration of MoH activities is, in effect, decentralised. In addition, a number of operational districts and provincial hospitals have been granted the status of Special Operating Agency, which provides them greater management autonomy through internal contracting arrangements and community monitoring and involvement. However, observers have noted that there is still “considerable upward accountability to central level and limited decision-making discretion at provincial and district levels” (Annear et al., 2015, pp. 27)

Some arrangements in the structuring of the Ministry of Health provide sound institutional bases for the alignment of evidence and authority. In particular, the management of the health information system and technical responsibility for strategic planning of the health sector are incorporated in the same institutional structure - the Department of Planning and Health Information. There are also taskforces and technical working groups under the MoH which can and have been used as channels to feed analysis to policy making; however, these instruments have only advisory functions and are not commonly used to address issues that may be politically sensitive. The National Institute of Public Health (NIPH) serves as a formally established semi-autonomous body of the ministry of health tasked with policy relevant health research, but their capacity and influence on the policy process appear very limited.

Other challenges in the system can further undermine the usefulness of evidence provision, even when it is structurally aligned with national decision making points. There is no organisation of for-profit (private sector) providers, for instance, and the high rate of out-of pocket private-sector payments means that there is little to steer the services provided through that channel. The lack of sufficient sector financing appears to also affect public sector decision making. It was found that the Ministry of Finance (MoF) and international donors served as important de-facto decision authorities for government health policy decisions, with the existing evidence advisory system not feeding into these bodies much. So, for example, interview respondents described how the MoF utilised evidence

in ways different from what the MoH might consider appropriate. Discussing an example of tobacco control policy, it was explained that there was need to convince the MoF with evidence about the revenue impact of new regulations – specifically showing that overall smoking tax revenue would not fall because population smoking rates overall were rising, and this would offset any reduction in individual smoking volume. Donor influence over service provision is also high due to level of funds provided (Jones & Cambodia Economic Associate Centre for Policy Studies, 2013; WHO & Ministry of Health (Cambodia), 2012), yet our interviews stated that donors relied heavily on consultancies to gather evidence, with little support or use of the NIPH.

Public representation is quite limited in Cambodia, where politics has been described as highly patronage based. Jones (2013) has explained that there are technical experts in the Ministry of health but their work can be constrained due to the patronage system. Unsurprisingly, the centralisation of power in the Prime Minister's office greatly dominates the issues addressed and the values (public or otherwise) used for decision making. If an issue becomes of interest to the Prime Minister (who has been in power for three decades), it could quickly shape policy – with a recent policy of subsidies for facility-based childbirth an often cited example. Other cases can be found where evidence appeared to be able to be adopted relatively quickly to inform policy. One such example was the shift in malaria treatment to artemisinin based therapy (for which Cambodia was the first country to implement (Yeung et al., 2008)). Yet it appears that for evidence to shift policy in such a way there needs to be little at stake politically or financially. When policies have implications for vested interests of elites in power (or significant budget implications), such concerns appear to prevent any policy change – informed by evidence or otherwise. Finally, as in Ghana, donor finance of health services also can limit public representation in the system.

4.5 Ethiopia

Ethiopia is a low income country which, like Cambodia, has been described as having limited freedom and a highly centrally controlled state. The health sector faces serious resource shortages, with government financing only around 15% of health expenditures, international donors providing just under 50%, and individual households making up most of the rest – primarily as out of pocket payments (Ethiopia Federal Ministry of Health, 2014; WHO, 2014). It has been reported that government branches (federal, regional and parastatal) are increasingly controlling service provision, however, which used to be dominated by private providers. Due to increased donor funds in particular, in 2014 it was reported that the government managed just under half the total expenditure, with private management around a third and donor management covering the rest (Ethiopia Federal Ministry of Health, 2014).

While health service delivery responsibility is shared between government levels, policy development remains located within the Federal MoH. Ethiopia does have some formal institutions in place aiming to provide evidence to guide policy development at the Federal level, however. The Ethiopia Public Health Association (EPHA) is a formal body tasked by the MoH to provide evidence for policy needs, but it suffers from weak capacity due to limited resources. For example, EPHA aims to develop policy briefs synthesising information for policy needs, but few of these have been conducted and there is not clear priority for them except on request of MoH (Interview ET-4) There are also health programme specific directorates within the MoH which will at times have technical working groups which provide evidence, and a policy and planning directorate as well which may have overlapping mandates for evidence review. One interviewee (Interview ET-3) however noted that the actual decision makers may not utilise the structures in place or may form other groups to

gather evidence relevant to individual decisions. Ethiopia also is working to strengthen its system of local information provision – including using ‘woreda [district] health offices’ (WorHOs) to provide data and evidence on information upwards through the system, as well as efforts to improve routine data use through the health information system that links to the Policy, Planning, Monitory and Evaluate department of the MoH (Ethiopia Federal Ministry of Health, 2014).

The language of ‘evidence based policy making’ was also seen to be embraced in internal ministry of health documents, but there appears to be more scope to use evidence to guide individual programmatic decisions rather than sector-wide allocations of budget. As in Cambodia, the bureaucratic system in Ethiopia reflects high levels of patronage and entrenched power such that departments would likely resist changing budget allocations across the sector as threats to their relative power. No clear rules or structures were in place to mandate priority setting or resource allocation across the sector – and we did not see obvious social value considerations to shape sector-wide allocations. Indeed, rather than planning across the sector, there are distinct ‘subaccounts’ in place for HIV/AIDS, reproductive health, child health, malaria, and TB (Ethiopia Federal Ministry of Health, 2014). This is likely to be related to donor finance to vertical programmes in this area. Although interviewees differed on their views of donor influence, with one claiming a high level of influence (Interview ET-14) and another reporting that the government resisted donor influence on agendas (Interview ET-3) – it is clear that donor funding can shape service provision greatly. For example, it was reported that while most subaccount rose approximately 100% between 2007/8 and 2010/11 reporting years, the Malaria Subaccount went up over 700% (Ethiopia Federal Ministry of Health, 2014).

Judged internationally as having limited freedom, Ethiopia also appears to show little public participation in health planning. There are freedom of information laws in place, but it has been reported that in practice these are significantly restricted (Freedom House, 2013). In our interviews, we further asked about health issues where one could see public contestation, but no examples of this were ever given. One respondent (Interview ET-4) suggested that such public engagement might only come in the future as the democracy was not developed enough to see debate over health issues involving the public. As in the previous two cases, the existence of donor supported issue-specific vertical programmes similarly can limit the amount of public representation or responsiveness in the system.

4.6 Germany

Our final country, Germany, represents another high income case, but presents a federalist and highly decentralised state where the health service is primarily based on social insurance. Noteworthy in the German system is that the primary decision making body for many health service decisions is what is known as the ‘self administration’, comprised of the top associations of sickness funds, hospitals, and office based physicians. Government branches do have some decision authority – they can make decisions on health promotion and public health and set the broad legal requirements for the self-administration – but German law sets out a general principle of ‘corporatism’ (i.e. governance through power sharing with major interest groups) that dictates state and private actor roles. As such the private sector is fundamentally integrated into health service policy making.

Within government decision making bodies there is a high level of division and fragmentation of evidence advice. So for example, the legislature delegates many health related decisions to a Health Committee, but that committee may be advised by, or draw evidence from, a number of sources

including the Federal Ministry of Health, invited scientific experts, invited members of the self-administration, the federal department for Scientific Services, or the Office for Technology Assessment of the legislature. In addition to this would be evidence provided by organised interest groups and lobbyists directly to legislators. Then there are other legislative committees that sometimes are involved in health decisions, and the Federal Ministry of Health, which has both permanent and temporary expert committees to provide evidentiary advice. There are few guidelines on which bodies should necessarily be providing evidence of what kind to particular decision points.

Scientific evidence plays a key role in many, but not all, decisions of the Federal Joint Committee (GBA) of the self-administration. Practices of using evidence are embedded in the rules of procedures set out in the GBA's by-laws. Furthermore, the Institute for Quality and Efficiency in Health Care (IQWiG) was established in 2004 to provide health technology assessments and reviews of scientific evidence in relation to the efficacy of pharmaceuticals, diagnostics and medical treatment, evidence-based clinical guidelines and patient information. Scientific reports of the IQWiG have the status of recommendations, however. The rules of the GBA stipulate that it has to consider such recommendations, but the implication is that the committee can decide to disregard all or part of the advice if it so wishes as long as it can provide a rationale (GBA, 2014: 18). Given its broad remit and the diversity of its regulatory tasks, scientific evidence will be used in different ways for different types of decisions, depending on the nature of the issue, the types, quality and quantity of studies available, the availability of (international) standards of evidence use (e.g. clinical guidelines, health technology assessment), and the degree to which the issue affects stakeholder interests. As a result, decisions concerning the funding of health technologies, such as pharmaceuticals, diagnostics and medical treatments are typically robustly supported by research evidence, while decisions concerning distributional issues such as the geographical coverage of physicians in the ambulatory sector (i.e. capacity planning) and are more likely to be the produce of negotiation between the interest groups represented on the committee.

Representation of the public is diffuse and often established through principles and rules. Germany is an established democracy, and the corporatist approach is a federal government position that can be seen as a core social value the country embraces. The result is that health service providers and other interested parties are greatly involved in decision making. There is public sector oversight though, as the system is still considered a public sector decision making body – the MoH has a right to veto GBA decisions on the grounds of process, for instance. Other public values such as 'solidarity' – in terms of access to a comprehensive range of health services – as well as prudence of health care spending and provider pluralism are further enshrined in legislation to which the self-administration must conform. Transparency levels are high with legally mandated freedom of information granting citizens an unconditional right to access information at the Federal level, and GBA rules of procedure have been said to be structured to provide transparency to the agencies operation (Fricke & Dauben, 2009). Finally, in terms of direct participation, members of patient organisations are included in the GBA, but they have no voting rights. They do need to be consulted according to the rules of the agency, however. IQWiG further has a mechanism for public consultation as well.

5 Discussion

5.1 Challenges in aligning evidence and authority

In each of our countries we see evidence of challenges or problems in aligning formal evidence advisory structures with the arrangements of the decision making system. Of our case study countries, England arguably has the most specifically defined institutional arrangements exist for health service decisions to be evidence-informed for sector wide services, yet parliamentary authority retains the ability to occasionally make health service decisions outside the well-established EAS in place, relying on a more ad-hoc system of evidence information. In Germany, the legislature is less able to make health service decisions due to the greater independence of the self-administration, yet both structures have a wide diversity of sources of evidentiary advice. IQWIG is tasked with evidence advice for informing the self-administration, for example, but the range of decisions and issues considered, as well as other evidence sources, minimises its direct influence. Colombia, alternatively shows how a combination of insurance based provision combined with the legalisation of health decisions can lead to a different role as well for a health advisory body, IETS, that was inspired by NICE, but which sits in very different political arrangements vis a vie decision authority points – not binding for MoH policy decisions, and not necessarily seen as relevant to judicial evidence considerations.

Our low and lower-middle income countries – Ghana, Cambodia, and Ethiopia – can be seen to share dual challenges. On the one hand, they exhibited weak capacity within their established evidence advisory bodies, which meant these bodies did not often have the ability to gather or provide robust evidence when and where it is needed in all cases. This was true even in situations where there appeared to be established bodies in place with an appropriate remit to inform bodies such as the Ministry of Health. Yet the influence of donors funding large proportions of government health services provides another challenge through the establishment of a parallel decision making authority which is not typically beholden to national rules or norms about planning and evidence use. Donors may utilise their own formal or ad-hoc system for data gathering and evidence review, establishing a parallel structure again in this regard. Even though countries typically have joint planning and evaluation exercises with donor partners, donors in our three aid-dependent countries appeared to use evidence from a variety of sources in parallel to national evidence advisory bodies. This can again limit the links the formalised local system has to the relevant decision points, and it also may risk limiting how much those decision points are informed by relevant contextual local data - such as local routine health surveillance.

These countries also saw a common emphasis on evidence use within individual programmes (issue specific departments or divisions of a ministry), but much less consideration of evidence to work to guide cross sector planning or priority setting. This could be due to limited budgets overall, or the vertical nature of donor funding, but In Ethiopia and Cambodia, the patronage and central control of power also appeared to affect when evidence might be used to inform planning. In these settings we saw there could be a generic embrace of EBP language, and indeed situations that were described as good examples of the use of evidence to inform individual programmatic decisions (such as for maternal health or malaria treatment). Yet the centralisation of political power and elite capture of issues and budgets appeared to imply that evidence use was restricted to informing policy choices which were either already prioritised by those in power, or which did not challenge existing power structures.

5.2 Public representation within the evidence advisory system

Our introduction identified a lack of consideration of many of the ways that evidence use could improve governance, despite this being a common assertion in the EBP movement. Good governance can include a number of normative concepts, however, often including concerns over elements of democratic representation. We therefore proposed that a starting point for considering the ways that evidence use may link to governance is to look at how systems of public representation may be built into the evidence advisory system of a country.

Four particular elements– the nature of the decision authority regarding its public sector role, the inclusion of any specific social values meant to represent public interests in the rules or norms of evidence use, systems of transparency in the EAS, and explicit forms of public consultation within the system. Table 1 below summarises some of the findings from across our six countries for these concerns:

Country	Decision authority	Transparency	Embedded values	Participation
England	Semi-autonomous public sector (NICE), and public sector via legislature (Dept. of Health, Parliament)	High –established through rules on open meetings, freedom of information, and public availability of all decisions.	Explicit – cost-utility analysis for NICE decisions, additional considerations such as end of life care	High: Citizens council, public attendance at discussions, public consultations within NICE
Colombia	Public sector via legislature (executive?) in Ministry of Health and Judiciary Advisory bodies more independent	Medium – freedom of information recently expanded	Explicit for IETS – e.g. cost-utility analysis for HTA Judicial/legal concerns for <i>tutelas</i>	Limited consultation in HTA body; Public can challenge decisions directly in <i>tutelas</i>
Ghana	Dual system – public sector via executive in MoH and GHS, with public sector advisory and decision making bodies (policy departments, NHIA, etc). Second donor influence system accountable outside country.	Medium – established freedom of information and information distribution, but accusations of corruption across sector.	Unclear	Limited - typically inclusion of NGOs as proxy for civil society, limited influence

Cambodia	Dual –state and donor influence	Low – limited freedom of information.	Often stated emphasis on pro-poor policy	Limited –due to the highly hierarchical nature of decision-making
Ethiopia	Dual –state and donor influence	Low – limited freedom of information in practice	Unclear	Minimal – public not seen to participate in health policy issues
Germany	Private-corporate through ‘self administration’ Regulations set by public sector legislatures	High – Freedom of information and adherence to protocols in decision processes	Explicit in Basic law to emphasise corporatism	Limited direct participation

This table summarises some of the broad elements seen, but of particular note are those cases where was apparent non-alignment between the evidence advisory system and structures of public representation. Even in well-established and free democracies, there can be a wide variation on the level of direct citizen involvement and participation in the bodies providing evidence or using evidence for decision making. England and Germany stand as two contrasting examples here. In England, there is direct involvement of patients written into the NICE charter. In Germany, citizen representation is not deeply built into the system, but the corporatist self-administration is a structural manifestation of public values established by the democratically elected state. In Colombia, there are different forms of citizen involvement – often directly through the ability for citizens to take claims for health services directly to the judiciary.

At the other extreme, in non-free or authoritarian regimes, the voice of citizens is, by definition, marginalised. It is unexpected then that there would be few structural points of entry for public consultation. Another trend seen in our lower-income countries (even in Ghana which ranks well in terms of democratic freedom) is the reliance on NGOs or civil society organisations in lieu of citizens’ direct involvement. Aid donors historically have pressed recipient nations to utilise NGOs as representatives of civil society or to fill perceived vacuums in social mobilisation (Dicklich, 1998; Edwards & Hulme, 1996; Fowler, 1991), but there is a risk this stalls more broad reaching and inclusive participatory mechanisms from developing, particularly if NGOs are not exact substitutes for public representation (c.f. Keohane, 2002; Lehr-Lehnardt, 2005; Mercer, 2002)).

Finally, we have to acknowledge a limitation of our analysis is its focus on structures and not their functioning per se. We have identified entry points for public representation, for instance, but this alone does not address all the important questions raised by STS authors on the need to study how instruments of citizen input actually function in practice (c.f.: Jasanoff, 2011; Rayner, 2003). Such work would require additional analyses of specific decision making or policy formulation events to explore how the structures in place play out when particular interests and issues are brought to the EAS (which our future work hopes to do in some of our case study countries).

6 Conclusions

The evidence based policy movement has grown tremendously in recent years. Much of this growth is supported by optimism that increased evidence use can improve policy making – including more effective or efficient policy and programmatic outcomes, but also by improving governance in some way. While many efforts have been made to link research to policy makers, much less has been done to consider how the structure of evidence advisory systems could work to facilitate these goals. An institutional lens considering the structures, rules, relationships and norms of evidence advisory systems, however, can help to address the current gaps in the literature in this area. By assessing the structural alignment of the EAS with key decision making points, for instance, it is possible to reflect on some of the important, but often overlooked, ways that policy relevant evidence does, or does not, reach key decision making points. Alternatively, reflecting on how forms of public representation are constructed within the system further provides a starting point to consider whether or how good governance principles might be seen – particularly in regard to democratic concerns.

We presented results from six countries selected for their diversity in political structures and administrative features. We identified a range of challenges to aligning evidence with the decision making authorities – including fragmentation of decision making authority, different logics of evidence use in different policy making settings, and the existence of parallel decision making and evidence advisory streams in cases of donor supported planning. We also identified a wide diversity of forms of public representation built into evidence advisory systems, as well as a few clear gaps in representation in the provision or use of evidence in particular contexts.

There are two other general insights emerging from our findings relevant to the broad continuing efforts to improve or increase the use of evidence to inform policy. First, we note that it is important to recognise that the two goals of improved policy/programme outcomes and of improved governance are not necessarily connected. There are ways that non-democratic systems or processes can utilise evidence to improve technical outcomes – potentially even embracing the language of evidence based policy - while doing so through decision making processes that show little democratic representation or accountability. Most obvious would be cases where a centrally controlled authority dictates goals from above (potentially even against the will of the people), but then utilises evidence to be more effective at achieving those goals. It cannot therefore be taken for granted that evidence use leads to any form of improved representation or democratic governance on its own.

A second important distinction is to recognise that it may be a very different process to use evidence to guide the choice of a specific intervention within an existing programme (e.g. which malaria treatment to use), in contrast to using evidence to inform policy choices that cut across a health system (e.g. whether to treat malaria or provide more immunisations). This distinction is rarely explicitly addressed, but the two situations are considerably different with regard to the political concerns involved and the potential for contestation, which can have implications for structures needed to link evidence and authority points, as well as raising very different governance challenges.

So for example, increasingly there have been international calls for greater use of evidence to serve *priority setting* roles for a health sector. Cost-effectiveness/cost-utility analysis now commonplace in fields such as health economics (Hutubessy et al., 2003; Musgrove & Fox-Rushby) and with there are increasing calls for states to follow these procedures by international organisations such as the Bill and Melinda Gates foundation (Bill and Melinda Gates Foundation et al., 2014). Yet implementing this form of priority setting will require reflection on both the structural arrangements in place to

support evidence use of this fashion, as well as consideration of the political acceptability of using this approach to shape health service resource allocation. Indeed, priority setting assumes that cost-effectiveness is typically the single or most obvious metric to use to judge allocation of resources between competing health needs. Yet it is worth noting that none of our countries embraced this idea entirely. In some countries we saw cases where principles such as solidarity or the right to health were enshrined in health sector governance, for instance, which challenge the idea that resources should be allocated on cost-effectiveness analysis only. In other settings we saw entrenched interests and elite capture limiting the likelihood that resources might be shifted between programme areas – effectively illustrating that other political considerations can often trump economic calculations. Even in England, widely seen to embrace cost-utility approaches to allocate the NHS budget, the democratically elected parliament can still over-ride these decisions when felt to be responding to public interest. Donor funding for health also undermines a second assumption embedded into priority setting thinking that there is a fixed budget to allocate. Instead, when there is outside support earmarked to disease specific initiatives (e.g. HIV/AIDS, TB, or Malaria), the decision of which health condition to prioritise can actually increase or decrease the budget itself.

This paper in many ways provides a start, more than a conclusive solution, to reflect on how to improve the use of evidence to achieve normative goals such as greater efficiency or improved governance. That the constitution of the evidence advisory system, and its alignment with key decision making points will be critical to understand if future efforts focussed on knowledge translation are to move beyond past limitations, to consider more of the structural changes that could be engendered to sustain long-term increases in evidence use. Additionally, concern with how evidence use manifests in improved governance is a research agenda that a single paper of this nature cannot necessarily address comprehensively. Yet the constitution of the system in terms of how public representation is built into bodies that select, analyse, provide, or utilise evidence represents an important starting point to consider where and how democratic principles may be reflected within systems of evidence advice. Ultimately these insights are intended to inform and provide further avenues of inquiry for the continually evolving body of work looking at the links between evidence and social policy making.

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