Drivers of health system strengthening: learning from implementation of maternal and child health programmes in Mozambique, Nepal and Rwanda

Abstract

There is a growing understanding that strong health systems are crucial to sustain progress. Health systems, however, are complex and much of their success depends on factors operating at different levels and outside the health system, including broader governance and political commitment to health and social development priorities. Recognising these complexities, this paper offers a pragmatic approach to exploring the drivers of progress in maternal and child health in Mozambique, Nepal and Rwanda. To do this, the paper builds on a semi-systematic literature review and case study findings, designed and analysed using a multi-level framework. At the macro level, governance with effective and committed leaders was found to be vital for achieving positive health outcomes. This was underpinned by clear commitment from donors coupled by a significant increase in funding to the health sector. At the meso level, where policies are operationalised, inter-sectoral partnerships as well as decentralisation and task-shifting emerged as critical. At micro (service interface) level, community-centred models and accessible and appropriately trained and incentivised local health providers play a central role in all study countries. The key drivers of progress are multiple, interrelated and transversal in terms of their operation; they are also in a constant state of flux as health systems and contexts develop. Without seeking to offer a blueprint, the study demonstrates that a 'whole-system' approach can help elicit the key drivers of change and potential pathways towards desirable outcomes. Furthermore, understanding the challenges and opportunities that are instrumental to progress at each particular level of a health system can help policy-makers and implementers to navigate this complexity and take action to strengthen health systems.

Introduction

There is growing recognition that well-functioning and well governed health systems are crucial in order to improve health outcomes and provide continued access to essential care over time. Health systems are commonly seen to consist of all the activities whose primary purpose is to promote, restore or maintain health (WHO 2000); these include not only formal institutions and resources, but also traditional, informal and home-based care activities. While the World Health Organization (WHO) has developed a framework composed of six building blocks – governance, information, human resources, finances, pharmaceuticals, vaccines and other technologies, and service delivery – this model fails to recognise community and demand side actors involved in the production of health, thus diverging from the original definition. With the increasing recognition that health systems are driven by the needs, values and behaviours of a wide range of actors, ranging from community members, to service providers and national policy makers, interacting within 'people-centred health systems' (Sheikh et al. 2014), this emphasis is now changing. In this same vein, WHO has recently proposed a global strategy on integrated people-centred health services, which among other areas seeks to empower and engage individuals and communities and increase participatory governance (WHO, 2015).

While it is widely accepted that the configuration of health systems vary from country to country, access to essential service coverage is recognised as a sign of a strong health system (MSH, 2015). Increasingly, access to health care has been recognized as a fundamental right; this notion has also been reflected in the concept of universal health care which is seen as a goal that should be attained not only for the benefit of individuals, but also for the benefit of society as a whole. Political actions towards achieving universal health coverage (UHC) in countries at all income levels have gained support (WHO, 2005; WHO, 2010). In making progress towards this goal, national strategies have sought to improve health systems structures and governance as platforms for implementing

appropriate vertical interventions. The shift from a narrow focus on sector-specific goals and single disease targets to developing broader cross-sectoral strategies has culminated in the adoption of the Sustainable Development Goals (SDGs)[1].

As a major vehicle to implement UHC, a strong health system can deliver essential health care while at the same time responding to changing in disease patterns, available resources and population expectations. A strong health system can also promote positive longer-term health and societal outcomes such as risk protection (WHO, 2007). Achieving these outcomes is now seen to require more efficient as well as more equitable distribution of health care (World Bank, 2013). Thus the process of building effective health systems or promoting 'health systems strengthening' (HSS) has gained prominence over the past decade, with governments and donors recognising that the success of particular (often disease-specific) interventions is determined by the fundamental institutions and processes that form the basis of health systems (WHO 2009).

However, health systems are complex and similar to UHC, there is little consensus on what HSS entails, what the drivers of successful HSS initiatives are and how they can be measured (Marchal et al., 2009; van Olmen et al., 2012). Lack of consensus on these issues may have fragmented the response of major donors and global health organizations (Hill et al., 2011; Marchal et al., 2009). These responses have at times favoured vertical interventions that target specific diseases instead of investing in the system as a whole, creating parallel programmes from those in government (Spicer et al., 2010) and generating donor dependence when programmes are not based on long-term strategies and sustainability (Amaya et al., 2014; Ozawa et al., 2016). Building effective health systems requires sustained level of investment over long periods, and instead, political efforts have

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[1] http://www.un.org/sustainabledevelopment/sustainable-development-goals/

coalesced around what are seen to be more feasible and clearer goals, such as the MDGs and most recently, the health-specific SDGs[2]. Global efforts to address the Millennium Development Goals (MDGs) have dominated the global health agenda in the past decade and although these goals have led to the creation of new and innovative initiatives, targets were not met in many countries (Bhutta and Black, 2013). This failure has, in turn, been explained by inadequate attention to strengthening overall health systems (WHO, 2007; Marchal et al., 2009; Reich and Takemi, 2009; Waage et al., 2010).

Given these developments, an increasing number of studies have addressed the question of how to strengthen health systems. Good governance emerges consistently as a factor underlying progress. A 24-country study on the implementation of grassroots UHC initiatives found that developing accountability measures in relation to delegation and financing was perceived to be important for making progress in both low and middle-income countries (Cotlear et al., 2015). There were, however, difficulties in obtaining information on progress and empowering citizens to hold policy-makers accountable (ibid.). Difficulties in measuring coverage inequities and quality of services have also been highlighted (WHO/World Bank, 2015). Similarly, findings from 11 countries that have adopted UHC reforms found that expanding coverage is a long-term endeavour requiring technical knowledge and political engagement with leaders that have a vision and commitment to this goal, as well as being able to target resources towards the development of good governance, institutions and administrative capacity (Reich et al., 2015). This closely mirrors earlier work exploring how good governance and accountability have promoted major advances in health and access to services in some LMICs compared to others at a similar level of wealth (Balabanova et al., 2013).

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[2] Good health and wellbeing.

However, a source of complexity is that the pathways to health systems strengthening are likely to depend on multiple factors both within and outside the health system, for example broader governance and political commitment to health and social development priorities. Recognising these social determinants of health and wellbeing, the ODI Development Progress project has been exploring drivers of progress across a range of sectors[3]. Given the multiple and interrelated factors influencing progress in health, recognising the viable pathways and range of policy options is a challenge to policy makers and implementers alike. The analysis presented in this paper seeks to offer a pragmatic approach to navigate this complexity. It draws on the literature to identify lessons on drivers of progress and on a comparative analysis of case studies from Mozambique, Nepal and Rwanda (a subset of the ODI Development Progress project focused on health)[4]. We adopt the WHO definition of a health systems but capture also the 'people-' and community-level aspects that are critical to its functioning and were recognised in the original WHO definition (WHO 2000).

What are the health system drivers contributing to positive change in health? A literature synthesis

A narrative semi-systematic review of literature exploring factors that drive progress in health, with a focus on health system-related factors, was conducted. A brief synthesis is presented below. Studies complying with the following criteria were included: a) studies published between 2000 (when the MDGs launched) and 2015; b) studies comparing two or more countries; c) studies with defined 'success' factors or seeking to explain what combination of factors led to better health outcomes among countries at similar income levels; and d) studies published in English. The

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[3] For further details see http://www.developmentprogress.org/
[4] Please see the following links for details of the country studies from which this paper draws:
For Mozambique: https://www.odi.org/publications/8459-against-odds-mozambiques-gains-primary-health-care
For Nepal: https://www.odi.org/publications/7897-development-progress-nepal-maternal-health
For Rwanda: https://www.odi.org/publications/5483-rwanda-health-insurance-performance-based-contracts-development-progress
Please see the following link for a synthesis report which combines findings on MCH and neglected tropical diseases:
https://www.odi.org/publications/9096-pathways-progress-multi-level-approach-strengthening-health-systems

comparative component or identifying emerging patterns across countries was essential and allowed for patterns across settings to be traced as well as the capture of evidence using different methods. The search strategy is described in Box 1.

[Box 1: Search strategy]

Three broad sets of themes related to drivers of progress in health emerged from the review. Firstly, good governance was identified as a major determinant of success in effective design and implementation of policies and programmes. Critical ingredients for good governance included: effective leadership, closely associated with political commitment; transforming political will into ownership of the policy and implementation process; and the ability to make evidence-based decisions that reflect best practice and health needs. Furthermore, promoting alignment and collaboration among actors operating at different levels of the health system and the need for regulatory and accountability mechanisms were also identified as important governance aspects (Atkinson et al., 2005; Balabanova et al., 2013; Dawad and Veenstra, 2007; Druce and Dickinson, 2006; Green et al., 2011; WHO Regional Office for Europe, 2006; Kuruvilla et al., 2014; Levine et al., 2004; Mackenbach and McKee, 2013; Rhode et al., 2008; Ritsatakis and Makara, 2009).

Secondly, successful implementation of health policies requires operationalizing them as well as delegating clear responsibilities to local (micro) health systems. Local ownership is critical for effective implementation (Green et al, 2011), as is ensuring that human resources at all levels have sufficient capacity to implement the policies (Atkinson et al., 2005). At the same time, evidence has shown that vertical—often disease specific and standalone—programmes that fit coherently into the broader health system result in more effective implementation. This requires using resources in

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creative ways, particularly solutions related to the health workforce (Atun et al., 2010; Balabanova et al., 2013; Bloor and Maynard, 2003). Similarly, partnerships with education, water and sanitation and other sectors have been shown not only to facilitate efficient use of scarce resources, but to promote good health outcomes (Atkinson et al, 2005; Allin et al., 2004; Ritsatakis and Makara, 2009; Kuruvilla et al., 2014).

Thirdly, community ownership and participation is again confirmed as an important driver of successful interventions to improve health. This is not just to increase service utilisation but also as an efficient way of identifying local health priorities and providing workable solutions on how to deliver and manage services, frequently through involving community health workers. Working with community-centred and owned institutions often improves accountability and local governance, which in turn can improve uptake of public (and health) services. Evidence also shows that participatory decision-making can empower patients and increase access to community health programmes, in turn fostering positive health outcomes (Lainez et al., 2012; Plochg and Klazinga, 2002; Ritsatakis and Makara, 2009; Smith et al., 2009).

Analytical framework

Reflecting the key set of drivers of progress identified in the literature review, and the health system levels at which they are significant, an analytical framework was developed to underpin case study design and interpretation, encompassing the macro, meso and micro levels of a health system (Figure 1). At the macro level of a health system, decision-making on priorities and strategies takes place (Caldwell and Mays, 2012), policies and interventions are developed, and the necessary resources are assigned (Jimenez-Soto et al., 2012). At the meso (typically sub-national) level, the policies become specific interventions shaped by organizational structures and procedures and the

possibility of partnerships among different organisations (Smith et al., 2009; Legare et al., 2011; Caldwell and Mays, 2012). Finally, the micro or service delivery level is where the health systems and the users intersect and formal policies are tested (Plochg and Klazinga, 2002). The characteristics of each level vary according to different contexts. Thus, in less centralised countries, meso level institutions may have greater decision-making power in designing and investing in programmes. Moreover, the factors identified at each level are interconnected, thus while politics, corruption, public pressure or advocacy are typically associated with policy dynamics at macro level, they can also influence decision-making at the meso and micro levels (Kapiriri et al., 2006). Many drivers cut across all levels of the health system and are not mutually exclusive. In this study, resonating also with findings from the literature review, drivers of progress are explored at the level where they are more prominent.

[Figure 1: Drivers of progress in health: an analytical framework]

The framework incorporates interventions and policies both within and outside the health system. Despite full awareness of the importance of other sectors and the ways in which they can effect health outcomes, the focus of the study and the entry point was largely the health system, since also clearly institutions within the health sector have as a their main purpose to improve health access and outcomes. Thus, in this paper we focus on exploring the role of health systems drivers rather than carrying out a broader study on drivers across multiple sectors[5]. Factors within the national context, such as broader governance, the economic situation, political factors, historical background, geography and demography, as well as social and cultural factors can facilitate or

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[5] Additional case studies explored the intersection of different kinds of drivers as well as the multi-sectoral drivers which led to progress in a range of countries, see e.g. http://www.developmentprogress.org/publication/ghana-rising-star-progress-political-voice-health-and-education. Including these is beyond the scope of this paper.

hinder improvements in health. The regional and global contexts, including provision of external aid to fund health programmes, the global and regional funding environment more broadly and existing regional policies, all have an effect on health-related institutions and policies and hence in the health response of a country. This categorisation of drivers of progress can help understand how they operate and interact with each other and with the broader context. However, drivers are not assumed to be static; they can change and evolve over time, and act at micro, meso and macro levels. Similarly, certain drivers can become more important than others in influencing positive change.

Methods

The analysis drew on two complementary data sources. Firstly a narrative semi-systematic literature review identifying key drivers of progress in health was carried out which led to development of a framework. Secondly, a comparative analysis of case studies was conducted in Mozambique, Nepal and Rwanda to elicit the diverse pathways to health systems strengthening as well as to identify health system - rather than programme-related - factors that have facilitated progress in maternal and child health in countries that have achieved considerable health advances relative to their regional position and despite significant resource constraints.

Case study country selection was based first, on a quantitative analysis of key indicators available from international sources which identified countries performing particularly well compared to other countries over time. Thus countries that had achieved the greatest reduction in maternal mortality between 1991 and 2010 were identified. In particular, the focus was on countries that had reduced mortality at a high rate relative to their initial 1991 level using a regression-based method that sought to control for a country's initial mortality levels – and that accommodated non-linear

pathways of progress (Rodriguez-Takeuchi and Samman, 2015). This regression analysis resulted in the inclusion of 142 countries (Maternal Mortality Estimation Inter-agency Group data) and 155 countries (Institute of Health Metrics Evaluation {IHME} data) over both the 1991–2010 and the 2001–2010 periods. The results were complemented with an examination of indicators of skilled birth attendance, antenatal care, caesarean sections, abortions, neonatal deaths, contraceptive prevalence and total fertility. On the basis of this analysis, six countries were shortlisted – Ethiopia, Morocco, Angola, Mozambique, Equatorial Guinea and Nepal – from which Mozambique and Nepal were selected for case studies. The Rwanda country case study was selected in an earlier round of the study, using a similar approach.

Secondly, the study sought to include low or lower-middle income countries from both Africa and Asia, where resources in the health system are relatively scarce, maternal and child health remains a particular concern and government and donor interventions to address the situation are being implemented. Pragmatic considerations were also considered such as data availability and ease of access to key informants and study settings.

A case study approach was employed to construct a plausible pathway explaining how health outcomes, in this case maternal and child health (MCH) outcomes, were reached. This approach also allowed for multiple interrelated factors within the health system and overall context to be considered and for available data sources to be combined so that the research question(s) could be examined through "… a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood" (p544, Baxter and Jack, 2008)(see also Goodrick, 2014). Box 2 describes the case study methodology in detail.

{Box 2}

The Development Progress project was reviewed and approved by the ODI Research Ethics

Committee; local ethical clearance was also sought, where applicable. Informed consent was sought

from all respondents prior to starting the interview. Confidentiality was maintained through

anonymizing all data and quotations and secure data storage and management.

Findings

The case studies findings are presented in a comparative manner, exploring drivers at the macro,

meso and micro levels of the health system, which promote positive outcomes, with reference to

relevant country-specific literature. In order to situate the analysis, a snapshot of the country

contexts affecting health system strengthening in each country is presented in Box 3.

[Box 3: Health systems strengthening in context – a snapshot]

Macro level drivers

The macro level is where decisions around national policies, strategies and priorities are taken.

Effective governance, which includes strong leadership and the ability to carry out strategic policy-

making and develop effective accountability systems and mechanisms, emerged as a critical

component in explaining progress in MCH reported in these three countries.

In all study countries, political transformations and instability, caused largely as a result of the civil

wars, also generated opportunities for health sector reforms (see Box 3). Some of these reforms

were due to donor, but also government commitment to invest in infrastructure and social development programmes, also capitalising on the consensus generated through the peace process. An important part of this process were initiatives to strengthen leadership and accountability, with particular attention to strengthening local governance mechanisms. The Mozambican General Peace Accord signed in 1992, for instance, created the basis for stability and primary health care, in particular MCH, and paved the way for the Health Sector Policy (1995–1999) and the flagship Health Sector Recovery Programme, reflecting MCH as a key government priority. Similarly, in Rwanda, respondents testified how following the genocide, committed government leadership was instrumental in mobilising support for rebuilding public services, concentrating resources and capacity on improving health services. *'The magic bullet of Rwanda: government leadership. For example, the Mutuelle; it started in Burundi but it never worked there, even the donor coordination system has succeeded because of that'* (Donor representative, Kigali). While controversy still surrounds the role played by President Paul Kagame, according to many study respondents, he gained the respect of many people in Rwanda for his achievements in restoring security and stability and for taking a firm stance on social development, including health. His role in promoting the rebuilding of the health sector in particular, was seen as key.

Similarly, after the 1990 political transition the Ministry of Health in Nepal gained more recognition within the government and, using this window of opportunity, forged high-level support for the development of both policies and increased investment in maternal health. This can be seen from a set of innovative policies and plans such as the Safe Motherhood Policy (1998), the inclusion of maternal health in the Essential Health Care Package and the National Safe Motherhood and Newborn Health Long-term Plan (2002–2017). According to study respondents, this process was driven by health ministry officials experienced in public health implementation, but who were also able to influence higher level health officials and decision-makers. One former government officer particularly emphasised the importance of public health training: *'Our directors and health*

administrators had a public health background, rather than just being clinicians. It made a big difference as they would want to focus on essential care rather than only sophisticated care'.

Strategic policy-making, i.e. the capacity to design suitable polices and related interventions, including reviewing their medium and longer-term consequences, as well as the ability of the health system to implement these, emerged as a critical theme in our study. Amongst other things, strategic policy making has been bolstered by improved investment and reporting procedures, expanded use of the evidence base and increased focus on local level needs and priorities. The development of effective and strategic policies in Nepal, for instance, drew widely on learning from best practice. In Rwanda, a series of reforms reportedly provided the space for policy-makers to develop MCH-related programmes. These reforms included decentralisation, the community health insurance scheme and performance-based financing (PBF) to health centres and district hospitals. Although these reforms may have had mixed results both within Rwanda and in other countries (Basinga et al., 2011; Carrin et al., 2005; Ireland et al., 2011; Soeters et al., 2006), many of them, according to our study respondents, were shaped and implemented by local communities and reflected population needs and priorities:

> *'Any policy made starts from the bottom. People come from the central level, sit with the district, analyse and even go to grassroots level to gather information. Then they go back and design a policy that comes back to the district, which can modify it and make innovations in its implementation'* (Government officer, Nyamagabe).

The extent to which accountability and transparency has been achieved differed in the study countries. In Rwanda our findings suggest that processes and mechanisms promoting accountability at different levels were set up by the Ministry of Health. According to our study respondents, such mechanisms also drew on traditional Rwandan culture with its embedded values of a cohesive and inclusive society (Rodriguez Pose and Samuels, 2011). Accountability in Nepal, however, remains

challenging, where, amongst other things, limited monitoring mechanisms enable corruption to persist.

The second critical feature at macro level seen to have promoted improvements in access to health as well as health outcomes was improved health financing and in particular increased investments in MCH. External assistance has, and continues to play, a critical role in the study countries and has enabled far-reaching health reforms than otherwise possible. Aid may have been forthcoming due to the perceived leadership and commitment that countries have shown in effective health improvements and systems' capacity to absorb funds. Reportedly, donor confidence may have been increased by an ability to forge and coordinate strategic partnerships as well as the capacity to combine funds through budget support mechanisms, instead of supporting vertical programmes. However, this must be balanced with the need to make these funds sustainable over time. There is evidence that this has taken place as, for example, Rwanda has begun to integrate donor initiatives into health system activities and has also implemented significant health sector reforms. It is also expected that with economic growth and increasing economic stability, countries may eventually be able to funds these activities through their own budgets.

Thus, in Mozambique over the last two decades progress in health financing can largely be explained by: improved harmonisation of aid by the development of the sector-wide approach (SWAp); financial management reforms which earmarked some of the aid towards general budget support; and increased revenues from taxation as well as other sources. Financial management system improvements were also important as they allowed for a reduction in delays in disbursement as well as in the number of cash transactions, which also minimised potential corruption (De Renzio, 2011; Visser-Valfrey and Umarji, 2010). Additionally, the integrated

financial-management information system has created better reporting and spending patterns, e.g. while in 2005 only 59% of funds were allocated, this increased to 93% in 2011 (MISAU, 2005 and 2011). In turn, larger investment in infrastructure and extending coverage in rural areas was also seen, along with expanding staffing and salaries.

External aid was complemented by improvements in tax collection in Nepal and the implementation of community health insurance schemes in Rwanda, which aim to spread the financial risk of seeking care. The community health insurance scheme (*Mutuelles de Santé*), which has been progressively scaled-up to cover the whole population, has, according to study respondents, improved the use of health services as well as reducing costs; although others have also found that this form of insurance frequently fails to reach the poorest (e.g. Kalk, 2008).

> *'Before the introduction of the Mutuelle people were dying at home because they did not have the money to pay for health. Now, because of the nominal amount paid, nobody fears to approach the health facilities'* (Ministry of Health officer, Nyamagabe).

Performance-based financing (PBF) in Rwanda was also reported to improve the quality and quantity of services (see also Chambers and Booth, 2012). However, it is also extremely costly and according to study respondents, remains difficult to evaluate:

> *'PBF is more an expression of political will since it's difficult to evaluate performance. However, it injects money into the system. The principle is not bad but it is not very cost-effective. I think Rwanda is the only country where it is working and it has to do with the very strong will from the leadership and 'zero' tolerance of corruption'* (Donor officer, Kigali).

As mentioned in our analytical framework, drivers are not static and can act at multiple levels. National-level champions and leaders are vital for MCH to remain centre stage as described

above. With decentralisation, the meso level (described next) will also play an important role in the identification and prioritising of policy. Similarly, while the national level usually shapes financing policy, decisions around programme financing can also take place at the lower or meso level.

Meso level drivers

The meso level represents the level at which national policies are refined and re-designed to fit the sub-national or district context. Effective implementation at this level depends on successful alliances and strategies both within the health sector and across other sectors in order to support and leverage health gains.

According to study respondents, the decentralisation of policy development and service delivery resulted in a number of positive outcomes. In certain districts in Rwanda decentralisation has been used successfully as a catalyst for extending service coverage. Decentralisation became a national policy in Rwanda from 2006, with the district level assuming responsibility for decision-making, management and supervision of health facilities (Basinga et al., 2008). Finding from this study demonstrated that this process was fluid, with some districts being able to more effectively use and manage these decentralised resources than others. The extent to which the decentralised administration involved district-level committees as well as community members also varied; this was particularly successful in one of the districts included in this study. The process of decentralisation also contributed to clarifying roles and responsibilities resulting also in better synergies across different levels:

> *'The process of decentralisation of health translated into a well-synchronised health*
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> *structure in which every level of the health care delivery system has its job description with*

well-defined responsibilities and activities. There is a clear structure of vertical

responsibilities in place, in which everyone knows what they should be doing, which allows

for minimum overlap' (Health worker, Nyamagabe).

The *Mutuelle de Santé,* discussed above, has been driven and managed by the district

administrations, while the national government plays only a coordinating and advisory role. The

rebuilding of the health sector was part of a broader programme following the genocide in Rwanda;

this programme involved investment in infrastructure by both the government and international

actors, with a particular focus on rural areas. These processes were reliant on and further promoted

decentralised public sector governance. As result of these decentralised processes, access to health

services has improved: in 1994 there were few functioning health facilities, by 2007 more than 60%

of the population lived within 5 km of a health centre (MoFEP, 2007). Despite persisting challenges,

the study captured a common view that decentralisation has facilitated progress.

While evidence shows that decentralisation can improve ownership by local actors and as a result

can reduce implementation bottlenecks (c.f. also Atkinson et al., 2005; Green et al., 2011), other

challenges may arise. Similarly, setting up decentralised structures alone is not enough; there is need

to ensure appropriate resources to support these decentralised structures, including qualified

(managerial) staff, appropriate budgets, infrastructure and incentives (Wang et al., 2002). In this

vein, the experience of the other study countries has been mixed. In Mozambique the study found

evidence that decentralisation was associated with increased utilisation of essential and primary

care (especially for the poor), improvements in health facility infrastructure and integration of MCH

services with other programmes and services. However, this has been an incremental process

requiring substantial coordination. Moreover, challenges persist particularly with regards to the

capacity of district administrations to plan activities and to link them to, and effectively manage,

resources (Sherr et al., 2012). Similarly, decentralisation in Nepal has had some problematic effects, with study respondents noting that having appointed rather than elected village and district councils has limited opportunities for the community to have a say. Concerns were also expressed about whether there was sufficient capacity at the district level to design plans and budgets and to solve delivery chain issues.

Task-shifting, '… *whereby specific tasks are moved, where appropriate, to health workers with shorter training and fewer qualifications. … [to] ease bottlenecks in service delivery*' (WHO, 2008), emerged as an important meso-level coping strategy as observed also in other settings that experience critical health worker shortages. Mozambique has been seen as a leader in Africa in implementing large-scale initiatives to increase the supply of health workers, however these initiatives are still insufficient given the wide resource gaps. In response, the country has pioneered training of *técnicos de medicina*. These mid-level providers, trained in a range of medical and surgical tasks previously performed by physicians, have, according to key informants, both increased the availability of services in rural areas and realised costs savings.

Task-shifting has also been at the core of the government of Nepal's sectoral strategy, with nurses and auxiliary nurse midwives (ANMs) trained to provide antenatal care, family planning and immunisations. Importantly, this cadre of health workers attend births and perform basic obstetric interventions in situations where there are no community health workers. By 2012, 3,000 additional maternal health workers were trained and certified, thus alleviating staff shortages at peripheral health facilities and in rural areas - though there was still at that stage a long way to go to achieve the aim of training 7,000 staff by 2015 (UNFPA, 2012). In Rwanda, study respondents reported concerted efforts to fill staff vacancies especially in rural areas, including through: international recruitment, often from the Democratic Republic of Congo ('*if there are three doctors in the district,*

one is Congolese', health researcher, Kigali); revitalising nursing schools to increase training places; and training physicians abroad in specialist skills not available in the country. The Ministry of Health is also piloting task-shifting for HIV testing and basic 'on the spot' treatment, with nurses providing treatment instead of physicians.

Partnerships with other sectors, or leveraging achievements in other sectors, was another emerging theme, with education in particular perceived to play a positive role in improving health in all study countries. As a result of the removal of school fees and communication campaigns, access to primary education for girls in Mozambique has improved (enrolment rates increased from 37.3% in 1991 to 87.6% in 2011). In turn, higher educational attainment among mothers was associated with declining under-five mortality rates (Rodriguez Pose et al., 2014). In Nepal, there have been similar efforts to invest in schooling as a vehicle to improve health among other developmental outcomes, with school attendance rates increasing from 43% to 58% between 2006 and 2011. Secondary education, which has a strong empowering effect on women, has also increased in Nepal with the number of women and men pursuing secondary education (even if only for some years) increasing by 48% and 26% respectively in the 2006-2011 period (Hulton et al., 2011).

While in many cases positive development across sectors can occur in parallel and often spontaneously, the study also demonstrates the importance of developing formal partnerships and aligning strategies across different sectors. In Nepal and Rwanda, a strong emphasis on developing multi-sectoral approaches to addressing maternal health was frequently identified by study respondents. In Nepal, for example this has led to joint activities and lobbying other ministries to contribute to maternal health programmes. For instance, efforts to upgrade the road infrastructure and promote bridge construction, as well as allowing the use of government vehicles as ambulances in emergencies, have been significant in facilitating access to health services, given also the

mountainous terrain and remoteness of many locations in Nepal. Similarly in Rwanda it was noted

that the malnutrition programme employs a multi-sectoral approach, which aligns work initiated by

the Office of the Prime Minister, Ministry of Health, Ministry of Family, Ministry of Education and

Ministry of Agriculture.

Factors which influence progress in health, as outlined above, are transversal and closely

interrelated with an array of initiatives and structural factors at both macro and micro levels. Thus,

promoting decentralisation is often seen as a vehicle to enable users to identify bottlenecks and own

the solutions (e.g. bottom-up planning, as in Rwanda). However, our findings suggest that for

decentralisation to be successful, sustainable and effective governance structures and processes

both at the meso level and below need to be created. While task-shifting may involve more junior

health staff being trained to perform specialist activities, community-based health workers at the

micro (community) level also play an important supportive and enabling function. And while multi-

sectoral partnerships are often more salient at the meso level, these are critically dependent on

commitments and agreements at the national level.

Micro level drivers

At the level of service delivery, or the interface of health systems and users or communities, the role

played by community health workers (CHWs) in extending the coverage of MCH services in the

study countries has been pivotal. Not only have CHWs been critical in carrying out prevention

activities, they have provided essential health services, including referring patients to other service

providers. Thus since 1978, CHWs in Mozambique - the *agentes polivantes elementares* (APEs) -

have played a critical role in providing and expanding health services (Bhutta et al., 2010). Trained

for 18 weeks, the APEs are employed on the basis of an annual contract and given a monthly salary

that is also linked to their performance. In addition, trained midwives perform key child and

maternal health activities on a voluntary basis, receiving various incentives (e.g. bicycles, radios). According to a government official, these APEs have been significant in *'creating awareness and convincing the population of the benefits of using health centres'.*

Significant improvements at the micro level in terms of health services and outcomes, even where there are disruptions in district health systems, have also been evident in Nepal. Our study found that referral systems have become more efficient, and efforts to include drugs used during deliveries in the national essential drugs list have proven central to reducing adverse outcomes:

> '*I am not aware of any maternal deaths in the community in the past two to three years. I think this is because medicines are available, services are free and we have a 24-hour delivery service'* (Health worker, Terai).

An expanding network of community-based organisations, supported by local and international NGOs, has also been central to improving access to health services for all, including those in remote areas otherwise lacking access to mainstream services. Female community health volunteers (FCHVs), consisting of approximately 48,000 women, have also been instrumental in extending health coverage to remote locations, including reaching excluded and marginalised women (Thapa, 2011). These FCHVs are, according to one informant, '*highly revered'*, and *'have played a role in the empowerment of women'*. A volunteer described the gradual process of making her decision to take on the role:

> *'The district health officer had come to the village and was looking for volunteers. We did not understand what they were talking about, but later one of the newborn children died from tetanus at childbirth so I became interested and then was asked by the people in the community to become the FCHV' (*a FCHV*).*

Rwanda has also deployed CHWs as the backbone of local health services. The CHWs live and work in their own communities, receive training by the community health unit and provide first-line health care (World Bank, 2009). They are elected by their community and have dual accountability – to their constituency but also reporting monthly to the district authorities. The CHWs are linked with the health centres through a full-time coordinator who is in turn supervised by the district administration (Chambers, 2010). CHWs help raise awareness of the existing services and the benefits of using these.

> *'Community health workers are a central factor of progress in health, as they intervene in and prevent health problems before they become serious. They have a key role in sensitising the population about HIV, the importance of vaccinating children, using family planning, undertaking antenatal care and ensuring birth delivery at health centres, as well as promoting basic hygiene and sanitation measures such as hand washing, wearing shoes, having covered toilets, drinking boiled water, clearing bushes and maintaining general cleanliness. They were also vital in helping people understand the dynamics and importance of the Mutuelle'* (a Ministry of Health officer).

CHWs are often seen as agents for change. Findings from Rwanda demonstrate that CHWs have worked with traditional leaders who in turn have the ability to mobilise and motivate their communities. Seeking synergies between evidence-based health system practices and traditional concepts has also shown significant promise. Thus, the concept of *ubudehe* (a traditional practice of taking local action) motivates individuals to collectively identify and resolve their problems working with a range of actors including local government, district health offices and NGOs. Respondents credited this process with improved ownership of programmes as well as better managed service implementation and sustainability over time. Through these mechanisms, users' perceptions and preferences have contributed to influencing the direction of health sector reform:

*'Doctors and community members sit together as partners and they are able to discuss and plan what is best to meet people's needs' (*Donor representative, Kigali, Rwanda*).*

A similar positive role of community engagement is seen in the *Iniciativa Maternidade Modelo* in Mozambique. This initiative promoted effective interventions for maternal and neonatal health, essential preventive reproductive health care and family planning, in a more dignified and context-appropriate way (Reis, 2012; Chongo et al., 2013). Community ownership was also encouraged in Nepal through the implementation of cost-sharing for popular services, such as operational birthing centres:

'When we establish any birthing centre we organise a meeting and tell the community that we will provide all necessary equipment and ensure they have a skilled birth attendant, but that they need to raise funds for construction and ensure that all women come to the centre for antenatal care and birthing. That way we encourage ownership' (District officer, Terai, Nepal).

Through analysing findings from these three countries and using our analytical framework described above, this study demonstrates that different levels of the health system (macro/meso/micro) are interrelated in complex and dynamic ways: the micro level is dependent on policies and actions formulated at the macro level and operationalised at the meso level; in turn, the extent to which institutions and actors operating at the micro level implement formal policy as intended, may influence whether macro level policies are perceived to be successful, are well received and lead to improved service utilisation and ultimately better health. At the same time, community participation and activism, ensuring that local priorities are reflected in service delivery and local health systems governance, requires the existence of management processes and incentives at the meso and macro levels.

[Table 1: Summary of findings from case studies]

Discussion

As the international community begins to organise around the SDGs, achieving and sustaining universal access to health care for all is now firmly on the global agenda. At the same time health systems face growing pressures to respond to changing disease burdens, fall-outs from political and economic crises and populations with diverse expectations. While efforts to strengthen health systems are ongoing, there is still insufficient empirical evidence and discussion about what constitutes health systems strengthening and what factors have facilitated (and can facilitate) progress in this area.

This study has sought to contribute new evidence to these debates by exploring the experiences of Mozambique, Nepal and Rwanda, asking how they strengthened their health systems, what policies played a key role and what factors promoted their implementation. Drawing on a semi-systematic literature review and case studies findings, drivers of progress in maternal and child health in the three countries were explored. Recognising the complexity characterising the power and interplay of different factors within and beyond the health systems, the study applied a multi-level framework unpacking the macro, meso and micro levels and examining the distinct factors that may explain progress at each level. This distinction is for analytical purposes and our findings also confirmed the observation that policies and actions at one level are often shaped by, and influence action at other levels (Gilson and Raphaely, 2008). Additionally, drivers at different levels are often transversal, e.g. community engagement can make a difference to service delivery, but only in the presence of appropriate and effective meso and macro level systems and processes. Such systems can in turn support bottom-up processes of lesson-learning, feeding ultimately into policy development. There

is also recognition that these drivers can change and evolve over time; for example community involvement may manifest differently in response to political changes.

A range of common drivers were identified that may have led to these improvements at the different levels of the health system. At the macro level, good leadership and improved health financing emerged as essential. At the meso level, decentralisation of decision-making and service delivery, task-shifting, and the development of partnerships were key determinants for successful outcomes in MCH. Finally, at the micro level, our findings show that community health workers and community engagement were critical for promoting greater access to and uptake of health services.

Study findings suggest a number of areas for developing policies aimed at health system strengthening. At the macro level, supporting coherent, evidence-based and well-targeted policies and programmes is critical. Effective governance is also critical for promoting transparent decision-making and planning as are partnerships with global and regional institutions which support national health policies through providing funding but also technical and political support. External aid has emerged as being of paramount importance in the case study countries. As part of this, partnerships that progressively enable national level actors to take over and sustain efforts over significant periods of time have been and will continue to be important. Donor participation in SWAps is an important step towards promoting government ownership, decreasing transaction costs, building local capacity and facilitating the sustainability of initiatives in the long-term (Peters, Paina and Schleimann, 2013). However, in practice the degree of success of SWAPs has varied across countries and a number of standalone programmes continue to exist through global health initiatives. While not ideal, these global health initiatives have at times been instrumental in opening the space for innovative initiatives to address key health issues, particularly among vulnerable populations

(Kapilashrami and McPake, 2012). The gradual integration of donor-funded initiatives into national funding streams and early planning for transfer of responsibility, supported by dedicated resources for the transitional period and the development of capacity, is fundamental to promoting long-term sustainability (Amaya, et. al., 2015; Continental Development Alliance Consultants, 2013; Schell et al., 2013). An ongoing priority is to move beyond donor-recipient relationships and develop effective decision-making processes and accountability channels, institutional capacity, and promote political commitment around agreed goals among policy-makers and programmers at all levels.

At the meso or sub-national level, it is crucial to increase implementation capacity. This can involve management training and other incentives for planning, coordinating and monitoring the health system. At the micro level, CHWs, often unpaid volunteers, need to be integrated into and supported by the formal health system; one means of doing this is through task-shifting linked also to ongoing training. Strategies may need to focus not only on individual CHWs and managers, but also on identifying collective approaches such as working through multi-purpose community organisations, to ensure trust and increase service utilisation. This is particularly relevant to future research given the large informal health sector which often provides close-to-user but low quality services. However, in this study, the informal health sector was not seen as a significant contributor to improving health and access to care at the system level. A limitation here is that the quality of care did not emerge as a strong theme however it may have been an important factor implicitly shaping the decisions to seek essential care.

The study demonstrated that in order for health systems to be strengthened, entry points to build technical expertise and accountability need to be found at all levels. This may involve engaging with macro level institutions and individuals and enabling them (through training and exposure) to

respond to needs at meso and micro levels. For example, currently there is a heavy reliance on CHWs, particularly in remote rural areas but at the same time there is limited understanding of what mechanisms need to be in place at the meso and micro levels to support them. Understanding how to retain and incentivise skilled professionals to work at sub-national level is also important. Another possible entry point is empowering micro and meso-level practitioners to contribute to policy development – not only would they bring tacit knowledge, but their reflections on how existing policies operate in practice would be vital.

Conclusion

The pragmatic approach to understanding the drivers of health system strengthening proposed in this paper has the potential to help policy makers and implementers to think through the complexities of promoting whole-system change through taking a holistic and contextualised perspective on progress towards desired societal goals. We argue that instead of designing 'magic bullet' solutions targeting specific areas of health systems and disregarding challenges emerging in others, changing the mind-set when designing and implementing programmes may instead contribute to health systems strengthening. We suggest that understanding the pathways to access better health requires identifying the enabling and obstructive drivers specific to each level of the health system, and identifying the required actions without losing sight of the 'whole-system' functioning as well as the contexts that affect implementation.

To be effective, national-level governance and planning needs to be operationalised, with attention on developing capacity to implement policies and manage scarce resources effectively at the meso and micro levels. There is also a need to create mechanisms and policy processes enabling a dialogue between population representatives, service users and frontline providers. The interactions of these

groups shape the services provided locally, and their perspectives offer an important lens through which policy development and programme implementation can be enriched. Further research should ask questions about what level is key when designing and implementing a particular policy. Research should also explore how a policy effective at one level, can be translated to be also effective at the other two levels. Similarly, more understanding is needed on how power is distributed at the different levels, given the administrative setup, and what health systems factors as well as upstream conditions, need to be addressed so that changes result not only in higher utilisation but also in more inclusive and equitable health outcomes.

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