Promoting progress in child survival across four African countries: the role of strong health governance and leadership in maternal, neonatal and child health

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Abstract

Despite numerous international and national efforts, only 12 countries in the World Health Organization’s African Region met the Millennium Development Goal #4 (MDG#4) to reduce under-five mortality by two-thirds by 2015. Given the variability across sub-Saharan Africa, a four-country study was undertaken to examine barriers and facilitators of child survival prior to 2015. Liberia and Zambia were chosen to represent countries making substantial progress towards MDG#4, while Kenya and Zimbabwe represented countries making less progress. Our individual case studies suggested that strong health governance and leadership (HGL) was a significant driver of the greater success in Liberia and Zambia compared with Kenya and Zimbabwe. To elucidate specific components of national HGL that may have substantially influenced the pace of reductions in child mortality, we conducted a cross-country analysis of national policies and strategies pertaining to maternal, neonatal and child health (MNCH) and qualitative interviews with individuals working in MNCH in each of the four study countries. The three aspects of HGL identified in this study which
most consistently contributed to the different progress towards MDG#4 among the four study countries were (1) establishing child survival as a top national priority backed by a comprehensive policy and strategy framework and sufficient human, financial and material resources; (2) bringing together donors, strategic partners, health and non-health stakeholders and beneficiaries to collaborate in strategic planning, decision-making, resource-allocation and coordination of services; and (3) maintaining accountability through a ‘monitor-review-act’ approach to improve MnCH. Although child mortality in sub-Saharan Africa remains high, this comparative study suggests key health leadership and governance factors that can facilitate reduction of child mortality and may prove useful in tackling current Sustainable Development Goals.

**Keywords:** Child health, governance, Millennium Development Goals, accountability, health services, qualitative research

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**Key Messages**

- Stable and consistent health governance and leadership was a key factor contributing to the variable progress towards the Millennium Development Goal Four (MDG#4) target of reducing under-five mortality by two-thirds by 2015.
- Three main aspects of successful health governance and leadership effecting improved child survival identified in this study were (1) establishing child survival as a top national priority backed by a comprehensive policy and strategy framework and sufficient human, financial and material resources; (2) bringing together donors, strategic partners, health and non-health stakeholders and beneficiaries to collaborate in strategic planning, decision-making, resource-allocation and coordination of services; and (3) maintaining accountability through a ‘monitor-review-act’ approach to improve MnCH.
- Countries that made inadequate progress towards MDG#4, struggled to fully support MnCH care, implement policies and strategies, maintain a functional health system, coordinate stakeholders to integrate programmes and services, or ensure effective monitoring and use of health data to identify and overcome gaps in health services.

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**Introduction**

Substantial progress in child survival led to an estimated decline in under-five mortality (USM) worldwide from 12.7 million in 1990 to 5.9 million in 2015 (UNICEF et al., 2015). However, progress was limited in many regions, such that Millennium Development Goal #4 (MDG#4) to reduce global USM by two-thirds between 1990 and 2015 was not met (United Nations, 2000). Although the rate of USM in sub-Saharan Africa (SSA) remains the highest in the world, estimated at 83 deaths per 1000 live births in 2015 (UNICEF et al., 2015), 12 SSA countries met their MDG#4 target: Eritrea, Ethiopia, Liberia, Madagascar, Malawi, Mozambique, Niger, Rwanda, Senegal, Tanzania, Uganda and Zambia (UNICEF et al., 2015; You et al., 2015). These successes demonstrate that substantial reduction in child mortality is possible in low- and middle-income countries (LMICs).

Most childhood morbidity and mortality can be prevented or cured with known, affordable technologies and treatments (Friberg et al., 2010; Berman et al., 2016; Moucherad et al., 2016). Yet, inadequate health systems in many LMICs hinder progress such that essential drugs and interventions are not distributed reliably, in sufficient quantity, equitably or at reasonable cost. Published case studies highlight how some SSA countries accelerated progress to reduce USM, providing valuable insights regarding implementation and scale-up of child survival strategies (Bellagio Group, 2003; Amouzou et al., 2012; Mbonye et al., 2012; Zimba et al., 2012; Kuruvilla et al., 2014; Afnan-Holmes et al., 2015; Requejo et al., 2015; United Nations, 2015; Kanyuka et al., 2016; Moucherad et al., 2016; Ruducha et al., 2017), but few comprehensively evaluate countries making insufficient progress towards MDG#4.

We previously conducted country-specific case studies of four SSA nations with different annual rates of reduction (ARR) in USM to identify specific barriers and facilitators that influenced their progress towards MDG#4 (Figure 1) (Kipp et al., 2016; Brault et al., 2017, 2018; Haley et al., 2017). Liberia and Zambia were on track for MDG#4 when the study began (and have now met MDG#4) while Kenya and Zimbabwe were not on track (and did not meet MDG#4) (Figure 1). Country trends for infant mortality mirrored those of USM. Neonatal mortality declined by ~50% for Liberia and Zambia, yet remained stagnant for Kenya and Zimbabwe. Each country has unique historical, social and political experiences, while sharing characteristics such as high poverty levels, developing economies and large rural populations (see Boxes 1–4). Notably, we...
identified health governance and leadership (HGL) as a factor influencing progress in reducing U5M in these four countries.

HGL has been defined in different ways in the literature (Barbazza and Tello, 2014; Mishra et al., 2015; Moucheraud et al., 2016). We used the World Health Organization’s (WHO) definition which provides a practical country-level framework for HGL: ‘ensuring strategic policy frameworks exist and are combined with effective oversight, coalition-building, regulation, attention to system-design and accountability’ (WHO, 2007). Widely considered the most critical of WHO’s health system building blocks, HGL links all health system components together, providing strategic direction for ensuring availability of high quality health services, managing the health workforce, providing medicines, financing health services and generating information needed for effective decision-making (WHO, 2007;
In this study, we re-analysed data from all four country case-studies, including a review of national policies and strategies pertaining to the larger scope of maternal, neonatal and child health (MNCH) under which U5M falls, and qualitative interviews with individuals working in MNCH to elucidate specific components of HGL that influenced achieving (Liberia and Zambia) or not achieving (Kenya and Zimbabwe) MDG#4.

**Methods**

We reviewed national policies and strategies issued between 2000 and 2013 and conducted key informant (KI) interviews in 2013 to explore eight content areas influencing child survival (WHO, 2006, 2007, 2010, 2012; Ban, 2010; WHO and PMNCH, 2011): (1) health care system (including HGL, structure, human resources for health, access & utilization, monitoring & evaluation and accountability), (2) national health strategies and policies, (3) MNCH interventions, (4) clinical standards and guidelines, (5) commodities and essential medicines, (6) health financing, (7) partnerships and (8) contextual factors (e.g. conflict, political environment, hygiene and sanitation, nutrition and food security, education and human rights).

Four SSA countries (Liberia, Zambia, Kenya and Zimbabwe) were chosen based on their U5M ARR between 1990 and 2011 (data available when the study was designed, Figure 1) and their national governments’ willingness to participate. Detailed study methods for each country case study have been published (Kipp et al., 2016; Brault et al., 2017, 2018; Haley et al., 2017).

**Review of MNCH policies and strategies**

A national document review was conducted for each country to evaluate the MNCH policy framework affecting progress towards MDG#4. Policies and strategies pertaining to overall national health, MNCH and other related determinants were obtained from the WHO African Region office, WHO country focal points and Ministry of Health (MOH) for Liberia, Zambia, Kenya and Zimbabwe. Additional MNCH-related documents referenced in initial sources were subsequently obtained and reviewed (see individual case study supplementary tables in Kipp et al., 2016; Brault et al., 2017, 2018; Haley et al., 2017).

An abstraction guide was developed based on the eight study content areas and several cross-cutting questions (Table 1). Each document was reviewed by one author (CAH), who consulted with a second reviewer (MAB) as needed. Information from original documents was recorded verbatim in the abstraction guide to avoid observer bias.

**Qualitative methods**

**Study location and participants**

Utilizing country Demographic and Health Surveys (DHS) closest to 1990 and 2011, one or two provinces were selected from each country that had U5M ARRs comparable with the national ARR and were logistically accessible. Specific rural and urban sites were selected to evaluate differences in MNCH that can exist between urban and rural areas (Table 2).

**Study participants**

Semi-structured interviews were conducted with KIs involved in MNCH from the MOH, donor organizations, community-based organizations (CBO) and health care providers (HCP) (Tables 3 and 4). CBO participants and HCPs were selected from both urban and rural sites. National level KIs (see below) were recruited from the capital and each local site. In-country research teams collaborated with the MOH and WHO to identify potential KIs representing a range of ages, work experiences and positions/roles balanced between urban and rural sites.

**Data collection and analysis**

Guides for KI interviews were developed and piloted, mirroring the eight content areas and cross-cutting questions explored in the national document review (Table 1). Interviews were audio recorded, transcribed and translated into English (as needed) by trained research assistants. Transcripts were coded using deductive themes based on study content areas plus additional themes identified upon

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**Table 1** Key questions and deductive themes explored during the review of national health policies and strategies and key informant interviews that cut across child survival content areas

| Specific questions for review of national policies and strategies | Specific themes explored across content areas with key informants |
|---------------------------------------------------------------|---------------------------------------------------------------|
| What policies and strategies related to MNCH were in place between 2000 and 2013 (including changes during this period)? | Issues related to programme evaluation, access and utilization, coverage, impact and sustainability, as appropriate |
| What challenges were stated as hindering progress towards MDG#4? | Knowledge and experiences related to MNCH across the health care continuum (prenatal care through age 5 years) |
| What facilitators were stated as enabling progress towards MDG#4? | Knowledge and experiences related to MNCH across the health system continuum (community to tertiary hospitals) |
| What changes or improvements to MNCH policies and strategies were proposed or newly implemented towards the end of the study period but were not yet measurable? |

**Table 2** Selected study sites within Kenya, Liberia, Zambia and Zimbabwe

| Country | Capital | Urban | Rural |
|---------|---------|-------|-------|
| Kenya* | Nairobi (Nairobi Province) | Embu (Eastern Province) |
| Liberia | Monrovia (Montserrado County) | Gbarnga (Bong county) |
| Zambia | Lusaka | Livingstone (Southern Province) | Kazungula (Southern Province) |
| Zimbabwe | Harare | Chinhoyi (Mashonaland West Province) | Banket (Mashonaland West Province) |

* Nairobi Province is now Nairobi County; Eastern Province now consists of eight counties (established in 2013), including Embu County as the rural study site.
transcript review. Analyses were conducted using the qualitative software Atlas.ti (Murh, 2004), grouping the on-track countries (Liberia and Zambia) and not on-track countries (Kenya and Zimbabwe) for comparison. Analyses focused on codes related to HGL based on the WHO definition (WHO, 2007).

The Institutional Review Boards at the authors’ institutes and both the national and local ethics and research committees for each country approved the qualitative component of the study as follows (see Supplementary file S1 for copies of approval letters): Vanderbilt University Medical Center (Coordinating Center), Kenyatta National Hospital Ethics & Research Committee (Kenya), University of Liberia Office of the Institutional Review Board (Liberia), ERES Converge Institutional Review Board (Zambia), Joint Parirenyatwa Hospital and University of Zimbabwe College of Health Sciences Research Ethics Committee and the Medical Research Council of Zimbabwe.

### Results

#### Liberia

**Prioritization and support of child survival**

National documents and KIs described Liberia’s focused efforts to rebuild the healthcare system and establish essential services following a prolonged civil crisis. A strong policy framework was devised and implemented, including a triple planning approach using immediate, short- and long-term plans concurrently focusing on health, social welfare and development [Liberia Ministry of Health and Social Welfare (MoHSW), 2008; MoHSW, 2011d; Liberia Ministry of Planning and Economic Affairs (MPEA), 2012]. Liberia’s first post-conflict national health policy and strategic plan (MoHSW, 2007) prioritized MNCH through primary health care, community empowerment and cross-sectoral partnerships. Within 5 years, Liberia updated its national policies, integrating health and social determinants to increase equitable access to comprehensive packages of MNCH services delivered closer to communities (MoHSW, 2011b). Nearly all KIs felt these policies spearheaded by Liberia’s president enabled rapid recovery of the health system and increased utilization of MNCH services.

… the President had launched the revised road map for accelerating the reduction of maternal mortality, maternal and newborn mortality and morbidity in Liberia … initiatives that we believe … [have] shown government own commitment … (49-year-old male donor partner).

With significant donor support for overall development, Liberia increased total government expenditure on health (TGEH) to exceed the Abuja Declaration target of at least 15% of a country’s annual budget [African Union (AU), 2006]. National documents and KIs reported that resources supporting MNCH were generally allocated appropriately and directed towards high priority areas, but that additional government funding was needed to fully implement MNCH interventions.
Collaboration, coordination and inclusion

National documents and KIs asserted that Liberia’s government developed collaborative multi-sectoral partnerships at all levels of the health system, aligning local MNCH activities with national priorities (MoHSW, 2011d). A 2009 decentralization policy shifted health services funding and allocation decisions to sub-national leaders more knowledgeable about local needs. In addition, a 2011 community health services policy established services closer to the populations in need (MoHSW, 2011c). Moreover, KIs felt the government effectively coordinated international donors, national and local programme leaders and community health providers and beneficiaries, to integrate delivery of MNCH services at each point of care. Although Liberia maintained programme-specific policies and strategies (e.g. for HIV/AIDS, malaria, immunization and food security), the Ministries of Child Health and Social Welfare were merged to enable a holistic approach to MNCH, which was viewed favourably by KIs.

Accountability

Liberia set specific health targets, timeframes, roles and responsibilities within its child health policy framework aimed specifically at reaching MDG#4. An effective national and district-level health management information system (HMIS) enabled reporting of surveillance data, vital statistics and health services data from local facilities and providers up to county and national levels. National documents (MoHSW, 2011a) and KIs described timely collection and review of data as facilitating ongoing monitoring, evaluation and data-driven decision-making. County health and social welfare boards and community health committees further encouraged stakeholder and community involvement in HGL and ensured accountability for MNCH resource allocation.

The Republic of Zambia

Prioritization and support of child survival

Zambia’s achievements in MNCH and health sector reforms steadily evolved over decades of political stability with a commitment to reducing USM by focusing on immediate, medium- and long-term goals. Health system restructuring was intentionally aligned with development and poverty reduction efforts through five consecutive National Health Strategic Plans, six corresponding National Development Plans and a long-term National Development Strategy [Zambia Ministry of Health (MOH), 2006, 2012]. Zambia prioritized reduction of USM through a comprehensive health policy framework that reflected international recommendations and resolutions related to MNCH [Zambia MOH, 2012; Zambia Ministry of Community Development and Mother and Child Health (MCDMCH) and MOH, 2013]. Expanded access to MNCH care was facilitated through a policy to remove user fees, adoption of a ‘Primary Health Care Approach’ (WHO, 2008) and delivery of integrated packages of basic health services from pregnancy thorough adolescence and across health system levels (Zambia MOH, 2012). In 2011, MNCH services were moved into an expanded Ministry of Community Development, Mother and Child Health to holistically address poverty, health and other social welfare issues. In addition, Zambia’s Constitution was amended to guarantee children’s right to health, and the government strengthened its policy framework to improve newborn health and provide a roadmap for achieving MDG#4 (MCDMCH, 2013b; MCDMCH and MOH, 2013).

KIs described a well-structured national system for identifying and funding local MNCH priorities and needs and expanding community-level services. Though TGEH was increased to meet the Abuja Declaration (Countdown to 2015, 2012; USAID and UNAIDS, 2013), some KIs felt that additional government funding was needed to avoid reliance on donors.

Collaboration, coordination and inclusion

Zambia’s well-structured health system and MNCH policy framework promoted strong partnerships with external donors willing to align their support with domestic priorities. According to national documents and KIs, the government’s collaborative approach and decentralized HGL facilitated partnerships among health sector departments, between health and non-health ministries, and with a diversity of stakeholders at national and local levels (Zambia MOH and WHO, 2011; Zambia MOH, 2012). Local stakeholders were engaged in the coordination and integration of MNCH services, through an Interagency Coordinating Committee and technical working groups used to identify gaps, remove bottlenecks, mobilize resources and improve efficiency.
Accountability
Per national documents and KIs, Zambia fostered accountability throughout the health system by conducting ongoing and effective monitoring and evaluation efforts while encouraging feedback from stakeholders and beneficiaries. This process was facilitated by a highly functioning HMIS (Zambia MOH, 2013) and effective oversight of national electronic reporting for vital statistics, disease surveillance and response, human resources, pharmaceutical supply and distribution and finance and administration. An innovative electronic health records system was established to feed directly from the point of care into the HMIS, allowing detailed and timely reporting of MNCH service utilization, health expenditure and clinical outcomes (MCDMCH, 2013a). The data informed strategic planning, resource allocation and quality improvement, which along with a Zambian-led Countdown to 2015 initiative, accelerated achievement of MDG#4 (Zambia MOH, 2008).

First and foremost, it’s identifying and having the right mix of priorities so in the development of the national health strategic plan … we use available data, mortality data, service data to look at where the need is greatest … (43-year-old male MOH representative).

… Zambia is among very few countries who have done impact studies for a number of good years. To see how we are progressing, how those interventions we are employing whether they are working or not … (51-year-old male MOH representative).

Kenya
Prioritization and support of child survival
During most of the study period, inadequate investment in the national health system led to stagnating public health sector performance, worsening health inequities and reversals of previous gains in child health outcomes [MOPHS, 2008; Kenya Ministry of Medical Services (MOMS) and Ministry of Public Health and Sanitation (MOPHS), 2012]. The government of Kenya also underwent several transitions, including a period of marked instability following the 2007 elections. Corresponding changes occurred in national HGL, with the MOH dividing into separate Ministry of Public Health and Sanitation (MOPHS, responsible for primary care at the community, dispensary and health centres levels) and Ministry of Medical Services (MOMS, responsible for the highest system levels) in 2008 before being re-unified in 2013.

We thank God that now the MOMS and the MOPHS have come together, that is also what was causing a lot of division … [MOPHS] had a lot of resources than the MOMS, but now it is integrated … (57-year-old female urban healthcare provider).

Kenya’s comprehensive national MNCH policy framework was described by both national documents and KIs as largely ineffective during most of the study period. One document described ‘years of erratic application of policy’ and ‘inadequate financial and human resources, inefficient support systems, and poorly coordinated responses to public health problems’ leading to poor health system performance (MOPHS, 2008). Later in the study period Kenya renewed its focus on health system strengthening and the right to health through a long-term national development plan (Government of Kenya, 2007) and a new Constitution (Government of Kenya, 2010), but progress was hindered by unresolved short-term challenges. Devolution of HGL to sub-national levels aimed to improve service delivery, accountability, citizen participation and equitable resource distribution, but this was not achieved during the study period. An updated National Health Sector Strategic Plan was issued to expand equitable access to care and strengthen community-level interventions through the Kenya Essential Package for Health (KEPH) and a Community Health Strategy (CHS) [Kenya Ministry of Health (MOH), 2007; MOMS et al., 2009; MOMS and MOPHS, 2013]. However, implementation was described as ‘slow’, and limited by inadequate human resources in many areas [National Coordinating Agency for Population and Development (NCAPD) [Kenya et al., 2011]. Comprehensive strategies targeting newborn survival and U5M were also developed (MOPHS, 2008; MOPHS and MOMS, 2010), as were policies supporting adequate housing, nutrition, clean water, social security and education (MOMS and MOPHS, 2013). Unfortunately, as one KI stated, ‘[Kenya has] many strategic plans… the problem has been the strategies are there but the implementation is not there’ (40-year-old female urban health-care provider). In 2012, Kenya’s National Health Policy was revised, promoting a ‘health in all policies’ approach to concurrently address all determinants of health. This revision’s effect could not be determined by the end of the study period (MOMS and MOPHS, 2012, 2013).

National documents and KIs reported chronic government underfunding of Kenya’s health system and MNCH specifically, with nearly all KIs describing limited financial, material and human resources, particularly for primary care. Moreover, donor support was largely project-oriented and not necessarily aligned with Kenya’s priorities (NCAPD Kenya et al., 2011). Some KIs reported that the most successful MNCH programmes during the study period were those with steady funding from both the government and external partners.

… And the government signed the Abuja Declaration to be able to fund health with at least 15% of the national budget. We’ve never gone beyond a 1/3rd of that budget that’s why we’re still struggling … (53-year-old male MOH representative).

… [Priorities] seem to change unfortunately depending on where the funds have come from … [Where the funds are from for HIV services, the HIV gets precedence. If you have a donor who says they want to look at TB, they’ll concentrate on TB, when Malaria, it’s that… (37-year-old male donor partner).

Collaboration, coordination and inclusion
National documents indicated that persistently centralized HGL led to poor coordination between health system levels and inequitable distribution and financing of health services. KIs, however, expressed optimism that the recent devolution might alleviate this problem. An inter-ministerial National Council for Maternal and Child Health was created to harmonize national policy formulation, planning and coordination, resource mobilization, intervention delivery and monitoring and evaluation but was given no regulatory authority (MOMS and MOPHS, 2013). According to KIs, the lack of coordination, oversight or inclusion of beneficiaries in planning contributed to service gaps, duplication and poor quality of care.

… there’s been very poor connection or cross sharing of skills, of resources to ensure continuum of care at a service delivery level … the HIV program came in and set up … a vertical PMTCT service in a health system where we had an MCH service and we would have easily integrated that within the MCH. There [is] lots of verticalization including of reporting and of monitoring … (41-year-old male urban healthcare provider).

… an unfortunate thing is [in] this country people have been operating in silo[s] … so everybody operating independently … Probably even one thing in improving child survival is making sure that all of you have the same goal, seeing … what can you
complement each other to achieve the same goal or even at a lower cost (40-year-old female urban CBO partner).

**Accountability**

National documents described health sector ‘accountability deficits’ as contributing to inadequate MNCH service delivery, considerable inequities and poor health outcomes (MOPHS, 2008). Moreover, the country’s weak HMIS limited capacity for compiling, analysing and applying data to improve MNCH programmes or inform health policy (MOMS and MOPHS, 2009; NCAPD Kenya et al., 2011).

Once we implement we need to have a way of having continuous monitoring and evaluation to see where we are at, what impact have we had, so that once an intervention is in place, we are able then to keep upgrading it … (40-year-old female urban healthcare provider).

... in Kenya, a bulk of patients are seen in the private sector … we have to strengthen the M and E [monitoring and evaluation] system for all the sectors, whether public or private. We must get them somewhere they are analysed so that we can get the true picture [of the burden of disease] (50-year-old male urban healthcare provider).

Later national health policies and strategies (MOMS and MOPHS, 2012, 2013) began to strengthen Kenya’s capacity to collect and apply local health data to improve availability and quality of MNCH services. Health management teams and local stakeholders (MOMS and MOPHS, 2009) were tasked with regular performance reviews, and mechanisms were implemented to improve public transparency and accountability. KIs did not discuss these reforms, making it difficult to determine their impact.

**Zimbabwe**

**Prioritization and support of child survival**

Following independence in 1980 and a decade of civil war, Zimbabwe developed one of the strongest health systems in southern Africa, achieving lower U5M rates and higher coverage of MNCH interventions compared with other SSA countries. However, national documents and KIs described how Zimbabwe’s health system collapsed following the national socioeconomic crisis that began in the 1990s and peaked in 2009–2010 (Zimbabwe Ministry of Health and Child Welfare (MOHCW), 2010a,b). Provision of MNCH services at that time was undermined by debilitated health infrastructure, a poorly functioning patient referral system, drug shortages and unaffordable out-of-pocket health care costs. Nearly all KIs and national documents stated that Zimbabwe’s critical shortage of health workers affected quality and availability of MNCH services [MOHCW, 2010b; Osika et al., 2010; Zimbabwe Ministry of Economic Planning and Investment Promotion (MEPIP) and United Nations Development Program (UNDP), 2012]. Health management was severely weakened by high attrition rates of experienced leaders, supervisors and programme managers. National health and re-development strategies addressing these limitations were not adequately implemented or funded (MOHCW, 2010b; Osika et al., 2010).

... quality of maternal health care services ... at all levels was highly compromised, it was very much substandard. It had something to do with shortage of human resources, bad to do with WHO’s shortage of supplies and of course it had something to do with poor support supervision and monitoring ... (58-year-old male donor partner).

... We think we have the ... RH [reproductive health] road map, the RH policy, the child survival strategy ... I don’t think there is a serious problem with the policy and strategy, the major problem is translating these strategies and policies into action (58-year-old male donor partner).

In the late 2000s, the government of Zimbabwe renewed its commitment to ‘kick-start’ the national health care system and re-focus on national development (MOHCW, 2007, 2010a,b). Zimbabwe’s 2009 National Health Strategy re-instituted measures to improve child survival such as the Primary Health Care Approach (WHO, 2008), delivery of MNCH intervention packages for all life stages at all health system levels, and community health services and outreach activities, but the overarching health policy framework remained outdated.

To increase availability and utilization of MNCH services, Zimbabwe established a user fees exemption policy for the poor and vulnerable (including children) and a 5-year (2011–2015) multi-donor pooled Health Transition Trust Fund to enable health system improvements and increase access to care for mothers and young children. However, TGEH remained far below the Abuja recommendation, and many KIs felt that donor support was unsustainable.

Even at the end of the study period, KIs at various system levels felt that national strategies and policies related to MNCH were generally ‘good on paper’ but were not implemented, coordinated or enforced.

**Collaboration, coordination and inclusion**

Although once decentralized, Zimbabwe’s HGL shifted towards national control over decision-making and resource allocation. This resulted in poor communication with local levels and ‘non-involvement of communities in health planning and management’ (MOHCW, 2010b; Osika et al., 2010). Health was considered a sectoral issue instead of a national priority integrated across policies (MOHCW, 2010b). Child Health and Maternal/Reproductive Health were separate departments within the Ministry of Health and Child Welfare (MOHCW), each coordinated by different officers with different reporting hierarchies (MOHCW, 2010a). Poorly synchronized health strategies, limited collaboration and ill-defined roles and responsibilities among stakeholders led to fragmented MNCH programmes and services (MOHCW, 2010b). Development of the National MNCH Steering Committee, National Child Survival Technical Working Group and National Child Welfare Council were intended to promote a participatory leadership structure, but these entities were described as ‘weak’, with limited stakeholder participation (MOHCW, 2010a,b). KIs also expressed concern that nearly every aspect of the MNCH system required the support of external partners, whose priorities were inconsistently aligned with the MOHCW. Vertical approaches intensified uneven distribution of aid and magnified inequities among programmes, populations and geographic areas. Heavy reliance on programme- or condition-specific donor aid also hindered the ‘supermarket
approach’ intended to provide multiple MNCH services at one visit (MOHCW, 2010b; MEPIP and UNDP, 2012).

I think the Ministry needs to continue discussing with lower levels of the health care system so that they understand what is it that is happening at [the] clinic level, and that the national level goes and procure things which cannot be used at clinic level that is a waste of resources . . . (60-year-old female donor partner).

. . . if you go to a district you find there are a number of donors but if you go to the other, there is not even a single donor. I think the coordination, if possible at national level, should be improved so that there is an equitable distribution of services . . . (46-year-old female MOH representative).

Accountability
National documents frankly described Zimbabwe’s insufficient progress towards MDG#4 and other health goals, acknowledging limited public availability of health financing and service information and a failure of health committees to involve stakeholders (MOHCW, 2010b). Zimbabwe’s National HIMS was described as ineffective with inadequate oversight resulting in poorly harmonized monitoring and evaluation. More recent national documents noted Zimbabwe’s commitment to accountability, and KIs recognized efforts to improve health data to more effectively track indicators associated with MNCH.

. . . you find that there are so many strategic documents, there is HIV/AIDS, MNCH, RH, so they are there but they are not integrated so you find each one will come up with their own M and E systems and they are donor driven programmes . . . (60-year-old female donor partner).

. . . we are also trying to support the monitoring evaluation system including the . . . national health management of information system . . . Now the provinces have restarted conducting their own planning review meetings every six months . . . (58-year-old male donor partner).

Cross-country summary
Table 5 summarizes the similarities and differences in the HGL themes described above for each country. Overwhelmingly, Liberia and Zambia successfully engaged with or implemented these elements during the study period. In contrast, Kenya and Zimbabwe struggled to do so, despite sometimes having the appropriate frameworks or approaches.

Discussion
Among the four study countries, Liberia and Zambia reduced U5M by two-thirds between 1990 and 2015, but both had almost double the U5M rates of Kenya and Zimbabwe in 1990. While slower progress in Kenya and Zimbabwe could have been influenced by the complexities of reducing preventable child deaths when starting at a lower baseline, this cross-study analysis identified HGL as a notable factor contributing to the differences in progress among study countries. Other published case studies from LMICs have also identified strong country HGL as a success factor for reducing U5M

Table 5 Comparison of health governance and leadership elements between progressing and non-progressing countries

| Element                                                                 | Progressing | Non-progressing |
|------------------------------------------------------------------------|-------------|-----------------|
| Priority and support of child survival                                 |             |                 |
| Political support                                                      | +           | +/–             |
| Current policy framework                                               | +           | +/–             |
| Policies and strategies implemented                                    | +           | –               |
| Concurrent national policy focus on health, social welfare, development | +           | –               |
| Triple planning approach                                               | +           | +/–             |
| Abuja Declaration target met during study                              | +           | –               |
| Non-financial health system resources (human, material, facility, etc.)| +           | –               |
| Collaboration, coordination and inclusion                              |             |                 |
| Donors aligned with national priorities                                | +           | –               |
| Collaborative strategic planning with partners/stakeholders            | +           | –               |
| Coordination/collaboration between health and other sectors           | +           | –               |
| Coordination and sharing resources among different health programmes   | +           | –               |
| Coordination of MNCH services across health system levels              | +           | –               |
| Integrate packages of health services at point of care                 | +           | –               |
| Decentralization of decision-making and resource allocation            | +           | –               |
| Beneficiaries included in strategic planning (community input)         | +           | –               |
| Accountability                                                         |             |                 |
| Clear roles, responsibilities and expectations                         | +           | +/–             |
| Updated, effective HIMS                                                | +           | –               |
| Consistent data collection and reporting at all health system levels   | +           | –               |
| Ongoing monitoring and evaluation of health programmes and interventions| +           | –               |
| Specifically monitoring of progress towards MDG#4                      | +           | +/–             |
| Data-driven planning and decision-making responsive to population needs| +           | –               |
| Local involvement (community planning boards and committees)           | +           | –               |

Indicates clear activity, policy, participation and/or implementation of an element in the defined area during the study period; – indicates a lack of engagement of this element or merely planning, but not implementing policy/action during the study period; +/– Indicates ambiguous activity, policy, participation and/or implementation of an element in the defined area.

We found information indicating that a Kenya Country Countdown was conducted in 2013 (end of the study period), though this was not reported to our study team by Kenya’s MOH.
Effective HGL enables a solid health system foundation of national management capacity, comprehensive legislation, well-equipped workforce, functioning infrastructure, sufficient funding and robust data for decision-making, transparency and accountability. Our study expanded on these prior findings by identifying three overarching components of HGL that influenced progress in reducing U5M: (1) establishing child survival as a top national priority backed by a comprehensive policy and strategy framework and sufficient human, financial and material resources; (2) bringing together donors, strategic partners, health and non-health stakeholders and beneficiaries for strategic planning, decision-making, resource-allocation and coordination of services; and (3) maintaining accountability through a ‘monitor-review-act’ approach to improve MNCH.

Liberia and Zambia clearly established child survival as a top priority supported by updated policy frameworks aligned with international recommendations and financed at the globally recommended level (African Union, 2006). Both countries integrated the health sector’s strategic direction with social welfare and development rather than having disconnected plans competing for attention and resources (Cavagnero et al., 2008; United Nations, 2010). Moreover, both Liberia and Zambia highlight the benefit of a ‘triple-planning approach’ in MNCH policy development, synchronously addressing urgent needs, adapting mid-term strategies to accelerate progress while also implementing sustainable long-term approaches, as shown in other countries achieving MDG#4 (Kuruvilla et al., 2014). High coverage of MNCH services has consistently been linked to cross-sector efforts addressing poverty, nutrition, education, gender equity, disease and sanitation (WHO and UNICEF, 2013; Mishra et al., 2015; Rasanathan et al., 2015), and approximately half of the reduction in maternal and child mortality in LMICs since 1990 is attributable to non-health sector investments (Kuruvilla et al., 2014; Bishai et al., 2016). While U5M can be reduced by leveraging limited resources across health programmes and other sectors (Ban, 2010; Jamison et al., 2013; Stenberg et al., 2014; Lie et al., 2015; Mishra et al., 2015), strong health systems require sustained investment (Every Woman Every Child, 2015). In contrast, persistently low health financing in Kenya and Zimbabwe hindered implementation of MNCH-related policies and strategies (Mishra et al., 2015). HGL in these countries remained focused on more immediate obligations and challenges rather than longer-term health system reforms.

Collaborative partnerships offer LMICs a vehicle for aligning interests and obtaining additional resources to implement MNCH initiatives. However, strong HGL is required to effectively coordinate partners across the health system and to align donor assistance with national priorities (Organisation for Economic Co-operation Development, 2005; Atun et al., 2011; Mishra et al., 2015). HGL in both Liberia and Zambia collaborated with partners for strategic planning and persuaded them to support government-established MNCH initiatives. This balancing of donor investment in specific health interventions with more general health system strengthening can increase availability of health services (Kinney et al., 2010; Bryce et al., 2013; WHO and PMNCH, 2013; Stenberg et al., 2014; Mishra et al., 2015). In addition, a ‘health in all policies’ approach with integration of health and non-health programmes enabled HGL in Liberia and Zambia to synergize the efficient and effective provision of MNCH services (Kerber et al., 2007; Friberg et al., 2010; Were et al., 2015). Decentralization from national to sub-national levels can also improve responsiveness to local needs and priorities, further strengthening health systems (WHO, 1978, 2007; Kuruvilla et al., 2014; Mkoka et al., 2014; Maluka and Bukagile, 2016; Tsafa et al., 2017). Moreover, giving the community a voice in HGL promotes ownership, utilization of services and better health outcomes (WHO, 1978, 2008; Cornwall et al., 2000; Tsafa et al., 2017). In contrast, over-centralization of HGL, vertical programming and misalignment between partners, national priorities and local needs resulted in inefficient service delivery in Kenya and Zimbabwe.

Accountability is a critical responsibility of national health leaders who must establish and implement mechanisms to monitor, review and act on results to improve child survival (WHO, 2011, 2015; Mishra et al., 2015; Schweitzer, 2015). In line with the global Countdown to 2015 expectations that countries monitor coverage of recommended MNCH interventions, identify gaps and propose new actions to improve survival (Bellagio Group, 2003; Bryce et al., 2006; Victora et al., 2016), both Liberia and Zambia were sharply focused on progress towards MDG#4 and quickly responded to deficiencies by implementing appropriate policies, strategies and initiatives. These strategic reforms were facilitated through a well-functioning HMIS (WHO, 2007) and a robust data-driven M&E approach, as has been shown in other LMICs that have met MDG#4 (Rowe, 2009; Kuruvilla et al., 2014). Although Countdown has raised the visibility and accountability for MNCH worldwide, many LMICs including Kenya and Zimbabwe lack sufficient data on vital statistics, disease surveillance, resource utilization or service availability to inform appropriate responses (Grove et al., 2015; Mikkelsen et al., 2015). Further investments are needed to ensure that MNCH data are collected at the point of care, transferred between health system levels, and compiled and reported at both national and local levels (AbouZahr et al., 2010; Agespong et al., 2018).

A major strength of this study is the comparison of two SSA nations that achieved MDG#4 with two that did not, highlighting successful strategies and persistent challenges influencing U5M. We conducted an extensive document review and obtained qualitative data from diverse participants. Limitations of our methods for the individual case studies have been published (Kipp et al., 2016; Brault et al., 2017, 2018; Haley et al., 2017). Because we were evaluating progress towards MDG#4 which measures U5M, we focused on pregnancy, the newborn period and early childhood, though we recognize that the continuum now also includes reproductive and adolescent periods (Countdown to 2030 Collaboration, 2018). Use of only four countries limits the study’s generalizability across SSA; however, our findings corroborate and extend findings from other countries that have successfully reduced U5M.

Strong HGL can drive a significant reduction in U5M despite considerable financial, social and political challenges (Kuruvilla et al., 2014; Mishra et al., 2015). Political and health leaders must prioritize child survival on their development agendas, engage and align partners with national activities and commit adequate resources for universal availability of MNCH services (Bryce et al., 2013; Every Woman Every Child, 2015; United Nations, 2015). Cross-sector policies and strategies should concurrently address all determinants of MNCH, tackle inequities in access and quality of care, and encourage accountability (Agespong et al., 2018). The experiences from our study countries can contribute to attaining the Sustainable Development Goal target of reducing U5M rates to <25 per 1000 live births in each country by 2030 (United Nations, 2015).

Ethics

The Institutional Review Board at Vanderbilt University Medical Center approved the qualitative component of the study, with
Vanderbilt serving as the Coordinating Center (IRB# 130567). Local ethics approval was obtained from the following committees prior to data collection: Kenyatta National Hospital Ethics & Research Committee (KNH-ERC/ A259; Kenya), University of Liberia Office of the Institutional Review Board (Liberia), ERES Converge Institutional Review Board (IRB# 00005949; Zambia), Joint Parirenyatwa Hospital and University of Zimbabwe College of Health Sciences Research Ethics Committee (JREC/193/13; Zimbabwe) and the Medical Research Council of Zimbabwe (MRCZ/A/1772; Zimbabwe).

Supplementary Data
Supplementary data are available at Health Policy and Planning online.

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