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The UN High-Level Commission on Health Employment and Economic Growth: The Opportunity for Communities and their Primary Health Systems

Enhancing Harmonization to Ensure Alignment of Partners, Implementation and Priorities for Provision of Quality Primary Healthcare to Communities in Rural Zambia

There Is Much to Learn When You Listen: Exploring Citizen Engagement in High- and Low-Income Countries

Accelerating Harmonization in Digital Health

A Formative Assessment of Nurses' Leadership Role in Zambia's Community Health System

Transforming Health Workers' Education for Universal Health Coverage: Global Challenges and Recommendations

The Collaboration Challenge: Global Partnerships to Achieve Global Goals















Special Focus on Primary Healthcare to Communities

The sustainable development goals (SDGs) provide a clear direction and opportunity for global, intersectoral cooperation to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. Nowhere is that cooperation more visible than in the health sector and particularly at the primary care level – where environment, health, education, labor, finance and nutrition come together in communities – where babies are born, children learn and grow to work and families survive with hopes to thrive. To achieve an equitable global community that provides access to health and opportunities for social and economic welfare to all, we cannot continue with the same development and improvement paradigms. We have made progress, but we have to adapt and lead in new directions and with new paradigms to achieve the SDGs. This issue looks at those paradigm shifts and what they mean for the future:

- The definition and leadership of front-line health teams to deliver safe, quality care.
- The production of fit for purpose teams that fills workforce gaps and broadens access to education and employment.
- The link between health and employment, and particularly in employment of youth and women.
- The harmonization of national and global partners in achieving sustainable progress.
- The role of the private sector in that harmonized effort from donor to investor.
- The steps and missteps in leveraging technologies to accelerate progress.
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Facing a Paradigm Shift in the Sustainable Development Goal Era



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Abstract

The Sustainable Development Goals challenge us to step beyond traditional development approaches and to consider strategies that are evidence informed and innovative. The concepts are familiar; themes aligned with Harmonization, Primary Healthcare, Leadership, Public Private Partnerships, Community Engagement,

and Integrated Technologies. However, to optimize resources and overcome today's challenge with sustainable solutions, we must capture lessons learned and apply evidence developed to inform and expand the thinking to shape and inform new paradigms. The tools, the experience, and the evidence are at our finger-tips. We must hold ourselves accountable to turn that rudder and hold the line so that the ship can advance toward universal health coverage that ensures healthy lives and promotes wellbeing for all at all ages. Health is where economic well-being, labour opportunities, educational advancement, gender equity and access to food, water, clean air come together to advance the wellbeing of all. This juncture is most significant at community level, where health systems intertwine with the social and cultural fabric and health workers stand at the interface between the health system and the people it serves. In these manuscripts, thought leaders in the health sector share evidence and experience to help us consider how we will use this intersection to push all nations to achieve all the SDGs.

\$4,000,000,000US per year. That is the estimated price tag on the Sustainable Development Goals. In the area of health alone (SDG 3), the World Health Organization (WHO) has estimated that, with an ambitious scenario, achieving the SDG health targets will require new investments increasing, over time, from an initial US\$134 billion annually to US\$371 billion - an annual increase of US\$237 billion in resources. To meet this need, country governments, institutions, commercial entities and communities will have to adapt their roles in resourcing and accountability to maximize the potential of their contributions.

That adaptation means that traditional approaches to developing and sustaining effective health systems will not work. National and global actors will have to take greater accountability in mobilizing resources, and transparently and effectively stewarding those resources to measurable results. What moved us forward to achieve many of the health-related millennium development goals (MDGs) and to advance toward more equitable and healthy societies will not meet the health needs of growing populations, unemployed women and youth and poor communities

Simply, what got us here will not get us there.

The special issue of *World Health & Population* highlights several areas in health where paradigm shifts are happening and where they are most needed.

This series examines familiar yet still unanswered challenges as well as new possibilities to explore this new paradigm and what it means for governments, development actors, communities and investors in health and related sectors and the health workforce. Through seven articles, the series considers global perspectives in low- and middle-income countries (LMICs) and high-income countries (HICs) as well as local realities.

The piece on harmonization, written by the collaboration of Zambian authors from the ministry, education sector and development partner roles, challenges harmonization strategies and points out the difficult realities of on-going politics and competing agendas. Goma et al. offer an important dialogue about harmonization that is worthy of consideration by other countries to develop, strengthen and implement quality primary healthcare delivery to communities through community engagement. The 2005 Paris Declaration on Aid Effectiveness called on countries to consolidate and harmonize aid resources and activities for greater effectiveness and that countries take ownership of development agendas in their nations, and

hold themselves and their partners for aligning with priority development goals and achieving measurable results. The subsequent 2008 Accra Agenda for Action highlighted progress made by signatory countries in the Paris Declaration roadmap and highlighted areas for improvement.

There is still need for improvement. Goma et al. identify some of the areas for improvement in Zambia, and purport that through building capacity in leadership at all levels, barriers to harmonization can be overcome. That is barriers that remained impermeable during the MDGs can be overcome through being accountable to real harmonization to advance the SDGs at the country level. How do we, as a global community and individual players in that community, translate the lofty Paris Agreement ideals of harmonization and cooperation onto the ground where individual agendas still segment communities into cadres and diseases and project objectives? What mechanisms have failed us, and what approaches may better illuminate the win-win scenarios?

Importantly, at that community level, how does the voice of people most in need travel to the ears of the most powerful? The need for engaging citizens in healthcare policy making is critical, and different approaches are gaining traction internationally. However, citizen engagement seems more difficult to implement in LMICs because of political, practical and cultural reasons. Ellen et al. advance the idea that community voices must play a major role in forming policy and they are critical to reaching SDGs in health and economic growth. The piece on citizen engagement, authored by researchers from four HICs, advocates for stronger mechanisms for transferring community experience as evidence; and establishing mechanisms for monitoring how that evidence informs policies that impact the citizens of those communities. The processes for citizen engagement and social accountability are critical, and the time is now to engage

communities in a meaningful way – in a way that actually places people within the sphere of decision-making. Evidence needs to move out of communities and districts through broader communication and knowledge translation avenues that not only go beyond mere technologies for information exchange but also include mechanisms that ensure that decision-makers are accountable to citizens. Those avenues must allow community voices to influence and shape national- and globallevel policies and strategies. Ellen et al. make it clear that development investments have the most impact and are needed most at the community level. Yet it is at that level where the results or the value for money is most difficult to measure. Improving health and advancing education are many times overlooked when resources are allocated. especially at the level where it is most needed.

The Global Strategy for Human Resources for Health: HRH 2030, adopted by the World Health Assembly in May 2016, addressed that resource allocation. The strategy has key objectives, which are aligned with the SDGs and emphasize the move toward UHC: to optimize the health workforce to accelerate progress toward universal health coverage (UHC) and the SDG; to understand and prepare for future needs of health systems, to harnessing the rising demand in health labor markets to maximize job creation and economic growth; to build the institutional capacity to implement this agenda and to strengthen data on HRH for monitoring and ensuring accountability of implementation of both national strategies and the Global Strategy itself (WHO 2016a).

Further to the global health workforce strategy, a UN high-level commission was established to provide further direction on actions that could "make recommendations to stimulate and guide the creation of at least 40 million new jobs in the health and social sectors, and to reduce the projected shortfall of 18 million health workers, primarily in low- and lower-middle income countries,

by 2030" (WHO 2016b: 8). The commission's report sets the stage for much of the thinking in this journal.

Shamian et al. reinforce the principles of the UN SDGs, UHC and global health workforce strategy, that the "... health workforce should be geared toward the social determinants of health, health promotion, disease prevention, primary care and people-centred, community-based services" (WHO 2016b: 29). The UN High Level Commission on Health Employment and Economic Growth (HEEG) addressed this challenge by laying out clear advantages of these types of investments, and how investments in the health area specifically address both the supply and demand side of the investment equation and brings long-lasting value that re-invests in continued social and economic growth.

Likewise, the World Bank's Human Capital Initiative, launched in October 2017, aligns with the HEEG and bases its advocacy on the growing evidence that improving health outcomes and educational outcomes may be more highly correlated to growth than anything else.

Evans et al. examine the critical juncture between health, education and population health needs. Authors advance that health workforce shortages remain a critical bottleneck in achieving UHC and that to achieve global health goals and maximize opportunities for employment and economic growth, all in the context of limited fiscal realities, a paradigm shift is needed with respect to how education systems correspond to health workforce needs. Authors acknowledge the role of the private sector in education and training and explore the challenge to re-align market driven resources toward fair, genderfriendly employment at a rate that matches the overall growth of the health economy. They emphasize the importance and implications of such a paradigm shift. They advocate a need for a framework for health professional education that represents a more satisfactory

interface between supply and demand for a varied health labour force in line with the need for UHC, which is propelled through the confluence of a fit-for-purpose health workforce, job creation and economic growth.

Echoing the HEEG report, Dr. Jim Yong Kim announced the Human Capital Initiative. In the October 2017 announcement, Dr. Kim emphasized that the Initiative would focus on women and youth. Empowering women and youth to learn, to use technologies, to contribute to and benefit from the labor sector is essential to strengthen fragile countries and to further advance growing economies. Investments in health systems and health workers are a critical piece of this vision. This issue invites us to explore various areas of health development that must be harmonized and stewarded to maximize results for the communities that need it most.

Michael Bzdak's paper looks at the role of private sector in contributing to this investment. Bzdak explains how the role of the private sector has changed over time, and specifically how the corporate or commercial sector has shifted the paradigm of its development role from philanthropy and assistance to collaborator and investment partner. Bzdak gives examples of leveraged commercial investments can result in win-win scenarios that are realized and articulated for both communities in need and investors with a commitment to a public purpose.

Bzdak, like Evans et al., point out the long-standing hierarchical resource flow, where HICs donate development funds to low-income countries and commercial or corporate entities either follow high-income investments or establish social responsibility giving to meet middle- and low-income needs as a both a marketing investment and a tax strategy. Lower and/or middle income countries, aiming to make it to the next rung on the ladder, hone business administration skills to manage the dollars that come in and the stakeholder agendas that come with them.

With yesterday's blueprint, countries and external partners have weathered many a crisis, reached most of the MDGs and improved national economies across the globe. But today is a brave new world. This world may not be flat, but understanding the potential for mutual benefit changes the resource mapping so that it is no longer a vertical financing framework. The definition of private sector has expanded to include NGOs, foundations, local businesses and international conglomerates; and across those entities, the delineations have blurred with countries as a much stronger partner, bringing market potential to the table.

Bzdak illustrates the growing commercial interest in the triple bottom line approach with examples of Starbucks and Dow and their collaborations respectively with socially conscious NGOs. Venture capital monies are also finding long-term investment value in global health, and specifically in the community health space. Low interest loans to nursing students have multiplied frontline health and benefitted financial institutions, and investments in social franchising bring micro-enterprise opportunities to the poor and financial returns to impact investments. Even research and development investments have brought market growth returns whole saving lives through advancements in medicines, vaccines and treatments.

Pointing to THETs "Principal's of Partnership" as an example, Bzdak alludes to the importance of good stewardship of both private and public investments to maintain incentives that ensure reasonable economic returns. Shared values and clear roles and accountability mechanisms for countries and external partners are part of a framework that will enable on-going partnerships that advance the interest of all actors.

This framework toward ethical advancement and these same principles guide digital development. Moore et al. look at the growing importance that information and communication technologies (ICT) play in supporting front-line health workers and communities in improving primary care access and delivery. Authors reinforce the critical notion that current efforts must shift to from single-purpose applications of digital health to integrated systems and solutions that align with national strategies. The pertinent examples from health information systems, data and health worker training demonstrate how governments and stakeholders are working in important ways to integrate digital health services.

The ICT space in health is a crowded one, and the enthusiasm for the exploding possibilities that technology brings to health has yet to be harnessed in a systematic way. The challenge is complex because technology and innovation go hand and hand and in some ways, fly against the face of systemization and institutionalization. However, to benefit from technologies and the innovations that come with them, country leaders and health system developers must create and maintain an environment where the system leverages the ICT and not the other way around. Meaningful collaboration between all actors – particularly health workers themselves – is essential to ensure that digital tools meet their potential to transform primary healthcare. Moore et al. propose a new paradigm that will focus on consolidation and collaboration guided by national holistic digital health strategies.

Authors purport digital health's high potential to strengthen health systems, to support health workers and to improve primary care has been hampered by short-term approaches that are not harmonized with other approaches or guided by national strategies. Three factors crucial to harmonization and collaboration: development and implementation of national digital health strategies; technical interoperability and collaborative approaches to ensure that digital health has an impact on the primary care level are fully explored. To do that,

countries must continually improve their capacity to support integrated systems, manage information and analyze data for understanding and decision-making. They must move away from single-purpose applications of digital health toward integrated systems and solutions that align with national strategies.

That harmonization and integration must also be reflected in the support of the front-line teams that both use these technologies and benefit from their advancements. With the fascination that comes with shiny and new technologies, countries and partners have often invested in gadgets and applications and then aimed to fit them into a health facility or a community activity. The investments at community level must be harmonized and human-centered. Understanding how primary service delivery is best delivered and most positively experienced enables effective decisions that leverage resource investments to maximize system performance, service quality and health outcomes.

The benefits of those investments culminate in the interface between the health system and the communities served – at the frontline health team. Enormous resources will be required to meet epidemiological and demographic needs; effectively educate, allocate, and retain performing front-line teams and mentor professional development toward policy-supported career paths. Public and private investments in primary healthcare are critical to achieving safe, quality care and advancing toward UHC. The best stewardship of those investments requires leadership of fit-for-purpose teams to optimize performance and insure the safety and quality of services delivered. Looking at the role of nurses, in the piece by Foster et al., the communities themselves, along with ministry of health managers, define the role of the nurse as critical in the effectiveness of the health system to deliver quality care. Beneficiaries, providers and managers all

pointed to the leadership competencies of the nurses and midwives as being the differential factor in those facilities that delivered the highest quality primary healthcare. This piece underscores the importance not only of investment but of the stewardship of that investment. The authors highlight that investments need to go not only into developing health workers but also in building teams that work together and support systems that sustain them.

Community health systems drive the effectiveness of the national health system toward UHC and SDG3. The formative assessment in Zambia demonstrates the critical role that nurses play in steering primary healthcare at the community level. Throughout all levels of the community health system, actors identified the nurses' capacity to lead front-line teams as the key factor in delivering quality, safe, accessible care. The article defines community frontline teams as a complex collaboration among community members and leadership, volunteer health agents, community health workers and clinical or professional staff. Enormous investments have gone into developing and strengthening the community systems in Zambia and throughout both the developing and developed world. The promotion and institutionalizing of community health workers has been coupled with community engagement initiatives, volunteer registration and training, digital tools and health worker retention schemes - all to fill the gaps that plague low-resourced areas and overcome obstacles to quality and access. These initiatives have made strong inroads toward improved population health, contributing to improved maternal and child health and overcoming preventable diseases. Despite progress, national resources and community systems are seldom able to sustain these advances because of the vertical nature of external interventions that focus on individual provider groups or singular diseases. Nurses are at the helm of primary

care, responsible for the services delivered in community facilities. This paper recommends that it is the nurses that must be enabled to leverage the community investments so that the primary healthcare is integrated and task shifting is coordinated through teams. It recommends that in that important role, nurses as facility heads require investments that will best move countries forward.

Recently, the All -Party Parliamentary Group (APPG) on Global Health has called for more attention to nurses, saying that "achieving universal health coverage globally will depend on them being able to use their knowledge and skills to the full. Yet they are too often undervalued and their contribution underestimated" (APPG on Global Health, 2016, p. 3). Launching a "Nursing Now" initiative, the AAPG on Global Health advocate nurses, because of their knowledge, values and close intimacy with the communities they serve, are positioned to have a triple impact on the future – contributing to better health, gender equality and stronger economies. Foster et al. recommend that to sustain and maintain quality care, to provide the guidance and mentoring that lesser trained providers need and to engage communities to contribute to responsive services, nurses must be capacitated with the leadership and management skills, empowered with access to information and technologies and rewarded with professional and academic opportunities.

As we stand at the 30th anniversary of Alma Ata and in the early years of the SDG era, we are reminded of the complexity of global health. The multi-sector complexity of the health arena and the human factors that intersect communities, providers and decision-makers among the actors across primary healthcare throw challenges and obstacles across the path of progress. Even so, the last thirty years have seen an evolution in global health development

and national health system improvements. These system improvements have borne population health improvements that have reached and surpassed many SDGs and have emboldened us with ambitious yet achievable goals: including the 90/90/90 HIV/AIDS goals, new vaccines for HPV, malaria and meningitis; ending preventable maternal and child deaths, and the elimination of preventable diseases. Most notable of the progress made is the understanding of the broad universe of health and the exponential economic and social gains that can be made from investing in the health sector, and specifically with investments in health workers and the communities they serve. This journal recognizes that we have come a long way despite grappling with many of the same challenges. It explores the new paradigms we are building in education, information, collaboration and harmonization and challenges us to guide investments and steward them well so that the seeds we plant will grow healthy families with educated children, employed youth, empowered health workers and equity of access to quality care for all women and for poor and disenfranchised people, across global communities and national populations.

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The UN High-Level Commission on Health Employment and Economic Growth:

The Opportunity for Communities and their Primary Health Systems



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Abstract

Focusing on the UN High-Level Commission on Health Employment and Economic Growth, this paper examines its potential impact on primary health-care to communities. It contains a set of curated interviews with key decision-makers who are determining how health workers are trained and employed all over the world. The commentaries come from individuals who have either been or have not been directly involved in the work of the Commission, exploring the necessary actions needed in support of implementing these recommendations, highlighting the ultimate potential impact at the local level – health systems and health workers working in communities and their primary health systems. Please note that the full submissions for these individuals are contained in Appendix 1 (available at: www.longwoods.com/content/25309).

Introduction to Primary Healthcare to Communities (PHC₂C)

This edition of World Health & Population is focused on the theme of bringing primary healthcare to communities (PHC2C). As the countries of the world focus on achieving Universal Health Coverage (UHC) (WHO 2013) and Sustainable Development Goals (SDGs) (United Nations General Assembly 2015), it has become clear that primary healthcare plays an essential role in ensuring that all people have access to healthcare. By their non-acute nature, preventive and primary care can often be deferred and often is deferred by people with few resources. This leads to a demand bias for emergency and referral-level care, which is ultimately more expensive and leaves people with worse health.

We start with the UN High-Level (HL) Commission on Health Employment and Economic Growth, because it cuts across all aspects of health systems and their impact on the wider world, situating PHC2C within this greater context. This introductory paper is presented as a collection of curated interviews with key decision-makers who are determining how health workers are trained and employed all over the world.

What is the UN HL Commission on Health Employment and Economic Growth?

Attaining SDGs and UHC are among the leading challenges facing all countries. In support of the SDGs, the UN HL Commission on Health Employment and Economic Growth was established by UN Secretary-General Ban Ki-moon in March 2016, with a final report of findings submitted on September 20, 2016. It was co-chaired by Presidents from France and South Africa with co-vice chairs from World Health Organization (WHO), Organisation for Economic Co-Operation and Development (OECD) and the International Labour Organization (ILO) and 19 Commissioners, each with collaborators to facilitate their work.

The establishment of the Commission is historical as the Commission was established by the UN, with a secretariat of three global organizations: WHO, ILO and OECD and co-chaired by heads of states. As such, it is essential to realize that the main impact of such a commission and its report is that it engages heads of states who put their power behind the key messages and recommendations. Far too often, these types of recommendations originated from the health and social sector,

and were considered self-serving. Second, and equally essential, is the change of the traditional narrative. This report debunks the myth that healthcare is an expense and advances the evidence-based message that investing in healthcare workers is investing in the economic growth and prosperity of a country.

The task of the Commission was to make recommendations to stimulate and guide the creation of at least 40 million new jobs in the health and social sectors, and to reduce the projected shortfall of 18 million health workers, primarily in low- and lower-middle income countries, by 2030. However, the task is not to just call for more health workers. Rather, it was felt that targeted investment in health systems, including the health workforce, would promote economic growth along other pathways: economic output, social protection and cohesion, innovation and health security; recognizing that health workers are the cornerstone of a resilient health system. All are necessary to achieve both UHC and SDGs.

The Commission was supported in its work by an Expert Group whose main responsibility was to provide evidence-based information to the commissionaires that could inform the recommendations. The membership was drawn from the disciplines of economics, education, health, human rights and labour, and in developing its report (WHO 2016), the Commission received submissions, held consultations and commissioned policy briefs (All policy briefs are forthcoming in: Buchan et al. 2016). The Commission itself was composed of a diverse set of personalities from politicians, to Nobel prize winners and leaders from the global health community. The Commission report makes ten recommendations in support of SDGs. Six recommendations relate to what needs to be changed in health employment, health education and health service delivery to maximize future returns on investment. The remaining four recommendations focus on how to enable the necessary changes through financing, partnerships, migration and data.

Implementing the Commission's ten recommendations will require the support and collaborative efforts of political leaders and policy setters at the local, national, regional and international decision-making levels working with their respective stakeholders towards implementing the recommendations.

Reflections on the Commission

This paper reflects on whether the report will achieve the goal set out by the Commission, whether it will indeed lead to increased investment in the health workforce and whether this will lead to health system strengthening, especially at the community level. We felt that an important element of the article should be commentaries from individuals who have been directly involved in the work of the Commission and those who have not, exploring the necessary actions needed in support of actioning these recommendations, highlighting the ultimate potential impact at the local level – in health systems and health workers working in communities and their primary health systems.

There is work under way to continue to build commitment, draw up action plans and track systems to make every effort for this report to be enacted on so that economic development and health outcomes enhancing UHC and attaining SDGs can be reached by 2030.

Please note: The following are excerpts taken from the commentaries. The complete questions and the respondents' full commentaries are found in Appendix 1 (available at: www.longwoods.com/content/25309).

The invited experts as described below reflect three groups: (1) government;
(2) global agencies; and (3) professionals.

Perspectives from the Commission

The first group of commentators were individuals directly involved in the Commission: one a Commissioner, the second a collaborator for one of the cochairs and finally a member of the expert group of the Commission. We asked

this group to reflect upon actions occurring within their countries in support of the Commission work and what the impact might be at PHC2C.

Full biographies of each interviewee are available in Appendix 2 online at: www.longwoods.com/content/25309.

Bent Høie, Minister of Health and Care Services, Government of Norway, Oslo, Norway, and a Commissioner

"Different actions and policies will be needed for countries depending on their current health workforce needs and their role in the international health workforce market. Nevertheless, health ministers and their bureaucracies should work together with other ministries and develop a shared understanding of the Commission and what it means for them.

"Prevention, as we know, is more efficient than cure. Families having access to a health clinic with basic essential staffing and basic essential equipment and medicines gives a lot more back to the people and the economy than a fraction of the population having access to specialized care in the larger cities. Equitable access to prevention and basic care is essential. We have heard this before, but the major advantage this Commission presents is an economic growth context. I believe that this can be crucial for the primary healthcare agenda being picked up by heads of government."

Dr. Benoit Vallet, Director General for Health, Ministry of Social Affairs and Health, Government of France, Paris, France, and Collaborator for one of the Co-Chairs of the Commission "The HL Commission on Health Employment and Economic Growth should pave the way for future collaborations between all relevant stakeholders, from all those different sectors. Indeed, the mission of the Commission is unprecedented and is at the heart of the SDGs. This new approach

goes beyond the health sector and has helped develop a new interagency and intersectoral approach to health professionals.

"The global agenda should thus pave the way for a new reflection at national and local levels, to set up a global framework gathering not only governments but also all relevant stakeholders. This implies sharing information, developing a common language and improving capacity building at regional, national and local levels. Civil society and communities need to be involved to help transform healthcare systems and strengthen training models towards: redefining new models of health systems, with a stronger focus on prevention and an integrated approach on health systems strengthening and preparedness for health crises."

Dr. David Weakliam, Global Health Lead in the Irish Health Service Executive, Dublin, Ireland, and a member of the Expert Group

"The power of the Commission lies in the way it brings an economic lens to the health workforce. What the report demonstrates is not just that the health workforce yields an economic benefit, but that the most efficient investment in the workforce is the one which will deliver UHC and improve health and well-being. It presents a clear message to all countries that the curative care model is unsustainable due to demographic changes and rising costs of healthcare, and that all countries will benefit from shifting to a community-based model.

"Primary healthcare is not a new approach but countries have not made the investments needed to make it work. By underpinning the approach with an economic argument, the Commission report can influence governments to reform health services away from hospital-based care towards a focus on prevention and community-based primary care with special attention to underserved areas. The Commission has described a range of pathways by which the health system and health workforce contribute to economic

growth. These can persuade policy makers outside the health sector that investing particularly in a community-based primary care system will increase employment of women and youth, reduce social inequalities, enhance health security and drive inclusive economic growth."

Perspectives from partner organizations

The second group of commentaries are from individuals whose NGO CEO was co-vice chair of the Commission. These organizations have also committed to collaborative follow-up in support of the recommendations. They were also co-authors of several of the policy briefs referenced by the Expert Group report. We asked these individuals to reflect on the success of the Commission and their organization's commitment forward.

Akiko Meada, PhD, Senior Health Economist, OECD, Paris, France

"A major objective and achievement of the Commission Report was to broaden the policy dialogue beyond the health sector and to work across silos. Hence, health employment was not seen just as an instrument to ensure that health services are delivered, but also as an important part of the general labour market.

"The OECD will work with emerging economies and OECD member countries, in close cooperation with WHO and ILO, in ensuring a coherent approach and sharing knowledge and cross-fertilization of policies with all the countries across the globe, and in enabling low- and middle-income countries to skip a generation of health reforms as they work to achieve universal health coverage."

James Campbell, Director of the Health Workforce Department, WHO, Geneva, Switzerland

"The Commission underlined the unprecedented opportunity for tangible socioeconomic gains to be achieved by investing in the health and social workforce, recognizing the health and social sector as a major and growing employer and force multiplier for inclusive growth.

"The Commission was conceptualized and planned as an interagency collaboration. The partnership has evolved into the development of a joint action plan that specifies deliverables that will leverage the institutional strengths and mandates of each agency to the greatest effect to enable an enhanced platform of intersectoral cooperation to amplify national, regional and international health workforce action and investments."

Perspectives from research and policy

The third and final group of commentaries are from researchers and NGO policy staff who were not directly involved in the work of the Commission. We asked these individuals to reflect upon whether the recommendations will make an impact within the workforce.

Dr. Jill White, Professor, Faculty of Nursing and Midwifery, Fellow of the University of Sydney Senate, Director of the USU Board, University of Sydney, Sydney, Australia "As a nurse, academic, mother, community member and global citizen I welcome the recommendations of the report. When I look at each one I am a mixture of grateful and depressed. Grateful that, although we are by no means perfect, gender equity and women's rights are further ahead than many countries; we have an excellent and accessible education system; we have a high-quality healthcare system with excellent hospitals and health professionals educated at well regarded universities; we have cutting edge technologies; and blessedly we are largely conflict free. Less joyful are the current political realities in relation to healthcare and the ramifications for the recommendations of the Report. Whilst there is some political appetite for moving to an integrated health and social care system, the system complexity and short electoral cycles make this profoundly difficult."

Howard Catton, Director, Nursing and Health Policy, International Council of Nurses, Geneva, Switzerland

"The UN Commission has made a bold, compelling and evidence-based case for investment in the health workforce. However, the change in political mind-set required to deliver this should not be underestimated. Many countries are still recovering from the global economic downturn and have implemented austerity programs to cut public spending. The environment could probably not be tougher in which to ask political leaders to invest in the health workforce. A significant risk is that investment in the health workforce could be focused on quickly increasing the supply line through producing new cadres of substitute workers. All of which means that the action plan must be about developing strategies to actively engage all stakeholders and developing a shared ownership for action."

Reflections of the Authors

It is essential to understand that dealing with global health issues, whether hunger, poverty, health or others, requires a multisectorial, multiagency approach including the professionals who are knowledgeable and familiar with the situations on the ground. The work of this Commission should serve as an exemplar on how the many stakeholders can be brought together to serve both evidence-based and political recommendations.

The Commission in its final report and set of recommendations worked to foster health workforce-related commitments across five SDGs, specifically SDG 1 (poverty elimination), SDG 3 (good health and well-being), SDG 4 (quality education), SDG 5 (gender equality) and SDG 8 (decent work and economic growth). In doing this, it has charted an ambitious path, making the link of health employment as an economic driver for a country. Drawing upon the Expert Group's work and supported through a series of policy briefs, the report has called for a fundamental transformation in the development and

support of the global health workforce, all necessary for achievement of the SDGs. It recognizes the need for labour market policies that ensure investments in building skills and creating jobs that are linked to maximise inclusive economic growth, and a robust health system, one based upon a strong community-based primary healthcare.

As noted by each of the respondents, we need to transform and expand the education and training of health workers throughout their careers to equip them with the skills required to meet needs, particularly in geographic areas where there are few health workers. We will also need to reform the way health services are provided, shifting from hospital-based curative care to community-based services that focus on preventing disease, and that are built around the needs of people, not diseases.

Also, as noted in the commentaries, stronger international cooperation will be needed to address workforce issues and boost global security. Also, as noted in the Commission's report, countries must work together to build a sustainable global health workforce. Demand in high- and middle-income countries will continue to drive health worker migration. Countries will need to cooperate to ensure that the international migration of health workers benefits both the countries of origin and destination, and that their rights are protected.

Several of the commentators flagged the need for focus on the creation of decent jobs that could potentially transform currently informal caring jobs without salary, benefits or protections into formal jobs with regular pay, benefits such as health insurance and retirement savings and labour protections such as safe working environments and freedom from sexual harassment, often seen as important issues in primary and continuing care systems. In addition, the decent jobs focus would help create career ladders that enable top performers to advance in education, responsibility and compensation.

Also, there needs to be a strong commitment from many levels of government working in partnership with stakeholders to facilitate the uptake of this report. All stakeholders will have a critical role to play and need to work together across sectors of education, health, labour, finance and foreign affairs to invest in and transform current health workforce models to be sustainable and fit-for-purpose for health systems at the community and local levels, now and into the future.

Finally, it will be critical to engage the private sector in the implementation of the Commission's recommendations. The vast majority of the countries that have achieved UHC have done so through blended public-private systems. There are opportunities to engage the private sector throughout the lifespan of the health worker, including policy, financing, education and service delivery.

To attain UHC and SDGs and have the right healthcare workforce, everyone relevant to the topic has to have a seat at the table and come to shared agreement which will strengthen the economic, health and social well-being of all nations.

Conclusion and Key Messages

While the Commission report focuses on the whole health system, there are key messages for PHC2C:

 The report advocates for a paradigm shift in viewing investments in healthcare and health workers as an economic driver not a cost factor.

- Based upon that, it builds the case for investments in health employment throughout the health system, highlighting the importance of decent jobs with decent pay and the need for investment in primary healthcare knowledge and skills development.
- Partnerships across the health system will be important to create sustainable community health systems.
- This will require collaboration between all stakeholders: governments, health system managers, researchers, health professionals, NGOs, trade unions and consumer groups.

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Enhancing Harmonization to Ensure Alignment of Partners, Implementation and Priorities for Provision of Quality Primary Healthcare to Communities in Rural Zambia



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Abstract

This paper discusses the processes of harmonization of various approaches by partners that have been implemented in Zambia, in an attempt to overcome the fragmented implementation of community-based primary healthcare (CBPHC) systems strengthening, facilitated by multiple non-governmental organizations (NGOs) and donors, impeding country ownership and nationalization. To achieve equitable and sustained improvements in health, social and economic development outcomes for all, there is evidence that governments should consider building CBPHC systems based on three legs namely:

- 1. Front-line health workers trained, supervised and able to deliver services;
- 2. Community engagement through interactions to enhance community participation and Social Accountability for delivery of healthcare services.
- 3. Enabling environments through strengthening of community health systems

To realize a harmonized approach and alignments, the government and key stakeholders must uphold a common vision ensuring that all the three legs of CBPHC systems are implemented to scale. In evaluating the health system in Zambia and the related healthcare provision at community level, gaps were identified in the available mechanisms for the provision of quality CBPHC thus necessitating processes of harmonization, that include capacity building and orientations at all levels on importance of taking to scale the three legs of CBPHC systems, revision of the Community Health Strategy, and elaboration of Operational Guide for Neighbourhood Health Committees, clarifying the role of NHC as platform for community engagement and Community-Based Volunteers (CBVs). There is need for harmonization of health systems at national, provincial, district, zonal and communal levels to ensure the delivery of quality, cost-effective healthcare as close to the family as possible .

Background

Across the world, maternal and child mortality rates have fallen over the last two decades. The global under-five mortality rate has dropped by 53% between 1990 and 2014 (UN Interagency Group for Child Mortality Estimation 2015). The global maternal mortality has fallen by 44% over the same time period (Maternal Mortality Estimation Inter-AgencyGroup 2015), and stunting prevalence declined from 39.6% to 23.8% (UNICEF 2015). Despite these achievements, unacceptable inequities remain both among and within countries. For example, Zambia's many years of investment in primary healthcare systems seem to be yielding

positive results; but even so women and children in some areas of Zambia are still dying. The recent Zambian Demographic Health Survey (ZDHS 2013-14) showed significant reduction in maternal, infant and under-five mortality with newborn mortality showing only a slight reduction. Despite these gains, child and maternal mortality indicators for Zambia remain among the highest in the world. Children and women continue to die from preventable and curable causes. Over 40% of children less than 5 years old are stunted (ZDHS 2013-14). Timely access to a package of proven and inexpensive interventions would avert these deaths.

The vision of the Zambian healthcare system is "Equity of access to cost-effective, quality healthcare as close to the family as possible." It is well understood that attaining this vision requires the invocation of the four principles of primary healthcare (PHC) namely equitable distribution of health services, participation of the community in healthcare delivery, inter-sectoral coordination through facilitating the interest of communities from all related sectors and factors that impact on health as health determinants, and the use of appropriate technology (WHO 2003). Quality delivery of this vision is largely dependent on an effective, equitably distributed and well trained health workforce. Indeed, a factor that has been recognized as a global priority for achieving the Sustainable Development Goals (SDGs), including the goal of Universal Health Care (UHC), especially in the hardest to reach communities and in countries experiencing a health workforce crisis, is the rapid scale-up of a Community-Based Health Workforce (Cometto et al. 2013). Therefore, in pursuit of the SDGs with the objective of the UHC goal in mind, extra effort must be mobilized by every government to reach the unreached, working in the most challenging contexts of both remote, rural villages and poor urban slums to build resilient and responsive community health systems (McIntyre et al. 2009; Mogedal et al. 2013).

The Alma Ata Declaration (WHO 1978) advocated for the delivery of PHC, "based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination," for there to be comprehensive, quality PHC (Chopra et al. 2012). This is an important phenomenon to appreciate and internalize as a government strives to attain the SDGs.

The foundations of community health within the context of PHC are increasingly recognized as crucial components of national policies and strategies to accelerate progress in health. Advancing community health is said to be pivotal to achieving sustainable development and universal PHC. There is need to further integrate community health approaches into national and local health policy and systems to achieve the SDGs (ICHC 2017a). Zambia has made this commitment and is implementing the community-based primary healthcare (CBPHC) system strengthening and the necessary healthworker strategies to facilitate the attainment of these goals.

It is well appreciated that without taking steps to synergize through partnerships offering harmonized support and holistic implementation, investments in community health systems, community engagements, and community health worker (CHW) programs will not bear the intended fruit in making optimal contributions to achieving UHC (Etienne et al. 2010). The optimal framework for harmonization provides a basis for moving from fragmented efforts of siloed partners to collaboration and alignment across partners and actors at local, national and global levels.

This paper is about harmonization, and discusses the processes of harmonization of various approaches by partners that have been successful in Zambia, and should be considered by other countries to develop, strengthen and implement quality PHC delivery to communities through community engagement.

However, the grass-roots approach to support CBPHC and community level health workers has led to overwhelming diversity and variation in community health systems. The fragmented implementation of CBPHC systems strengthening, facilitated by multiple non-governmental organizations (NGOs) and donors, impedes country ownership and nationalization (McIntyre et

al. 2009; Peters et al. 2013). This fragmentation undermines the goal of collective action that the Millennium Development Goals (MDGs) were intended to achieve. As a result, many countries have not been able to realize the potential of the CBPHC systems, including a fit-for-purpose community level workforce, including maximizing the potential contribution of volunteers or CHWs, in helping to end preventable maternal and child deaths, fight infectious disease pandemics and ensure global health security (Cometto et al. 2013; Peters et al. 2013).

Community-Based Primary Healthcare System

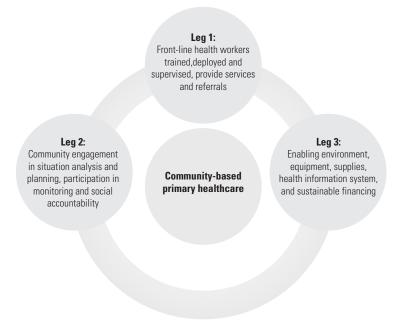
Commitments to community health to ensure that women and children have the opportunity to survive, thrive and transform have been re-affirmed through various efforts since Alma Ata. NGO's, CSOs and Cooperating Partners have increasingly improved their willingness and capacity to align their efforts under the direction of national public health authorities. Overall strategies to facilitate harmonization and leverage synergies are reflected in the SDGs,

the Global Strategy on Women's, Children's, and Adolescent's Health; Every Women Every Child (EWEC, 2015) and the Global Strategy on Human Resources for Health (WHO 2016a), to name a few. Through these frameworks, governments and key organizations have demonstrated their commitment to leverage synergies through a shared agenda. More specifically, there has been consensus built in many countries to build and to strengthen CBPHC systems.

To achieve equitable and sustained improvements in health, social and economic development outcomes for all, there is evidence that governments should consider building CBPHC systems based on three legs (ICHC 2017c) namely:

- 1. Front-line health workers trained, supervised and able to deliver services;
- 2. Community engagement through interactions to enhance community participation and social accountability for delivery of healthcare services and
- 3. Enabling environments through strengthening of community health systems (availability of needed services and supplies including drugs as appropriate, sustainable financing and community health information system).

Figure 1. The three legs of community-based primary healthcare systems



To realize a harmonized approach and alignments, the government and key stakeholders must uphold a common vision ensuring that all the three legs of CBPHC systems are implemented to scale. Strategies for the implementation are described below.

Leg 1: Front-line health workers

It is acknowledged that integrated and resilient community health systems are the result of having trained and recognized front-line health workers with the ability to deliver services to the community (SDSN 2014). For example, community health workers, employed by the MoH, well trained and supported, can provide essential health services to communities that otherwise would have limited access to these services (Cometto et al. 2013; Mogedal et al. 2013; McIntyre et al. 2009). Additionally, community-based volunteers working closely with community members and supported by clinical professionals in the facility, are key to engaging the community, advancing healthy behaviours and improving maternal and child health.

Leg 2: Community engagement

For effective and efficient delivery of PHC services, communities must be engaged and empowered to build a system that contributes to improved health outcomes. A growing body of evidence and country experience does support important diverse roles of communities in strengthening health systems (WHO 2016b). This leg emphasizes the role of communities to support service delivery, oversight, social and behaviour change, and social accountability for healthcare delivery. It is important to adopt a bolder vision for community health systems strengthening, by addressing context-specific opportunities and challenges.

There is growing interest globally regarding the potential of social accountability approaches in improving health outcomes (Chopra et al. 2012). An effective evaluation

and ongoing monitoring system with information made available to communities (e.g.Community Score Cards) can contribute to significant change through citizen (right holder) empowerment, duty bearer effectiveness, accountability and responsiveness and spaces for joint monitoring between the right holders and duty bearers that are expanded, effective and inclusive (Chopra et.al., 2012; Mogedal, Wynd and Afzal, 2013).

Leg 3: Enabling environment

For CBPHC systems to deliver efficient and effective care based on quality and safety, there must be supportive systems in place. It is advised that these health systems provide for effective supportive supervision in the line of relations from central government to community-based agents which also provides for availability of healthcare requisite supplies such as drugs. It is critical that the health information systems be integrated at all levels and should include new technologies that promote timeliness, completeness and quality information for decision-making. These information systems will enhance the countries' ability to face challenges to bring effective promotive, preventive, diagnostic and treatment services to the communities.

Existing Gaps in the Implementation Processes

In evaluating the health system in Zambia and the related healthcare provision at community level, it is evident that gaps exist in the available mechanisms for the provision of quality CBPHC thus necessitating processes of harmonization.

Leg 1: Front-line health workers

Zambia has invested research, capacity building and systems supports to a front-line team that brings together clinically trained professionals with lesser trained cadres and volunteers that work with the community toward improved community health.

Physicians, nurses, nurse-midwives and environmental health technicians depend on the volunteer community health workforce that has been recognized as a vital part of their front-line team to deliver services that are available, accessible, acceptable and quality.

Zambia's efforts at addressing this first leg are apparent as it has trained and deployed a network of community-based agents to support and enrich the work of clinical facility staff. These include Community Health Assistants (CHAs), a new cadre of paid community health workers, a number of different Community-Based Volunteers (CBVs), all who are tasked with provision of segments of healthcare programs (Table 1). Indeed, a CBV, well trained and supported, can provide essential health services to communities that otherwise would have limited access to these services (Cometto et al. 2013; Mogedal et al. 2013; McIntyre et al. 2009).

Table 1. Types of community-based volunteers

No.	Community-based volunteers	Main area of focus
1	Safe motherhood action groups	Maternal and new-born health
2	Infant and Young Child Feeding	Nutrition
3	Out-patient Therapeutic Feeding	Treatment of acute malnutrition
4	Integrated Community Case Management	Treatment of pneumonia, malaria and diarrhea
5	Community-Based Distributors	Family planning
6	Peer Educators, and Adolescent Counsellors	Adolescent health
7	Growth Monitoring Supporters	Nutrition
8	TB Treatment Supporters	ТВ
9	Care for Newborn	Newborn health
10	Child Supporters	Early child hood development
11	Malaria Agents	Prevention of malaria

The CBVs are described as key agents of health promotion and disease prevention in the rural communities (Wakerman et al. 2009). However, their effectiveness lies in the quality and harmonization of their training and subsequent supervision in their different communities, as well as the availability of the needed supplies especially for iCCM.

The existing Zambian healthcare system consists of district health managers who are supposed to report to health centres and health posts that are staffed with health workers (Nurses, Clinical Officers, EHTs). However, there has been no formal reporting relationship between the CHA (MoH, 2015) and the community members, or between the CHAs and the facility heads and between CBVs and the facility heads. Further, there has been no clear mechanism for coordinating responsibilities or shifting tasks between CHAs and facilities staff or among CHAs and volunteers. Furthermore, there is no legal framework for galvanizing communitybased health systems that comprise Health Centre Committees (HCC), Neighbourhood Health Committees (NHCs) and CBVs. Zambia is committed to strengthening its regulatory, legal, and accountability frameworks and recognizes that legal mechanisms need the alignment of engaged and harmonized internal and external partners to address the gaps successfully.

A 2016 assessment carried out by the Clinton Health Access Initiative found that district health managers needed an orientation regarding the purpose and roles of the CHAs and CBVs to better evaluate the performance of CHAs and CBVs and to better support and engage the front-line teams of staff, volunteers and community members to meet community needs (Shelley et al, 2016). Furthermore, rural health facility managers required some training in supportive supervision to provide effective guidance and comprehensive oversight to the CHAs so that they could perform the duties in the communities for which they were trained.

A broader assessment, carried out by the University of Zambia and partners in the Primary Health Care to Communities collaboration (PHC2C) found that there was need for re-orientation of the entire district health management and front-line provider teams so that the individual workforce components, which are strengthened individually, that is, CBVs, CHAs, NHCs and facilities clinical staff, are oriented as a whole with clear roles and responsibilities, information flows, and lines of accountability and supervision (Foster et al. 2017). It is advised that the government, as well as most development partners, focus on re-reinforcing capacities of front-line health workers, paying particular attention to building CBPHC systems.

Furthermore, the coordination of the zonal activities of the CBVs is said to be weak, because the role of the health facility "in-charges" or facilities heads in relation to their interaction with the community has not been clearly defined thus not prescribed. The District Health Office and CBV-supporting Cooperating Partners (CPs) often plan development activities independently one from another, without much effort for coordination with other CBV development groups, facilities heads or community committees at community level. There is a particular gap in the coordination and dissemination of funding. This leaves the District Health Office (DHO) and health facilities without oversight functions at the community level. Incentives and related schemes for the volunteers are not harmonized, causing the programs with more attractive remuneration packages to have more volunteers participating. This inequitable distribution of CBVs and their incentive packages presents considerable challenge to the DHOs to implement effective community health interventions or plan and manage a sustainable, fit-for-purpose front-line team.

Leg 2: Community engagement

In Zambia the 2012 National Health Policy recognizes the community as a critical component of the health system and structure. However, as observed in the midterm review of the National Health Strategic Plan 2011-2016(Zambia MoH 2014), there has been weakened community and civil society participation in health governance since abolishing the Central Board of Health (CBoH) in 2006. However, Neighbourhood Health Committees (NHC) (Masange et al 1997) survived although without the necessary legal Acts of Parliament. While the National Health Strategic Plan (NHSP) 2011-2015, NHSP 2017-2021 and the revised National Health Policy 2012 have identified the significance of enhanced participation, transparency and accountability at all levels, there are still no legally binding provisions of diagonal accountability in the health sector. Mechanisms to provide for community engagement in planning and budgeting, review of performance reports at health facility level or provision of a platform for community members to question the care of service providers are not catered for in the law at present (GRZ/UNICEF/EU 2016). This lack of legal backing and limited functionality of community oversight structures recognized by the sector is considered a significant factor that impedes progressive and interactive improvement to health service delivery in Zambia (GRZ/ UNICEF/EU 2016). The deficit demonstrates a lack of harmonization and coordination across the health system, where initiatives are not supported by complimentary and coordinating transparency, accountability and enforcement mechanisms.

Despite the absence of this legal framework, NHCs still exist in most districts of Zambia (JICA, 2017). Their functionality is widely variable, depending largely on the

managerial skills of the District Medical Officer. The link between communities and NHCs in relation to expected standards of operation in health facilities is very weak (JICA, 2017). There are hardly any meetings held to determine community priorities, which are needed to transfer community preferences and concerns to facilities, as well as to engage communities to support facilities' responses.

The system is thus not designed as an accountability mechanism; there are no means through which health facility staff members are accountable to community members as there are no guidelines linking NHCs to expected performance at health facilities (JICA 2017). However, weaknesses in the organization, coordination and general management of NHCs seem to have been addressed in areas supported by development partners finding new ways to harmonize their efforts and catalyze change. For example, the European Union (EU), and other agencies of the United Nations (UN 2017) coordinate with the Swedish International Development Agency (SIDA), the United States Agency for International Development and the United Kingdom's

Department for International Development among others (GRZ/UNICEF/EU 2016).

Efforts Being Made in Zambia to Harmonize

The capacity at Provincial and District levels to provide appropriate support to community level structures and management remain weak largely because of limited appreciation of the degree to which the three legs of the CBPHC system ought to be expressed and integrated for quality healthcare provision. There have been achievements in capacity building for sustainable community health systems especially with reference to communities participating in planning, implementation, monitoring and evaluating of the interventions. Participating in this way helps to influence the motivation of volunteers to sustainable contribution in activities such as offering supportive supervision, mentorship and enhancement of CBV efficacy self-assessments (JICA 2017). It is critical that partners engaging in CBPHC work in concert to build and sustain a functional platform for community engagement in planning, monitoring and social accountability (Table 2).

Table 2. On-going efforts in Zambia to harmonize at every level to re-enforce community engagement, participation and social accountability

Action	Initiative	Improvements in harmonization leading to engagement, participation and social engagement
Action 1	Revision of the Community Health Strategy	Updated strategic orientation document to guide harmonization
Action 2	Elaboration of an operational guide for the NHC ensuring there are no conflicts of interest between the NHC responsible for community engagement, participation and social accountability and the Community-Based Volunteers.	Operational guide at community level avoiding gaps and overlaps in functions
Action 3	Revitalization of NHC in 11 districts of Lusaka and the Copperbelt province under the European Union (EU) funded Millennium Development Goal initiative (MDGi) Programme managed by UNICEF.	Example of existing interventions for learning
Action 4	Follow-up for legally binding provisions of diagonal accountability in the health sector.	Legal framework defining relationships between the community and institution for participation and social accountability.

Leg 3. Enabling environment

The glaring omission in system is an effective and "harmonized" health information system. Zambia does not have a functional Community Health Management Information System (C-HMIS). Systems are numerous and not all connected. Further, many of the systems that exist, particularly at community level, are not able to capture the needed data or take it where it is needed. For example, the health management information system for the CHAs does not fully capture data from community-based volunteers. With support from the European Union(EU) under the MDGi, the MoH and UNICEF are currently designing a community-level HMIS system that will be linked to the DHIS2 platform (personal communication). On this platform the community actors (CBVs and CHAs) will submit monthly reports using pre-defined forms which will be compiled and transmitted onto the DHIS2 platform at health centre level. Furthermore, efforts are on the way to improve the procurement and supply chain management system (PSCMS). Through a bottle neck analysis of the PSCMS, the government with support from UNICEF and partners will implement key resolutions to ensure supplies are delivered to the last mile.

The Need for Harmonization

Harmonization must transcend donor aid alignment and advance the integration of efforts among global partners, national stakeholders and implementation schemes. Sustainable efforts will align with national priorities, led by the public authorities and will leverage existing health worker's ability to coordinate tasks across cadres and levels. To advance UHC and progress toward the SDGs, all these efforts need to be harmonized in alignment to the national priorities and leverage existing country mechanisms (CHRD 2008). Real harmonization is not just across partners. Harmonization must happen across the elements of the three legs

of CBPHC system. Health workers must be coordinated to work as a fit-for-purpose front-line team, linking NHC members with volunteers and MoH staff. That linkage must have strong supervision at the local zone level, through cooperation and accountability between community leaders in the NHC and facilities level to successfully coordinate tasks across various CBVs and staff available, and to facilitate the exchange of accurate information from the communities to the decision-makers and from decision-makers to the systems users. Harmonization is needed across the various zones within the district so that community engagement is consistent and equally resourced. A portion of funds for districts in Zambia are earmarked for community-based interventions. There is need for follow up to ensure this is effective in all districts. Finally, harmonization is important in coordinating systems infrastructure that supports health workers to do their job. Information systems, commodities delivery systems and legal frameworks that support policy priorities for example, need to be interoperable and directed holistically.

The global community is learning to navigate the complex business of sharing information, data, best practices and evidence so that healthcare can be integrated, front-line teams can be coordinated, and systems can be holistic, consistent and responsive through the spectrum of care. There is therefore need for harmonization of health systems at national, provincial, district, zonal and communal levels to ensure the delivery of "quality, cost-effective healthcare as close to the family as possible in a clean, caring and competent environment."

Universal Health Coverage as a Strategy

Zambia has taken UHC as a strategy to improve health and reduce inequalities in health (Zambia MoH 2017). Indeed, UHC allows stakeholders to universally focus on

the equitable distribution of access to health services within and across countries (Chopra et al. 2012). The intent is that having universal health coverage as an overarching goal translates into unified services that are delivered in a comprehensive and integrated way through a strengthened PHC system (WHO 2016c). Without PHC, UHC cannot be achieved.

A. Harmonization at the global level

At the global level, all actors need to contribute together to a comprehensive systems approach in advocacy, programming, funding, implementing, monitoring and in building the knowledge base for community health programs (Mogedal et al. 2013). Establishing partnerships that cultivate ingenuity and resourcefulness also requires the harmonization of the global health strategies with partners' agendas and resources. The Global Health Workforce Alliance's Framework for Partners' Harmonized Support emphasizes the need to: 1. Harmonize donor support, 2. Build greater synergies across Community Health Worker programs with communities, districts and countries, guided by national leadership, national strategies and nationally agreed systems and 3. Improve focus on effective linkages between communitybased and facility based health workers at the front line of service delivery. This necessitates actors in all settings to contribute to a comprehensive systems approach in advocacy, programming, funding, implementing, monitoring and in building knowledge base for community health worker programs.

Progress of global efforts towards harmonization has been evidenced by a multitude of partnerships and frameworks. Partnerships such as that of Zambia's Thematic Working Group on Supporting and Strengthening the role of CHWs in Health System Development; and The International Health Partnership (IHP+) have been working to promote effective development cooperation and optimize synergies to overcome fragmentation. Global accountability efforts by IHP+ and the Global Fund Community Systems Strengthening have been developed to harmonize efforts toward strengthening systems and communities toward key national goals.

B. Harmonization at the national level

Harmonization at the national level has been a recurring conversation of necessity in the realm of public health. Initiatives such as The Council on Health Research for Development's Alignment and Harmonization of Research for Health (COHRED); and the Global Health Workforce Alliance's Harmonization for Health in Africa (HHA) study explores global aid and alignment of donor programs with country needs (CHRD 2008; WHO 2016c). It is essential that donors and governments alike be cohesive in formulating, implementing and evaluating solutions. Principles for alignment and harmonization across public and non-state programs and initiatives need to be compatible with broader national health system development frameworks (Mogedal et al. 2013).

Furthermore, the government and key partners in Zambia have focused on equity and Health System Strengthening (HSS) especially at the community level as platforms for delivery of reproductive, maternal, new-born, child and adolescent health and Nutrition (RMNCAH-N) services (UNICEF 2016–2020). To achieve this requires harmonization of effort by policy-makers, NGOs, donors, activists and communities to realize effective collective action in line with the *Joint Commitment to Harmonized Partner Action for Community Health Workers and Frontline Health Workers* formalized in Recife, Brazil in 2013 (Cometto et al. 2013).

Community-based programs are often implemented under district level authority at the Health Facility and community level, or operated independently through NGOs. With the growing focus on scaling up CHW programs to support the formal health system, there is an urgent need for attention from the national and district levels to address the fragmentation and inefficiencies that result and to build synergies at the level of implementation (Mogedal et al. 2013).

The Zambian PHC system had a missing link between the Health Facility and the community (and therefore the CBVs). To a large extent, the introduction of the CHA is promising to resolve this problem. The CHA is on a government salary, and the addition of this community-based cadre is intended to improve the provision of PHC services to communities. The CHA is supposed to spend 80% of their time in the community where they interact with the CBVs and the NHCs. The NHC is supposed to interact with a smaller subset group, the HCC, where the meaning of data and performance indicators are discussed, accountabilities identified and correcting actions proposed. The HCC then gives feedback to the DHO where overall planning of the district health services takes place. This process is designed to improve communication and harmonization between the communities and the DHO. However, despite the intention, there is still fragmentation between the partners. For example, different partners are still building capacity in different cadres or levels of the community without consulting each other (Natuzzi and Novotny 2014).

C. Harmonization at the community level

Effective PHC is community-based and requires governance, management and leadership, funding, linkages, infrastructure and workforce supply. To provide effective PHC also requires significant changes in the way health systems currently operate. UHC reforms must ensure that health systems move toward universal coverage and social health protection by reorganizing health services as PHC, around people's needs and

expectations (McIntyre et al 2009; WHO 2008). A strong focus on PHC is said to be the driving force for the strengthening and development of health systems and health workforces. World leaders at The Third Global Forum on Human Resources for Health (HRH) supported the framework for UHC by agreeing that patient-centred care advances with the presence of community involvement in governance of PHC interventions (Cometto et al. 2013). New evidence and norms on HRH planning, education, management, retention, and migration continue to emerge and are providing dynamic innovative approaches to achieve UHC (Cometto et al. 2013). The interest for focusing on HRH for UHC is vast and continues to be a priority for global sustainable development (Shamian et al, 2015).

Nurses stand in an innovative position and are able to direct the community needs toward solutions. Benton (2012) states that nurse leaders are "transforming agents, effective in bringing about change." By engaging in leadership through training and policy discussions, nurses are able to assess, plan for, and evaluate the health system's resources. Their position as leaders of front-line health workers can merge the needs of the community, region, and globe.

The assessment of Foster et al. (2017) has demonstrated that nurse leadership of the "front-line team" within the community facilitates collaboration and harmonization among various provider efforts, and thus brings about greater gain. When the Nurse-in-Charge was seen as a good manager and a "team builder", the CHAs and CBVs were motivated into clearly assigned roles and the community members had confidence in the health facility and in the services provided by the MoH staff.

The NHCs are said to be in the process of being reformed to perform their duties as well. The main impediment currently lies in the fact that most NHCs are manned by CBVs, thus conflicting in their interests.

The NHCs ought to consist of independent members of the community who can effectively play the role of claim holders to the health system.

Conclusion

To ensure CBPHC systems deliver results in line with overall strategies embodied in the SDGs; Global Strategy on Women's, Children's, and Adolescent's Health; Every Woman Every Child (EWEC) and Global Strategy on Human Resources for Health, it is key to have a harmonized approach to the provision of PHC to communities, ensuring that all the three legs of CBPHC systems are considered across sectors at the national level. Donors and all cooperating partners must tailor their support in line with national needs and designed strategies prescribed by the government. Experiences need to be documented and shared, and recommendations from Global meetings such as the Institutionalizing of Community Health Conference March 2017 in Johannesburg, South Africa (ICHC 2017b), applied in countries in line with their local contexts.

Harmonization of all systems and processes for CBPHC is necessary for the provision of quality PHC to communities. This harmonization must occur at national, district and community levels to be effective and must involve government and the related development partners. Central to the success of the delivery of this scheme is the role of the Health Facility in-charge who must be the competent leader of the front-line team comprising the Health Facility Staff, the CHAs and the other CBVs. This will contribute greatly to the improvement of all health indicators within the given community.

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There Is Much to Learn When You Listen: Exploring Citizen Engagement in High- and Low-Income Countries



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Abstract

The need for engaging citizens in healthcare policy making is critical, and different approaches are gaining traction internationally. However, citizen engagement seems more difficult to implement in low- and middle-income countries because of political, practical and cultural reasons. Despite this, countries such as India, Malawi, Tanzania, Ethiopia, Rwanda, Mozambique, Egypt have initiated community engagement initiatives, which are contextually unique, and can be used as examples to learn from for the future. Overall, community voices need to play a bigger role in forming policy; they hold the key to improve health and forward growth. Evidence needs to move out of communities and districts through broader communication and knowledge translation avenues to influence and shape national and global level policies and strategies.

Introduction

The World Health Organization (WHO) launched its Health For All initiative in 1977, deciding that worldwide health services should be attainable to all people by the year 2000. While significant progress was made, this goal was not achieved (WHO 2013). This is, in part, because "as health systems become more complex and costly, and as the application of new and existing technologies becomes more refined, making the right decisions about the allocation of often scarce resources has become more difficult." In addition, the Millennium Development Goals (MDGs) put forth by the United Nations (UN) in an effort to address extreme poverty and its impacts, resulted in uneven progress with much work left to be done. The MDGs were replaced with Sustainable Development Goals (SDGs) in 2016 in an effort to further the attainment of the goals originally set forth in 2000. One criticism of the MDGs is the lack of emphasis on local participation, local challenges and selfempowerment of the targeted populations (Deneulin and Shahani 2009; Fehling 2013). Future attempts to meet global goals, then, should focus on the inclusion of citizens and the public as equal stakeholders in the process of health policy development.

Citizen engagement, put simply, is facilitating the meaningful involvement of citizens at any point in the policy development cycle by allowing them to actively play a role in identifying and interpreting the issues, weighing options and solutions and prioritizing actions (Canadian Institute for Health Research 2012). Citizen engagement has also begun to take hold in low- and middle-income countries (LMICs), although the approach proves elusive to appropriately engage individuals because of political, practical and cultural reasons (Alderman 2013). Even if the terms might be used without regard to their distinction, "patients" and "the public" or "citizens" are different groups of people, often with different points of view. Citizens are individuals with no vested interest in and familiarity with an issue, whereas consumers or patients have relevant personal experience (Degeling 2015). Fredriksson and Tritter (2017) argues that it is inappropriate to use patients in the same way as citizens when making a decision; patients use their experiential knowledge and tend to gather around the cause which affects them most. The public, on the other hand, generates diverse perspectives collectively and has an external legitimacy claim based on input

and output of result effectiveness and quality. Degeling (2015) additionally found that in deliberation groups, citizens were directed to consider community interests while consumers (or patients) were directed to focus on personal preferences. It may be most effective to use only patients when focusing on one specific issue or disease and citizens or members of the larger public when focusing on prevention and health promotion, while also including a subset of patients in the larger group for representativeness

Members of the public are the most important stakeholders in the healthcare system. They will likely be impacted by a health policy, and they are the largest stakeholder group in number (Bruni 2008). In addition, engaging the public in healthcare priority setting is consistent with the ideals of a democracy, transparency and public accountability (Oxman 2009), and members of the public can provide a unique and essential take on the community's values. The trend to include patients and the public in deliberation on health and social issues has increased (Biovin 2014; Wortley 2016b), and lets the public provide input to the broader context of the policy making process from identifying priorities for research to using results to shape policy (Seigel 2013). It has been concluded that participants feel that engagement processes related to health are effective and report improved knowledge and satisfaction. Lastly, these engagement processes can promote active citizenship, empowerment and improved relationships between the public and the government (Abelson 2010; Molster 2013). Carman (2015) found that all health-related engagement approaches used in a randomized control trial were effective in changing at least some knowledge and attitude measures.

However, it is wise to acknowledge the impediments faced when engaging citizens. First, compared to policy makers or

practitioners, the public is more likely to perceive personal choice or clinical judgement as trumping evidence when considering health services (Carman 2016). They may also be more likely to suggest that care should be offered irrespective of tests which may indicate little benefit (Bombard 2013). Various reviews show that there are not many outcome evaluations (Conklin 2015; Mitton 2009) and it is difficult to prove a link between community participation and improved health or system outcomes; furthermore, it is difficult identify which components of the process lead to success or failure (Conklin 2015; Marston 2013; Mitton 2009; Rifkin 2014). This is partly because of the fact that there are many types of "community participation" and that the term itself is not clearly defined (Iwarsson et al. 2015). For example, "community participation" can range from a collaborative intervention, where communities participate in decision-making and/or healthcare delivery whereas "outsiders" direct the intervention, to an intervention where the development and implementation of health a health programme is solely directed by the community itself.

Often, it is not clear which types of individuals or groups participate. George et al. (2015) state that participation without delegation of resources or democratization of power might marginalize communities or members of communities that can least afford to participate. However, meaningful and inclusive community participation could lead to more evenly distributed power across socioeconomic levels, within and between communities, healthcare professionals and the state. Martston et al. (2013) state that this "community development or empowerment approach sees participation as a longer-term process in which communities are actively involved in deciding on and implementing strategies to alter the socio-political, economic, and psychological conditions that shape their health."

Background

A universal approach to public engagement may not be effective, as there are many factors involved, which vary by context (Abelson 2010, 2016; Wortley 2016b). These factors include the perceived complexity and decision impact of the issue, opportunities for involving the public and resource constraints (Wortley 2016b). Blacksher et al. (2012) propose this basic definition of public deliberation: "(1) the provision of balanced, factual information that improves participants' knowledge of the issue; (2) the inclusion of diverse perspectives to counter the well-documented tendency of better educated and wealthier citizens to participate disproportionately in deliberative opportunities and to identify points of view and conflicting interests that might otherwise go untapped; and (3) the opportunity to reflect on and discuss freely a wide spectrum of viewpoints and to challenge and test competing moral claims." Abelson (2013) noted that in an overwhelming majority of cases, efforts were made to meet these requirements; however, the interpretation and implementation of the aforementioned elements was fairly heterogeneous.

Biovin (2014) lists several key components to achieve public involvement and states that legitimacy, credibility and power account for variations in influence from members of the public. A policy coalition which is supportive of public involvement must be built initially, giving the public legitimacy, credibility and power to be involved in deliberation. Regarding the intervention stage, legitimate groups and perspectives must be recruited and prepared. When group members participate, they must create rational arguments and legitimate strategies, and have legitimacy to speak on behalf of a wider constituency. The public and professionals

then interact and moderate, levelling for power differences and legitimizing marginalized voices. The ideal outcome should be mutual influence and agreement regarding healthcare improvement.

Abelson (2016) structured a relevant framework around four elements. The first is identifying the guiding principles and goals for public involvement which will strengthen and support initiatives, be evidence based and evaluated, and will emphasize the incorporation of social values and ethics. Second, a common terminology will need to be established to reconcile conflicting views and establish clarity. Third, a flexible menu of options which indicate specific goals should be mapped out for each stage of the process. Lastly, it is vital to evaluate efforts over time to make appropriate adjustments, such as creating more robust evaluation metrics. A study on public engagement regarding intervention procedures guidelines showed that, indeed, there was substantial engagement and consultation of the public which resulted in draft changes, and concluded that other areas of healthcare should increase incorporation of this approach to be responsive to stakeholders. Campbell (2016) and Molster (2013) have found similar effects.

Several similar approaches to citizen engagement have been developed somewhat in parallel to each other in various high income countries. To create an initial exploration of the approaches, we ran a literature search which focused on identifying reviews (i.e., systematic, scoping etc.) which discussed various citizen engagement approaches, after which we also ran a search for primary studies on the subject. The purpose of the literature search was to identify different citizen engagement approaches, but not to systematically assess the literature. The approaches are described in Table 1 in greater detail.

Table 1. Citizen engagement approaches

Approach	Description	Who?	How?	Examples of these approaches in health
Citizen jury (Crosby 1995; Street 2014)	A citizen jury is created of a representative sample of citizens through various means. They are briefed in detail on the background and current thinking relating to a particular issue or project and presented with possible alternatives. They present their decision as they would in legal juries, often in the form of a report. The report may include recommendations for future actions or directions	Broadly representative group of approximately 12–25 people	Random selection of jury. Jurors are usually paid. Provide written information and expert witnesses to brief the jury, be cross-examined by the jury and spend time discussing the issue with the jury Engage in deliberation with independent moderators Create jury report and recommendations. If the recommendations are not accepted, provide a detailed rationale	Responsibility for Maintaining Health A citizens' jury was convened to address the role of government and healthcare providers in maintaining the health of citizens. The jury concluded that more information should be provided on health in general and prophylactic medicine in particular, as well as feeling that the public should be more closely involved in health decision-making (Elwood and Longley 2010)
Citizen panel (Crosby 1986; McMaster Health Forum 2017)	Can be organized at the local, regional, provincial or national level. Built on a deliberative dialogue approach to uncover citizens' unique understanding, values, preferences and insights to policy issues	A group of 10–16 citizens excluding: (1) healthcare professionals or employees of healthcare organizations; (2) elected officials; (3) individuals working for market research, advertising, public media or public relations firms and (4) individuals who have taken part in two or more previous citizen panels	A steering committee or advisory group, consisting of key stakeholders, that is, policy makers, experts, practitioners, patients and caregivers, guide the work Provide citizen brief Conduct a deliberation/panel discussion about an issue Summarize the findings of the panel and distribute the findings Evaluate key features	Preventing Interpersonal and Self-directed Violence and Injuries in the Caribbean A citizen panel of participants from several Caribbean countries was convened on examining the issue of preventing interpersonal and self-directed violence and injuries in the Caribbean and addressing solutions. Most participants saw violence as major health problem, with women and youth being particularly susceptible to victimization and young males engaging in violent acts. Practical priorities for action were then identified by participants. (Ciurea et al. 2015)
Citizen Dialogues (CPRN 2005; EKOS Research Associates 2005)	This is designed to create a channel between citizens and political decision-makers to inform the policies of the latter	Randomly selected sample of approximately 20 citizens	Citizens randomly selected Citizens given a workbook about a policy issue Meet for one or two structured and moderated sessions of a total of 8–12 hours in length in small groups and plenary sessions to discuss the policy issue At the beginning and end of a citizen dialogue, each participant completes a survey measuring the participant's attitudes about aspects of the policy issue discussed in the workbook (Boyko 2012)	Citizens' Dialogue on the Future of Healthcare in Canada A citizens' dialogue was initiated in five sessions to discuss prioritizing public health goals for Canada. Participants overwhelmingly felt that decision-makers should act immediately, and hoped that their input would be considered in future goal development (EKOS Research Associates 2005)

Table 1. Continued

Approach	Description	Who?	How?	Examples of these approaches in health
Deliberative polling (Fishkin 1991; Fishkin 2005)	Combines techniques of public opinion research and public deliberation to construct hypothetical representations of what public opinion on a particular issue might look like if citizens were given a chance to become more informed	Usually between 130 and 450 participants (although there is no ceiling), paid. Citizens are randomly selected by either random digit dialing or by sending out "warm-up" letters to a random sample of phone listings followed up with phone calls	A random, representative sample answers a questionnaire evaluating the knowledge, perceptions and preferences on a specific question Another random representative is asked to participate in a "deliberative event" and receives balanced briefing materials At the deliberative event participants are randomly assigned to small groups with trained moderators Participants fill out a second questionnaire capturing opinions on the topic at hand First and final poll results are compared and any changes are measured and analyzed Findings of the final survey are disseminated through media coverage (Fishkin 2005)	Deliberative Polling on Healthcare Issues in America Citizens were polled regarding their opinions on education and healthcare as connected issues. Participants felt that the volume of uninsured Americans was the largest health system issue and supported policies which would require some sacrifice on their part to cover those individuals (MacNeil/Lehrer Productions 2005)

The underlying idea is constructed of similar features: a selected citizen group which is broadly representative of the public; members who are given time and resources, such as citizen briefs or other plain language documents mobilizing relevant evidence to understand the issue up for deliberation; the space to formulate an opinion. The concept, however it is implemented, is to shift power to those whom the research concerns, and to carry out interventions with feedback and reflection from citizens (Iwarsson et al. 2015). Between the specific initiatives, there are variations, however, such as amount of information available about the process, group size or participant selection method. As the field is relatively young, we do not yet have a full understanding of the impact and successes of these approaches. Quite a lot has been published; however, thus far the results have been mostly anecdotal (Iwarsson et al. 2015), and the outcomes reported inconsistently (Brett et al. 2014). Nonetheless, we believe that if properly used and adapted to

context, the engagement processes from higher income countries can offer insight and options for LMICs.

Citizen Engagement in Low- and Middle-Income Countries

While citizen engagement practices are more established in higher income countries, and some ideas may be successfully adapted to LMICs, barriers obstruct the adaptation and application of these approaches in lower income countries and settings. These include issues such as travelling for locals living in rural areas or without a reliable means of transport; costs to the research team both in the investigation and the larger scale implementation stages which may be difficult to cover especially for governments with lower incomes; social exclusion of certain groups which may result in difficulty including them in research, and patriarchal culture and the lower status of women (Alderman 2013; Iwarsson 2015). At the same time, the contextual reality of

communities in LMICs might be more different to those of the decision-makers in lower than in higher income settings. Health sector priority setting in LMICs is generally dictated by appointed figures and authorities for cultural, political and other reasons (Alderman 2013). Hearing the voices and contributions of communities could significantly influence how services are planned and delivered. The focus on citizen engagement, or community participation, is not new: since the Alma Ata Declaration in 1978, there has been a call for enhanced participation and empowerment of communities regarding decisions about health programmes in LMICs. Decentralization reforms further reinforced this emphasis on community participation in many countries (Rifkin 2014). As one of the most important considerations for citizen and public engagement is context, which includes a country's income level, to develop and apply relevant engagement strategies, it is crucial to look at LMICs in particular to get a better picture of which initiatives have been successful and why, to use this learning in similar settings.

Some evidence is available on how community participation or citizen engagement has begun to take shape in LMICs. For example, one recent review by Gullo et al. (2016) addressed the effectiveness of community score cards. In this type of intervention, service users, service providers and local government identify service access, utilization and provision challenges, to generate solutions and to work in partnership to implement and track the effectiveness of those solutions in an ongoing process of improvement. The review concluded that the use of community score cards led to improvements in citizen empowerment, service provider and power-holder effectiveness, accountability and responsiveness and expanded effective and inclusive spaces for negotiation in Malawi, Tanzania, Ethiopia, Rwanda and Egypt.

Another vehicle to enhance community participation or citizen engagement, facilitate community agency, raise community voices and trigger social change in many LMICs is the integration of community health workers (CHWs) into health systems. Community support for CHWs is vital to the success of these activities, as the community participation is the cornerstone of this type of engagement and development. CHWs work together with facility or village health committees, which can be seen as structures for social accountability (McCoy 2012). Recently, some scholars stated that the function of CHWs as agents of social change has been pushed from the forefront by technical tasks focusing on attaining disease-specific targets (Kalofonos 2014; Mishra 2014). For example, in India, an ethnographic study found that relationship building with the community was valued as very important by CHWs and that the narrow indicators used to measure health system performance, including a hierarchical structure and the value of statistical evidence above field-based experiences, could disturb the potential role of CHWs as agents of social change, cultural mediators and health promotors through effective community participation (Mishra 2014). When CHWs are required to act as agents of social change, they need to feel empowered and must be trained in soft skills such as communication, problem-solving and facilitating discussions and priority setting at community level (Redick et al. 2014). Altogether, the role of the CHW has had to remain flexible within public engagement.

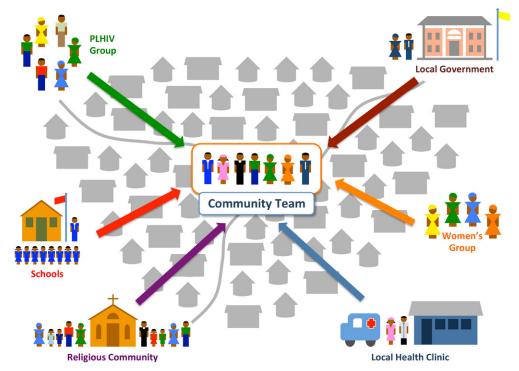
In Kenya, CHWs are joined by volunteers chosen by the community to form a community health committee (CHC) which contributes to the Community Health Strategy (CHS). The committee plays a role in monitoring and feedback with regard to community health services; however, they are not functional in some areas in Kenya, as a result of lack of training and dependence of

donor support (Kok 2016). Besides the CHCs, community health dialogue days are intended to provide opportunities for duty bearers at the primary care level to share data that are collected and analyzed in the community-based health information system with community members. These data are to be used for decision-making and collective action to make improvements. However, since the launch of CHS in 2006, no clear community health dialogue guidelines have been developed, although the communities engaged reported satisfaction with the CHWs.

Another approach which builds on a pre-existing CHC or similar health-focused group is used in several east and southern African countries. Lunsford et al (2015) describe a Community Health System Strengthening model (CHSS) in which a community improvement group is formed from a CHC and one to two community members who are involved in other existing

community groups and structures, including women's groups, village savings and loan groups, local government, schools and churches (Figure 1). As a team, they discuss local health issues based on data from the health facility. Applying quality improvement methods, they focus on key areas where improvement is needed and develop and test strategies to address these issues at the community level. Through this model, the community team becomes a locus for change while receiving supportive supervision and mentorship from local healthcare workers and district level health management. The model has been used to increase community engagement to address various health challenges, and was developed under the US Agency for International Development (USAID) Health Care Improvement Project (HCI) and the USAID Applying Science to Strengthen and Improve Systems Project (ASSIST) (Lunsford et al. 2015).

Figure 1. The Community Health System Strengthening model brings together people from existing community groups to form a community team to discuss and strategize solutions to health issues in the community (Lunsford et al. 2015)



PLHIV = people living with HIV.

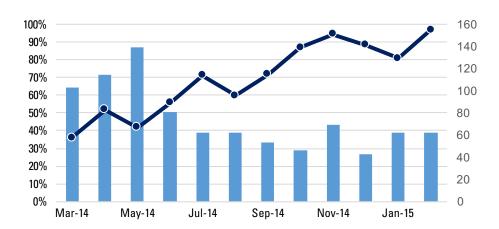
Tanzania and Mozambique have formed community improvement teams, which have effectively increased the rates of antenatal care for women in Mozambique and HIV testing in Tanzania. In both cases, community members who were involved in the community teams expressed pride in their work, saying that they now felt they had an important role to play in their community and that they were positively affecting the lives of their neighbours. In Tanzania, the community improvement teams in five communities were able to increase HIV testing by increasing communication and coordination with the health facilities and bringing HIV testing to the communities themselves. These teams also reduced the number of HIV patients who were lost to follow-up, from 44 in March 2014 to five in September 2014, through coordination of follow-up between the Home-Based Care volunteer (an unpaid community health volunteer system established by the Government of Tanzania) and People Living with HIV (PLHIV) groups (Lunsford et al. 2015).

Stover et al (2015) describe how the CHSS model was used in Mozambique. The community improvement team was formed

in 15 villages (bairros) that make up the catchment area of Licilo Health Facility, and focused on improving antenatal care (ANC) rates, by community identification of pregnant women and encouragement to attend ANC early in their pregnancy. This intervention identified 896 pregnant women and increased the percentage of those who received ANC in the same month from 36% to 97% between March 2014 and February 2015 (Figure 2). In addition, the rate of pregnant women came for first ANC between 10 and 20 weeks' gestation, increased from 54% in August 2013 to 73% by August 2014.

The aforementioned is just a sampling of approaches and initiatives developed for use in LMICs. While these are mainly health service related, the infrastructure which already exists in the countries driving these efforts can be used to push for community engagement in health priority setting and policy development at the district level. Having local participants on the ground, such as community health workers, as go-betweens, is also essential in identifying and applying the engagement approaches which will be the most beneficial in the specific contexts of each country.

Figure 2. Number of pregnant women identified by all community groups and percentage of community-identified pregnant women who received first ANC in the same month at Licilo Health Center (15 bairros), March 2014–February 2015



Conclusion

As previously stated, modern community engagement and its evaluation is still relatively new; thus, the aforementioned experiences of both higher and lower income countries can point to lessons that can inform further and more refined research. While the scope of these initiatives is broad, there are a number of basic principles to be gleaned, recognizing the unique features of each approach and the contexts in which they operate, including the country's level of socioeconomic development. For example, while higher income countries tend to have experience with more structured approached to engagement which LMICs may be able to learn from, the opposite also applies; those conducting research in higher income settings should seek to reconstruct the aspect of bottom-up community building and volunteerism which lies at the heart of citizen engagement approaches in the LMIC context. Thus, the social and political structures from higher income countries can be used as an example for LMICs to help community voices be heard and action to be taken on a broader level. Conversely, the strength of the bottom-up approach and the sense of community action which permeates in LMICs can be used to involve more individuals in a meaningful way in policy change for higher-income countries. It is valuable to evaluate the engagement initiatives presented extensively to discern which core elements lead to enhanced engagement and impact and under what contexts. Because community engagement strategies are in their infancy and rapidly evolving, LMICs have much to learn not only from their own citizens, but also from one another.

There are some broader, universal lessons to learn as well. Community engagement benefits from support at higher levels, such as district structures. District structures can aid community engagement by convening,

focusing the engagement on specific issues and serving as a feedback loop. While citizen engagement in national policy dialogue is needed, community engagement at the local level should be recognized and fostered, particularly in the context of increasing decentralization of healthcare decision-making in health systems. Lessons learned at the local level should also be used to inform both district and national policies.

Unfortunately, we still do not have clear insight as to how and how much citizen input is incorporated into policy (Iwarsson et al. 2015); however, it is clear that community voices need to play a bigger role in forming policy and are critical to reaching SDGs in health and economic growth. They must be heard in the halls of local and national governance and, ultimately, articulated in the global dialogue. The community needs to exercise greater influence on national policies and global advocacy, and bring evidence to bear in decision-making at all levels. Evidence needs to move out of communities and districts through broader communication and knowledge translation avenues to influence and shape national and global level policies and strategies. It is evident from the current literature that citizen engagement is needed to support a robust healthcare system. However, while there is consensus on the importance of citizen engagement, extensive work is needed to examine the different approaches within different contexts, barriers and facilitators to obtaining and disseminating the community's perspectives, and the most effective ways to ensure the outcomes of these approaches are presented to and incorporated by decision-makers. It is still early days in the field and more exploratory and primary research needs to be conducted to learn best practices, and, of course, learn from one another.

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Accelerating Harmonization in Digital Health



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Abstract

Digital tools play an important role in supporting front-line health workers who deliver primary care. This paper explores the current state of efforts undertaken to move away from single-purpose applications of digital health towards integrated systems and solutions that align with national strategies. Through examples from health information systems, data and health worker training, this paper demonstrates how governments and stakeholders are working to integrate digital health services. We emphasize three factors as crucial for this integration: development and implementation of national digital health strategies; technical interoperability and collaborative approaches to ensure that digital health has an impact on the primary care level. Consolidation of technologies will enable an integrated, scaleable approach to the use of digital health to support health workers.

Purpose: As this edition explores a paradigm shift towards harmonization in primary healthcare systems, this paper explores complementary efforts undertaken to move away from single-purpose applications of digital health towards integrated systems and solutions that align with national strategies. It describes a paradigm shift towards integrated and interoperable systems that respond to health workers' needs in training, data and health information; and calls for the consolidation and integration of digital health tools and approaches across health areas, functions and levels of the health system. It then considers the critical factors that must be in place to support this paradigm shift. This paper aims not only to describe steps taken to move from fractured pilots to effective systems, but to propose a new perspective focused on consolidation and collaboration guided by national digital health strategies.

Background: Integration in Primary Care and Digital Health

In a mixed methods research in Zambia, health workers in rural primary health cited access to technologies as a factor that enabled them to provide quality care through reduced reporting time, improved tracking of patient information and better access to health information. Health workers also cited lack of access to technologies as a factor that limited quality of care. Digital tools are often used to assist health workers in diagnosis, education and training, data collection and more (Agarwal et al. 2016). However, only 10% of technology-driven health interventions reach the desired level of integration and scale, with 45% stalling after 12 months (Scott and Mars 2013), and

58% of mobile health interventions addressing only one health domain (such as maternal health, nutrition or child health.) (Agarwal et al. 2016).

From a history of fragmented application of digital technologies, the field of digital health is placing increased emphasis on coordinated investments and implementations. Integrated, scalable systems guided by the Principles of Digital Development (Principles n.d.) can harmonize efforts across the health system, respond to health workers' needs and drive action around national strategies. This paper provides examples of efforts to improve alignment of digital health efforts to support health workers in three areas: data, health information systems and training.

To improve harmonization in digital health, we propose that three factors – strategy, interoperability and collaboration – are critical. (For purposes of this paper, interoperability is defined as "the extent to which systems and devices can exchange data, and interpret that shared data ... and subsequently present that data such that it can be understood by a user," abridged from the definition used by HIMSS 2013.)

There is a recognized need to integrate systems, interventions and services in primary healthcare, not only in digital health (WHO 2016; WHO 2017). This requires a broader perspective on primary healthcare systems, paired with a focus on how primary care connects to other parts of the health system, and how to better integrate vertical programs (Frenk 2009). The use of information and communication technologies for health (hereafter "digital health") can enable such integration; and in digital health, as in primary care, efforts are being made to move from single-purpose tools and deployments towards interoperable, nationally-owned structures (van Gemert-Pijnen et al. 2011). While this orientation is evident across the field of digital health, this paper draws on examples of digital health interventions and systems that support health workers in primary care.

Current State: Integrating Digital Health in Information, Data and Training

This paper documents efforts underway to improve integration of digital systems and actors in three critical areas: health information systems, data and training. These have been selected for their critical nature, applicability to health workforce needs and the volume of work that has been done in these areas. As technologies are introduced into primary healthcare systems, a holistic approach combining information systems, training and strengthening data use can address the challenges countries (and the

health workers themselves) face. These areas emphasize the need for digital development that responds to health workers' needs, and illustrate principles and approaches that allow digital health interventions to be effective and sustainable.

The importance and interdependence of these three factors are evident in the context of outbreak prevention and response (Wilton Park 2015). A WHO consultation in 2015 aimed to develop global norms for data sharing and transparency during public health emergencies; and led to the agreement that timely exchange of information is critical for informed decisions about response. Data must be processed and stored, and stakeholders agreed that there was a clear need to enhance data management capacity, both in terms of technology support and expertise. (Modjarrad et al. 2016) The role of health workers in preparing for and responding to outbreaks has received less attention in the context of Ebola, but a well-trained, well-supported health workforce is arguably the most important factor in outbreak response. Nigeria's ability to contain Ebola was availability of a health workforce with critical skills for prevention and response (Balajee et al. 2016). The importance of collection and sharing of data, the means for processing data to drive decisions and the assurance of a wellsupported health workforce is equally applicable to the primary care setting.

Data collection, access and use

Data is critical at all levels of the health system, particularly at the primary level, to plan and provide timely health services to populations. For example, nurses delivering immunization services need patient data to evaluate the proportion of population their services are reaching, plan the amount of vaccine stock needed and to follow up with caretakers whose children who do not come for immunizations on time. Data can also help health workers to follow expectant

mothers through prenatal care and reach out to those who miss key appointments.

The use of technologies for data collection and reporting can save health workers time spent maintaining multiple paper register books and filling out paper reports from various data sources, while also decreasing the high risk of human error. Digital technologies also enable integration with analytical tools, enabling faster use of data through customized reports, dashboards and other data visualization tools.

Data can be used to address the complex roles and workflows health workers face daily. For example, the PATH Malaria Control and Evaluation Partnership in Africa project works with community health workers (CHWs) to monitor and report on malaria infections in their catchment areas. CHWs were provided with a basic mobile phone, which served as a motivating factor and enabled them to report data on infections in their catchment areas in a timely fashion. They were more easily able to communicate with other health workers in their area, connect patients with the local health facility and provide critical information to track trends and areas of high infection to target key interventions; and thus timely reporting of malaria infections has improved, helping to provide greater access to treatment (MACEPA 2017).

To improve healthcare outcomes, data provided by information systems must be usable and digestible by those who need it: notably health workers, district supervisors and policy makers. Data tools must be appropriate to the contexts and the users, as well as reliable, stable and suitable for their data use needs. When developing systems designed to assist front-line health workers in data collection and use, in-depth user input and feedback on the content and presentation of data, as well as the system development process itself, can help to ensure that systems meet the information needs of front-line health workers (Pakenham-Walsh and Bukachi 2009). Including health workers in

systems development contributes to the overall motivation of health workers and their ability to influence their work environment and align with larger efforts. Beyond (and often more successful than) financial incentives, motivating factors can include power to make or influence decisions, recognition and appreciation and overall support and sufficient resources to conduct their work (Franco et al. 2002).

Data have the potential to connect health workers to multiple levels of the health system, and it is critical to do so. A data use culture with strong practices around data collection and use for decisions will ensure that users sustain use of technologies, and make the technologies themselves more successful. Key ways to build an appreciation for the importance of accessing and using data include streamlining complex work flows, ensuring usability of data for practical purposes, motivating health workers to demand and appreciate data in their work and strengthening supervision and feedback loops (BID Initiative 2015). Hearing from superiors that the data they collect are important, and reviewing it with them, increases the value of that data to the individual health worker and makes them more likely to invest in the data use culture and adoption of technologies. The African Routine Immunization System Essential project found that the routine review of data and performance information were key to improving immunization coverage (Larson and LaFond 2011). To maximize the impact of data, many countries are adopting quarterly district-level meetings to review performance data and targets, or are incorporating data review into supportive supervision, to strengthen the value of data to health workers and strengthen decisionmaking throughout health service delivery.

Health information systems

For front-line health workers and policy makers alike, robust health information

systems (HIS) are needed to supply data for informed decision-making as described in the previous section. Recognizing the benefits of moving from paper records to digital systems, Ministries of Health and other stakeholders are turning to opensource systems to track health services, health workforce, commodities and records. This allows them to improve management, supervision, supplies and support for health workers. Health workers can also use HIS dashboards and other data visualization tools to inform decisions on how best to provide support to clients. Software code in open source systems is made freely available, saving costs from software and licensing fees and providing flexibility for countries to adapt tools to meet their needs.

Health management information systems provide tools to collect, manage, analyze and visualize aggregate data of health services at facilities. Over 60 countries are using DHIS 2, which was developed by the Health Information Systems Programme at the University of Oslo. DHIS 2 has capabilities for system interoperability with other systems. Interoperability makes it possible for data to be exchanged with other systems (such as messaging or supply chain systems) using common standards (DHIS 2 n.d.). Another open source and interoperable system is iHRIS, a human resource information system developed by IntraHealth International. iHRIS allows Ministries, professional councils and health service delivery organizations the ability to track and manage their health workforce. Over 20 countries are using iHRIS data to collect data that enable them to understand health workforce shortages, manage health worker distribution and aid in other health workforce needs (iHRIS n.d.).

Health information systems can connect health workers and clients with national institutions, such as Ministries and Councils. For example, in Uganda, the Medical and Dental Practitioners Council made licensure information of 3,877 health workers in its iHRIS available to the public through a mobile directory (Bales 2013). Patients could send a text message to inquire if their provider was licensed or registered. This transparency cut down on "quacks," and the proportion of physicians renewing their licenses increased from 42% to 57% in one year (Bales 2013).

Responsibility for the development and implementation of HIS sits not only with technologists and Ministry of Health officials, but can include front-line health workers For example, the Government of Liberia is implementing mHero, a two-way SMS system that connects front-line health workers and the Ministry of Health. This is possible through interoperability between iHRIS and UNICEF's RapidPro messaging platform. After receiving messages from mHero, front-line health workers can report information to the national level in real time. In November 2014, the Ministry used mHero to contact over 480 health workers to validate their information and track healthcare provision during the Ebola outbreak (IntraHealth International 2016). Since then, the Ministry has used mHero to contact over 8,000 public-sector health workers and more than 1,000 general community health volunteers in all 15 counties to validate information, access feedback on client services and inform health workers of trainings and events.

To improve the impact of HIS, governments and stakeholders are calling for investments in nationally scaled systems and facilitation of interoperability, ensuring data can be accessed and shared among systems. In many countries, efforts have been made to ensure efficient data management and increase data quality by establishing Master Facility Lists so that a facility list in DHIS 2 correctly matches a list in iHRIS. Several challenges to strong HIS exist, including insufficient investments in HIS; inefficient investments and fractured systems in data

collection and analysis; lack of in-country capacity to use and understand data and limited access to data (Health Data Collaborative 2015). National governments have been unable to keep pace with the investments needed to customize and implement HIS - including technological updates and investments in human capacity. Donors have struggled to align the investments needed for development and scale of HIS tools. To address these challenges, many lower- and middle-income countries (LMICs) are developing national digital health strategies and implementation roadmaps to establish a framework for their systems and processes to share data and using additional investments in system development and analytics training to build in-country capacity to develop, implement and scale robust HIS. Governments are also calling for data access, privacy and security and data sharing to be standardized; and for investments to be coordinated.

Education and training

Training is an essential element for health workers to be able to understand and act upon the data and information they receive, and to provide high quality primary care services. However, many argue that insufficient emphasis has been placed on ensuring front-line health workers receive adequate training. Many front-line health workers in remote areas receive inadequate training and

information, and are therefore working outside of their clinical and professional knowledge (Pakenham-Walsh and Bukachi 2009). Digital tools have played a large role in education and training of health workers who provide primary healthcare to communities (Agarwal et al. 2016), and digital tools have shown effectiveness in increasing providers' knowledge. Research indicates that digitally based distance education can be as effective (and in some cases more so) than face-to face-training (Zhao et al. 2005). Table 1 provides examples of results from existing distance education programs using mobile technology to help health workers improve their knowledge and skills.

As smartphones and tablets become more affordable and accessible, and mobile applications accommodate offline access, these tools can support education for both health workers and communities (Agarwal et al. 2015). Digital training tools can enhance client-provider dialogue and the delivery of health services. Pre-loaded videos can convey crucial information to health workers and initiate dialogue between a health worker and client. Unfortunately, fragmented implementations of digital health systems often reflect vertical approaches to supporting health workers in more traditional methods of training. In Uganda, for example, the Ministry of Health found that while 109 partners were supporting Village Health Team (VHT) activities, they

Table 1. Sample results of digital training programs

Project, country and population	Objective	Sample results	
OppiaMobile: Ethiopia, Health Extension Workers	Reinforce HEW Training Curriculum in primary care	Very high levels of user acceptance long after the formal training program had ended (Levine et al. 2015)	
iDEA: Nigeria, Midwives	Provide counselling training and clinical training	Midwives recognized need for behaviour change, showed improvement in post-test following use (Bailey and Little 2014)	
Gyan Jyoti: India, ASHAs and Clients	Provide decision support for FP clients	Women who used Gyan Jyoti app more likely to adopt modern contraceptive methods (Johns Hopkins Center for Communication Programs 2015)	
VTR Mobile: Nigeria, Primary Healthcare Workers	Provide training on antenatal, obstetric and newborn care	Average of 32% improvement in scores post training (Anadach Consulting, 2016)	

motivated VHTs differently, had different reporting formats, and used training with different methodologies and durations (Uganda Ministry of Health 2015). This approach prevents standardization in training content and procedures and leads to inequitable access to trained health workers for communities; it will also contribute to increasingly disconnected digital support systems unless standards are enforced and implementation is managed accordingly.

Technology can coordinate the sharing, certification and centralization of training content for health workers, including the conversion of print materials to digital format. A central library for digital training content can make it possible for Ministries and stakeholders to access and approve content; ensure materials meet training requirements and help standardize materials. When paired with technologies to structure content and deliver it to health workers' devices, these technologies can facilitate equitable, sustainable delivery on a national scale (Bailey, 2016).

Through integration of technologies, training and data, HIS can provide harmonized services to health workers and clients (further described below, and in Figure 2). For example, a distance learning application could share information with a data collection application so that health workers' training progress (e.g., modules covered, videos shown, etc.) could be fed into HIS and shared with Ministries and Councils.

Discussion: Critical Factors to Accelerating the Paradigm Shift towards Integrated Systems

To accelerate and support a paradigm shift towards integrated digital health systems that respond to health workers' needs, three factors, among many, are critical: a clear national digital health strategy, interoperability among technologies and collaboration of actors in digital health and health systems. While these three elements do not present a complete solution to the complex

problems that exist, we propose that they provide the framework and environment necessary for meaningful impact of digital health solutions. We have selected these elements as factors that will enable improved alignment and use of existing resources, will have a tangible impact on health workers' work by easing administrative burden or improving their ability to provide high-quality care and, if not addressed, will contribute to worsening duplication within the digital health field.

National digital health strategies

Specific and actionable national digital health strategies are necessary to move away from fragmentation, and attract investments for sustainable solutions (Scott and Mars 2013). The International Telecommunication Union National eHealth Strategy Toolkit (2012) provides governments a comprehensive roadmap from which to develop digital health strategies. It recommends a National Digital Health Vision, National Digital Health Action Plan and National Digital Health Monitoring and Evaluation and advises engaging stakeholders early in the process. While such toolkits provide overall frameworks, strategies must be countryspecific and consider the broader socioeconomic, political and environmental contexts and their impact on health needs (Khoja et al. 2012).

For example, Liberia's Ministry of Health developed a collaborative strategy for health information system management in response to fragmented health data and systems; weak infrastructure; and a recognized need to strengthen its national health systems and facilitate interoperability (Fighting Ebola with Information 2017). The Ministry led a four-stage HIS Strategic Planning Process aimed to close gaps exacerbated by the Ebola outbreak and create a stronger framework for the country's health information. The development of the 2016–2021 HIS Strategic Plan coincided with the National Health Investment and Resilience Investment Plan.

The UN Broadband Commission for Sustainable Development (2017) explored levers influencing HIS and digital health strategies, and pointed to the importance of government leadership, governance and intra-governmental cooperation in digital health. It recommends that national visions for digital health be aligned with a country's health priorities, as well as the existing and projected capacity of its information and communication technology (ICT) infrastructure and systems. Sustained senior government leadership and committed financing are critical, as well as effective governance mechanisms and a national ICT framework.

Interoperability

A lack of interoperability between digital health technologies leads to duplication of effort, inability to share information and unnecessary limitations on the capabilities of technologies - all because systems used in the same country do not "talk" to each other. This can mean that health workers lack access to data that exist at regional or national levels and, if accessible, would help them make decisions to care for their communities. On a national level, a lack of interoperability hinders the development of an integrated set of digital services in a health system. At a 2013 BID Initiative meeting, participants from 11 African countries expressed frustration at the inability to share data among digital systems within their countries, and pointed towards lack of interoperability as a major barrier to sustainability and future utility of digital health solutions (BID Initiative 2015).

A 2016 report by the GSMA, an association of mobile operators, states that while the standards for interoperability are in fact available, a lack of adherence to existing open source standards is a primary barrier. Interoperability as a pillar of a country's health information system and the associated eHealth architecture can help countries address challenges as they implement,

expand and adapt digital health solutions. An eHealth architecture lays the foundation for how data will flow through a health system, and acts as a blueprint detailing which HIS will be used, how they will connect to share data and what standards will be used to facilitate interoperability. In 2016, the government of Tanzania developed a roadmap of investments to strengthen all of their health data systems and data use. This extensive process laid out the necessary investments for the government to have the systems to effectively use data to improve the health of their population. A core aspect of the roadmap was being able to "connect and harmonize systems" and includes plans to develop governance, guidelines and standards for interoperability (Data Use Partnership 2016).

An emphasis on HIS interoperability has, in some cases, forced implementers and users to be collaborative and design systems to work together easily. The OpenHIE community is one example of how global implementers are addressing integration of data by creating a reusable architectural framework that leverages health information standards across systems. One key tool available through OpenHIE is an interoperability layer, which allows mobile applications to interact with each other and with the systems and infrastructure of the larger information system; meaning that data from multiple sources can be shared and used for decision-making (Figure 2).

Multi-stakeholder collaboration

We emphasize interoperability not only in terms of technical interoperability, but in its role to facilitate and enforce collaboration. The actors involved are equally critical to interoperable, integrated systems. This includes policy makers, and systems developers, but also health workers and users, who have the responsibility to engage in the demand and use of health training, data and information systems. Government actors must provide leadership and share

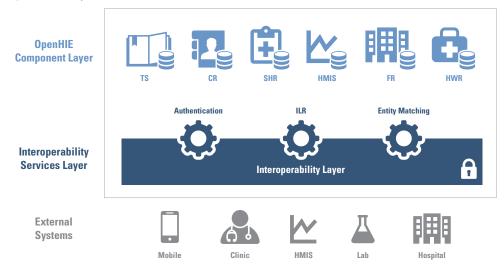


Figure 1. Sample information structure

Graphic: Adapted from OpenHIE n.d.

the commitment to achieve accessible, integrated digital systems that enable quality primary care services.

For sustainable national solutions to possible, stakeholders must collaborate to change practices and overcome the present fragmented environment. Multi-stakeholder dialogues and processes can allow stakeholders from the nonprofit sector, donors and the private sector (among others) to develop shared action plans based on national strategies; acknowledge fragmentation; develop strategies for collaboration and align their activities and investments to national strategies (Ashraf et al. 2015). For example, a 2016 collaborative workshop for digital management in Pakistan brought together public and private sector representatives to examine the possibility of a shared interoperable platform to distribute digital health training content across the Sindh province. Participants recognized the use of duplicate and at times inappropriate technologies for the delivery of health information. This workshop also led to the acknowledgement that most proven digital technologies are already designed to operate at scale and that those technologies that provide critical services, (such as data collection and

information dissemination), do not need to be duplicated by multiple technologies across a single province.

On a global level, collaboration can also establish approaches and standards to be responsive to health workers' diverse roles and needs. The Principles for Digital Development (n.d.) guide the development and implementation of digital health initiatives, and provide a forum for stakeholders to share experiences on their use of these principles. Global guidelines codify a shared vision for digital health in primary care, but user-centered design and consideration of health priorities on national, regional and community levels, allow digital approaches to respond to the varied needs of health workers such as the diversity of CHW roles and definitions as described by Olaniran et al. (2017).

Looking Ahead: Consolidation for Harmonization

Technology plays a large part in making integration of health services possible. Increasingly, the challenge to accelerate harmonization and impact in digital health will be eliminating options that provide nearly identical functionality but fail to meet

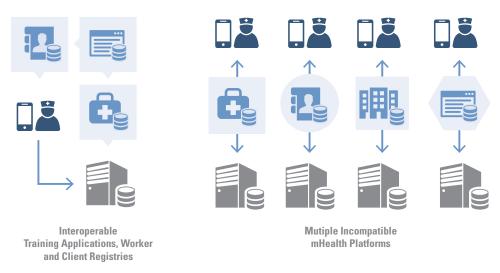
criteria for sustainability (such as use of open source code). The volume of similar technologies in use for health is not sustainable, and for technology to be led by strategy, consistent with interoperability standards, and supported by collaboration, will require consolidation. By consolidating around systems that serve key functions (e.g., data collection, content dissemination, etc.), a government would be able to select, adapt and manage technologies to support their health workforces. For example, rather than developing separate training applications per health area, a single content delivery system would be able to disseminate training across cadres and health areas. For example, a single system could provide training to CHWs for HIV prevention, nurses for treatment, and community members for health education. A single data system could track vaccination coverage or community attitudes towards Ebola. This consolidation makes scale and interoperability possible; and until this consolidation takes place it will be difficult

for health systems to fully leverage the potential of digital health systems that respond to the complex needs of the health workforce. Figure 3 illustrates the potential of a set of interoperable technologies to meet key needs of the health workforce.

On the primary care level, digital tools can provide health workers with the training and data they need, and can provide governments with tools and information to support health workers. For digital technologies to support the integration of community health systems the paradigm must be shifted from singlepurpose, time-limited, applications of technology, towards long-term, integrated systems that respond to health workers' needs, as well as the needs of the health system. This is not intended to limit innovation, but to aggregate efforts and resources towards an integrated approach led by national strategies with support from collaborative stakeholders, which can allow technology to truly support health workers who deliver primary care.

Figure 2. Interoperable technologies in support of health workforce

Consolidation and Fragmentation



Note. Figure created by Mike Bailey. Icons adapted from $\mbox{\it OpenHIE}\ n.d.$

Summary

Digital health has demonstrated high potential to strengthen health systems, to support health workers and to improve primary care; but it has been hampered by short-term approaches that are not harmonized with other approaches or guided by national strategies. To change practices from this fragmented, duplicative approach, all actors must collaborate to support interoperable systems that serve key functions, are information agnostic, and are adaptable to different contexts. Meaningful collaboration between all actors – particularly health workers themselves – is essential to ensure that digital tools meet their potential to transform primary healthcare.

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A Formative Assessment of Nurses' Leadership Role in Zambia's Community Health System



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Abstract

Background: Despite its achievements in decreasing HIV prevalence and under-five mortality, Zambia still faces high maternal and neonatal mortality, particularly in the rural and remote areas where almost 60% of the population resides. After significant investments in developing its community health system, the Zambian Ministry of Health was interested to understand how to leverage the role of nurses to sustain achievements made and further improve the quality of care in rural communities. The Ministry joined research partners in an assessment into the role and leadership capacity of nurses heading rural health facilities.

Methods: A seven-member research team conducted 30 in-depth interviews and 10 focus group discussions in four provinces with four categories of respondents: national decision-makers, provincial and district managers, rural facility staff and community respondents (neighborhood health committee members and volunteers). An initial scoping visit and literature review informed the development of specific interview guides for each category of respondent. After audio-recording and transcription, research team members identified and reached consensus on key themes, and presented and validated the findings at a national stakeholder workshop.

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Results: Zambia's front-line health teams are a complex mixture of professional facility staff, community providers, community-based volunteers and neighborhood health committees. Nurses and nurse-midwives head over half the rural facilities in Zambia, where they are expected to lead the delivery of safe, high-quality care with staff and volunteers who often operate beyond their level of training. Nurses and midwives who are assigned to head rural facilities are not adequately prepared or recognized for the leadership responsibilities they are expected to fulfill.

Conclusions: This paper highlights opportunities to support rural facility heads in effectively leading front-line health teams to deliver primary healthcare to rural communities. Front-line teams require a leader to coordinate and motivate seamless and sustainable quality services that are accessible to all. Zambia has the potential to support integrated, responsive quality care and advance toward universal health coverage if nurses are adequately prepared and recognized with job descriptions that reflect their responsibilities and opportunities for career advancement.

Background

Zambia has invested heavily in its community health system. These investments have paid off in improved service quality as well as reduced infant, under-five and maternal morbidity and mortality and decreased HIV prevalence over the past 15 years (Central Statistical Office (CSO) [Zambia], Central Board of Health [Zambia], and ORC Macro 2003; Central Statistical Office (CSO) [Zambia], Ministry of Health (MOH) [Zambia], and ICF International 2014; United Nations Development Programme (UNDP) 2013). However, Zambia still faces high maternal and neonatal mortality, particularly in the rural and remote areas where almost 60% of the population resides (Population Reference Bureau (PRB) 2015; World Bank. Rural population (% of total population) n.d.).

Most (85%) of Zambia's health facilities are government-run (Ferrinho et al. 2011). Public-sector health services in rural and remote areas are delivered by a variety of service providers working with and/or around rural health posts (RHPs) and rural health centers (RHCs) expected to serve catchment populations of approximately 3,500 and 10,000, respectively (Ferrinho et al. 2011). The RHPs are intended to extend the services of RHCs to be more broadly

accessible. The heads of these rural facilities shoulder wide-ranging responsibilities. These include supervising facility staff and volunteers, overseeing the administration of the facility, managing commodities, being on call after hours, coordinating neighborhood health committees (NHCs) with village leaders and volunteers, responding to emergencies or outbreaks, and generally standing accountable for the quality of services provided.

Official Zambian staffing policies dictate that RHCs are to be led by either a clinical officer or a registered nurse-midwife and that enrolled nurse-midwives serve as heads of RHPs. Because RHP staff respond to a wide variety of primary care and maternal and child healthcare needs and also oversee community health providers and volunteers, RHPs ideally require experienced clinical staff who are trained in nursing and midwifery. However, with ongoing health worker shortages and difficulty in retaining clinical officers in Zambia's rural areas (Makasa 2008), over 60% of rural facilities are led by one of the country's various nursing cadres. Zambia's nursing cadres include registered nurses, registered nurse-midwives (generally referred to as registered midwives), enrolled nurses, enrolled nurse-midwives (referred to as enrolled midwives) and BSc nurses,

who are qualified to teach. Registered and enrolled midwives are more highly trained than registered and enrolled nurses. As the government pursues its campaign to construct and staff 650 new RHPs across Zambia (Ministry of Health [Zambia] 2011), the percentage of rural facilities led by nursing cadres will only increase. When circumstances place nurses in charge of rural facilities, they need to be equipped with the clinical and managerial/leadership competencies that high-demand and low-resourced rural facilities require and should be recognized for their leadership and wide-ranging responsibilities.

In 2012, Zambia deployed its first cohort of community health assistants (CHAs), a new community-level cadre trained, staffed and paid as part of the 2010 Ministry of Health National Community Health Worker Strategy (Ministry of Health [Zambia] 2010). CHAs spend 80% of their time in the community working directly with families and community-based volunteers (CBVs), and 20% of their time in RHPs assisting the nurse in charge. With this new addition, the Zambian Ministry of Health and the former Ministry of Community Development, Mother and Child Health (MCDMCH) recognized the need to more clearly define the front-line health teams working at the community level and better understand the role of the facility heads who lead those teams to deliver high-quality care.

As a prerequisite to building the necessary capacity of the nurses who head up rural facilities, and to adequately recognize their position and define their grade, it is important that actors at all levels of the health system (from national decision-makers to local staff and volunteers) understand the roles and responsibilities that rural facility heads currently perform. Comprehensive information on how the front-line team performs as a whole is lacking. Further, whereas there is ample research addressing the role and leadership capacity of nurses in

primary healthcare settings, little attention has been paid to the relationship between community health nurses and community health teams in Zambia or elsewhere (Appendix 1, available at: https://www.longwoods.com/content/25305, notes the various cadres and groups that may participate in Zambia's rural front-line teams.)

To this end, the Zambian Ministry of Health invited the Primary Health Care to Communities (PHC2C) partnership to lead a formative assessment into the role of nurses heading rural health facilities and their capacity for leading quality care. The PHC2C partnership – formed in 2014 by IntraHealth International, the International Council of Nurses (ICN), the Dalhousie University WHO/PAHO Collaborating Centre for Health Workforce Planning and Research, the University of Zambia (UNZA) School of Medicine, mPowering Frontline Health Workers and Johnson & Johnson - seeks to strengthen community health systems toward achieving universal health coverage. Johnson & Johnson and IntraHealth provided resources to support UNZA and PHC2C partners in carrying out the assessment in 2015. This paper presents key findings and highlights opportunities to support rural facility heads in effectively leading front-line teams to deliver safe and high-quality primary healthcare to communities.

Methods

Design and setting

the research design and the evaluation framework were developed collaboratively by the members of the PHC2C global advisory group and additional researchers from PHC2C partner organizations. The assessment used qualitative methods to generate a rich description of front-line health teams and the role of the registered and enrolled nurses and nurse-midwives who lead them. (For convenience, we refer to "nurses" rather than "nurses and nurse-midwives" in the remainder of the paper.)

An initial scoping visit in May 2015 helped shape the research protocol and the assessment's focus on the role of nurses heading rural health facilities.

The research team selected four of the country's nine provinces (Copperbelt, Eastern, Lusaka and Southern) representing six industrial, agricultural and river-basin districts (8% of districts nationwide). In each district, the team collaborated with district managers to purposively select at least one RHC and one RHP to represent "typical" healthcare provision in low-resource settings. In all, six RHCs and nine RHPs were selected. To gain a comprehensive perspective on the care provided at these rural facilities, the assessment used in-depth interviews and focus group discussions to gather information from four categories of respondents: national-level decision-makers; provincial and district managers and officers; nurses and other clinical staff at RHCs and RHPs and community respondents (CBVs and NHC members). The interviews targeted all four categories of respondents, whereas the focus group discussions primarily involved community respondents.

Instruments and data collection

a review of relevant literature informed the study methodology and the design of separate interview and focus group discussion guides for each category of respondent. General topics of discussion included definition of front-line health team members, service delivery needs, front-line teams' ability to meet those needs, communication, data and technology use, roles of and competencies required by nurses leading front-line teams and barriers or facilitators to high-quality service delivery and effective facility management. All interview guides were extensively pretested with provider teams outside of the study; questions that providers perceived as unclear, subjective, leading or irrelevant were revised for

maximum comprehension and relevance. Providers representing each respondent group also were invited to recommend additional questions or improvements.

To ensure the quality and integrity of the research, the data collection team included six of the researchers (AAF, FMG, CM, MKM, NLC and CK), assisted by one additional data collector. At least two members of the data collection team conducted each interview and focus group, offering respondents the option of being interviewed in English or in a local language. The data collection team members took notes and also audio-recorded all interviews and focus group discussions on two devices.

Analysis

Some data collection team members transcribed the recordings verbatim. Other members of the data collection team then reviewed the transcripts and referred to notes to provide clarification. All transcripts and recordings were stored electronically on an IntraHealth computer and then transferred and saved on a password-protected external drive.

At the end of each day, the research team discussed each transcript and manually extracted and displayed excerpts, notes and quotations on multiple flipcharts to allow for immediate discussion of findings. Using a content analysis approach, research team members later worked both deductively and inductively (Elo and Kyngäs 2008) to identify and reach consensus on key themes. The Zambia Stakeholder Advisory Group (representing key national stakeholders) subsequently validated the findings and provided further insights at a data synthesis meeting.

Results

Participant and facility characteristics

in September and October of 2015, the data collection team carried out 30 in-depth interviews and 10 focus group discussions

at the 15 selected health facilities. Almost half of the interviews (13/30) were conducted with clinical staff (nurses, midwives and clinical officers) (Table 1). The remaining 17 interviews were split between the other three respondent categories. Nine of the 10 focus group discussions were with community respondents (CBVs and/or NHC members) (Table 1).

Table 1. In-depth interviews (n = 30) and focus group discussions (n = 10)

Level of respondent	Number of interviews	Number of focus groups
National decision-makers Government ministries* Ministries* and professional associations [§]	3 —	1
Provincial and district health management team members	7	7
Community level CHAs CBVs NHC members CBVs and NHC members combined	7 ¹ — —	
Total	30	10

^{*}Ministry of Health and former Ministry of Community Development, Mother and Child Health.

The 15 rural health facilities included in the sample reported serving populations that sometimes far exceeded their intended catchment size. Whereas RHPs are intended to serve approximately 3,500 people, three of the nine health posts served from 5,000 to 11,000 people. Two of the six RHCs participating in the study served roughly 10,000 community members, two served closer to 12,000 and one served 18,000. Only a third of the facilities (5/15) had computers and electricity. Several RHPs had recently (within the past two years) been equipped with solar power. Reflecting the more remote locations of some RHPs and RHCs, the facilities were anywhere from 16 to 155 kilometers from the

nearest hospital (mean distance = 57 km). Despite the government's intention to ensure that all populations are within 5 kilometers of a health facility, catchment maps showed that some villages were located 10–12 kilometers from the next facility.

Human resources for health shortages

According to one district medical officer interviewed, understaffed front-line health teams in rural/remote and low-resource facilities "are operating at less than [a] 60% [staffing level]." As a result, study participants described rural facilities as relying on a fluctuating mix of paid staff and volunteers who often have a lower level of training than what formal staffing policies require. The implications for nurses leading rural facilities are that they are accountable for all decisions and the quality of services provided. One registered nurse explained, "At the hospital, decisions are made for you, [but] at the rural health center you have to make your own decisions, and it's a big challenge." Another registered nurse also compared the different levels of responsibility working in hospital versus rural facility settings, stating that at the hospital, "You go back home at the end of your shift, but at the rural health post you live with your patients and you have to be available night and day."

Of the 15 rural facilities visited, only two RHCs were staffed per official staffing policies (by a registered nurse-midwife and a clinical officer), whereas 11 facilities were headed by enrolled or registered nurses. Two rural facilities had no assigned facility head at all and were staffed only by CHAs. At one RHC, an enrolled nurse served as the acting head of facility while the registered nurse nominally in charge was away on a two-year study leave. District managers confirmed that the majority of their rural facilities were headed by registered or enrolled nurses. The Stakeholder Advisory Group commented, moreover, that even when a clinical officer is nominally in charge

[§]General Nursing and Midwifery Council; Health Professionals Council of Zambia; Zambia Union of Nurses Organization.

¹Ten CHAs participated in the seven interviews.

of a rural facility, nurses and nurse-midwives often end up as de facto facility heads because of clinical officers' travel and other competing obligations.

Responsibilities and competencies

The interviewers solicited input from facility heads and staff about the tasks and responsibilities of nurses who lead front-line teams in rural facilities. Interviewers also asked district managers, facility heads, staff, community members and volunteers about the facility head practices they considered most effective for improving quality of care. The responses indicate that nurses who manage RHCs and RHPs have extensive on-the-ground job requirements, including clinical, managerial and operational duties (Table 2). As a nurse in charge of a health center commented:

You have to do two jobs at the same time [supervision and patient care]. There are no shifts, so you work Monday to Sunday – 24 hours – which is very different from the hospital setting. If you are in a hospital and you are a manager, you are there to supervise your colleagues ... You definitely don't screen patients if you are a supervisor in the hospital – but here you do.

Respondents at all levels also described the importance of nurturing collaborative relationships between facility heads, CBVs and other community constituencies (Table 2). An enrolled nurse explained why collaboration with communities is perceived as an essential component of rural health service delivery:

... You cannot just work alone [at] the health center without involving the community ... They are the same people that would tell that "This is what is happening in the community and we need your services here and there." So when I came here, that is the first thing that I did, to say, "... I need to work with these people."

Respondents identified a number of competencies perceived to be important for effectively leading a front-line health team and emphasized characteristics such as respect, attention to quality, responsiveness, independence and flexibility (Table 3). However, respondents noted that nurses heading rural facilities receive very limited management and leadership preparation through their preservice education curricula.

Table 2. Basic activities and effective practices for nurses managing rural health facilities

Basic activities	Effective practices
"What tasks do you carry out and what are you responsible for?"	"Which in-charge practices are important to improve the quality of care?"
Assess, screen, diagnose and manage referrals Prescribe and dispense medicines Oversee operations* Manage budgets, including budget shortfalls and allocation of bonuses and incentives Order, allocate and track commodities and medicines Monitor, document and report to district health management teams Supervise staff and CBVs Interface with NHCs Be responsive 24 hours a day	Prioritize and delegate tasks Build cooperative teams Train, mentor and supervise staff Build community relationships Engage NHCs in decision-making Motivate and integrate CBVs Resolve conflicts Remain clinically up-to-date

^{*}Examples: Replace broken windows, find transportation, ensure water supply, protect against theft.

Table 3. Competencies perceived as necessary for nurses in charge of rural health facilities

"What competencies are needed to better prepare the in-charge to effectively lead their team?

Clinical

Provide services

Deliver respectful care

Ensure delivery of good-quality care

Management

Strategically plan

Manage physical resources

Flow of medicines and commodities; facility repairs Manage human resources

Delegate tasks; Teach, mentor, motivate, retain

Monitor performance

Leadership

Respond to community needs

Negotiate with community

Engage in independent and innovative decision-making Leverage position as facility head to influence change

Quality improvement

Manage and apply data for monitoring and evaluation Use technology for information management, training, monitoring and evaluation

Scope of practice

All of the registered and enrolled nurses in charge of rural facilities described performing clinical tasks outside of their formal job descriptions, including screening, diagnostic and prescribing activities that exceed their training and licensure. A provincial medical officer observed, "All [rural nurses] work outside scope of work and training due to necessity." In the words of a registered nurse, "When you are the in-charge, you are a doctor on your own."

One of the most noteworthy problems identified was the fact that the enrolled and even the registered nurses who are put in charge of rural facilities typically lack the midwifery skills required in low-resource environments to effectively recognize and respond to maternal health needs. Without such skills, head nurses lack the necessary training to recognize signs of delivery and postpartum complications or guide their team to do the same. Respondents lamented the absence of mechanisms for nurses to acquire experience or improve their clinical skills as well as the absence of regulatory

adjustments to officially acknowledge and expand nurses' scope of practice. Although the Zambia Union of Nurses Organization (ZUNO) negotiated a modestly higher professional standing for registered nurses who are deployed to lead RHCs, there has been no corresponding adjustment for enrolled nurses. Further, respondents emphasized that nurses who lead RHCs and RHPs lack a job description that explicitly delineates their unique role as heads of rural facilities and outlines the additional responsibilities and tasks that differentiate their expanded roles from the standard job descriptions that already exist for registered and enrolled nurses and nurse-midwives.

Management of front-line teams

Respondents repeatedly pointed to the unique features of front-line rural health teams, which consist of paid staff and volunteers with varying skills and educational levels who are both facility- and community-based. These features give rise to special clinical and managerial challenges. A number of comments pertained to oversight of CHAs and CBVs.

CHAs

Most of the nurses heading up rural health facilities described positive experiences with the CHAs on their team, and nearly all CHAs reflected the same positive feedback about nurses in charge. Two CHAs working in a rural health center commented:

They [the nurse in charge] were really encouraging. They were supporting us in everything that we were doing. They were not able to look down on us and say "These are just CHAs and they don't know anything." They accepted us ... They even included us on their worksheet [staff shift schedule] ... And where you did not know something, they would show you what to do.

One registered nurse heading an RHC trained CHAs and deployed them to staff - on their own - a previously unstaffed RHP five kilometers away. The two CHAs reported feeling confident and secure in their abilities, supervised by the facility head through weekly visits and regular texting and phone contact. On the other hand, some CHAs perceived the need for stronger supervision and clearer lines of authority. One CHA expressed frustration about the facility head's lack of understanding: "I don't think the in-charge has been oriented on our work ... before he can supervise us, he should be taken though the CHA training program."

CBVs

An enrolled nurse heading an RHP described how he assessed the CBVs who show up each morning and considered the day's needs in light of current priorities, available volunteers and supervisory responsibilities. Another nurse facility manager explained the rotation of CBVs in service delivery:

... They usually come here on a daily basis ... There is one who ... comes every Tuesday, that's the day that we have under-fives ... we work together. Then every time we have family planning on a Wednesday, there is one who comes, he is the one who deals with family planning ... we work together. And every Friday, that's the day that I have antenatal, so the TBAs ... they are the ones that I work with.

An enrolled nurse reported going so far as to train a CBV to deliver babies under his supervision. Posted alone at an RHP for three years and only recently joined by another nurse (for a total of two trained providers for over 2,500 people), the head nurse explained how he had identified CBVs with the capacity to help with clinical tasks. After "training"

and supervising one CBV to deliver babies, the CBV transitioned from giving assistance to the nurse with deliveries to receiving assistance from the nurse. The nurse explained that without another person to help with deliveries and other clinical services, he would be unable to respond to urgent needs.

Several nurses in charge of rural facilities described creative strategies for incentivizing CBVs, who are not remunerated for their work. For example, one RHP head reported setting aside small amounts of the post's budget to help volunteers defray food or transportation costs. Another RHC head "promoted" volunteers when they performed exceptionally well by assigning management responsibilities to coordinate other volunteers. CBVs in turn acknowledged that their working relationships improve when in-charges "come to the community from time to time to see what we are doing." When nurses in charge do not demonstrate interest in and appreciation of CBV efforts, the CBVs experience a lack of connection with facility staff and declining motivation. One CBV commented, "We felt that we were not important; I used to bring clients here for their [antenatal care] visits, but now I don't come to the facility very often."

Community relationships

Provincial and district managers emphasized that facility heads play an important bridging role with communities. One district medical officer commented,

We have seen that there are [rural health] centers where relationships with these community groups and the [center] are flourishing – and others are not so well – this makes a difference. We attribute this to the leadership competency of the in-charge. When there is a problem, and you change the in-charge, you can make a difference.

The focus groups with NHC members and CBVs confirmed that community members discuss the comportment of the facility head nurse and scrutinize their level of community engagement. NHC members and CBVs from several facilities explained how villagers take note when a facility head comes to a community promotion or to an "under-five day," the one day each month when staff and volunteers go into the community specifically to provide services for children under five. Being accompanied by a facility head in a white coat attaches credibility and importance to the role of CBVs and NHCs as members of the front-line health team, making community members more responsive to CBV and NHC messages. NHC respondents also furnished detailed examples of the goodwill engendered by household visits made by in-charge nurses during neighborhood outreach activities. A different type of story was shared at an RHC, where several consecutive facility heads had been "run out" of the community. Community members had complained to the district and refused to use the facility because they had not developed a positive relationship with the nurses in charge. The current facility head reversed this trend and attracted community support after personally home-delivering medicines to get to know residents. All of the community focus groups highlighted "patience," "listening," "willingness to explain" and "respect" as important qualities for in-charge nurses.

Discussion

To effectively address its community health challenges, Zambia must sustain the achievements of the last decade and formalize mechanisms that enable its community health system to provide high-quality services to all. Leadership at the ground level is essential to this effort. Zambian stakeholders also have acknowledged the well-documented challenges of recruiting and retaining physicians and clinical officers in

the country's rural, low-resource environments (Goma et al., 2014; Gow et al., 2013). The assessment results, which reflect the voices of actors on the front lines who directly contribute to improving health in rural areas across Zambia, confirm that the pivotal responsibility of leading rural facilities has increasingly fallen to lowerlevel nurses who end up performing broader duties that are not part of their existing job descriptions. Nurses who head rural facilities are accountable for performance indicators that demonstrate service quality and improved population health, but receive no professional training, recognition or academic standing, and lack opportunities for appropriate advancement and salaries. Further, nurses' management responsibilities extend well beyond supervising trained clinical staff, involving oversight of a diverse front-line team and engagement of community stakeholders. At the same time, nurses in charge of rural facilities face multiple challenges linked to their facilities' limited resources that make it difficult to exercise effective management and leadership.

The assessment results support the conclusion that the training that enrolled and registered nurses receive during preservice education is inadequate for the varied clinical, supervisory, and operational duties that they are asked to assume as facility heads, or for the more subtle but vital leadership responsibilities of developing community relationships and influencing cooperation. The curriculum for enrolled nurses includes only 32 hours of management theory, which does not address practical management of facility budgets, commodities, operations and human resources. The preservice management and leadership curriculum for registered nurses, while slightly more in-depth, does not prepare nurses for the complexities of solving problems in the absence of resources, creatively motivating team members or building facility-community linkages.

As front-line health teams take on ever greater importance, nurses in charge must be able to respond to a wide range of constituencies while identifying creative ways of motivating and rewarding staff and volunteers to achieve service goals and health objectives.

The assessment data – discussed and validated by provincial and national policy makers – generated a number of recommendations that seek to leverage and reinforce nurses' role in leading front-line teams to maintain and advance community health progress. Core recommendations focus on improving preservice and in-service training, revising job descriptions and capitalizing on facility heads' potential as advocates.

Training

Nurses who become de facto heads of rural and low-resource health facilities must acquire the core competencies and leadership and management skills they will need to oversee skilled and unskilled staff and volunteers. Respondents at the facility, district and provincial levels recommended that nurses receive broader management training – focusing on skills such as coordinating and managing both physical and human resources, providing supervision and mentoring, building teams and carrying out monitoring and evaluation -as well as leadership training to build skills in communications, decision-making and problemsolving. A promising partnership between ICN and ZUNO offered continuing professional development to build nurses' communication skills and enable them to exercise greater influence at work and in the wider health sector (International Council of Nurses 2015). However, the training was aimed at nurses working at the district level and above and did not reach communitylevel nurses.

Stakeholders also highlighted the advantages of cross-cadre training to improve community health team efficiency.

Front-line teams rely on close collaboration between facility staff, volunteers and NHCs. One stakeholder described a successful district-level effort where facility staff, community members and district health management teams jointly clarified CHA roles, resulting in stronger ties and improved work practices. Stakeholders noted the importance of community-based training opportunities such as in-person workshops but pointed out that, while valuable, these often require that clinical providers leave their facilities unstaffed.

Job descriptions

Respondents and stakeholders strongly recommended that nurses placed in charge of rural health facilities be formally recognized through revised job descriptions tailored to nurses' roles and responsibilities as facility heads, accompanied by a commensurate salary range. A job description that stipulates the core competencies required to oversee delivery of quality care in low-resource environments can make it clear that the nurses posted to these positions should be adequately trained and prepared for the unique challenges they will face. Moreover, a job description specific to a posting as head of a rural health facility should differ from job descriptions for enrolled or registered nurses working in higher-resource environments or leading teams or wards in hospitals or larger clinics, where the different cadres have more discrete roles with clearer reporting paths. In addition, policies need to recognize that nurses who meet the job requirements and possess the necessary competencies to take on the increased responsibility of being in charge of a rural facility merit recognition. Institutionalizing job descriptions that accurately reflect the breadth of rural facility head responsibilities and the depth of their contributions can highlight the position's importance and establish it as an advance in a career path.

Advocacy

Rural facility heads sometimes advocate for community needs with district managers and could expand these advocacy efforts to be more evidence-based and more broadly effective. Advocacy by facility heads can include efforts to acquire more resources for the facility, recruit additional staff and support CBVs. Although nurses leading rural facilities do not currently have meaningful input into broader strategic planning discussions, they are ideally positioned to play a more significant community-district liaison role and take part in policy discussions, strategic planning and advocacy for development needs. Facility heads also have the potential to develop considerable stature in their communities and may have untapped opportunities to influence attitudes and cultural norms. In short, nurses leading rural facilities are well suited to integrate the contributions of community members, volunteers and facility staff so that each group's role is coordinated toward the common goal of providing consistent, seamless and high-quality services.

Limitations

The assessment results should be considered within the context of methodological limitations. Principal among these is the possible concern of some respondents with social desirability and representing the rural health system in the best possible light. However, given that the assessment produced numerous findings illustrating problems and challenges, it seems unlikely that social desirability significantly biased the results in a positive direction. A second limitation is that while the assessment generated a large volume of qualitative data, in-the-field logistic constraints prevented the research team from using qualitative software to manage the data and facilitate the analysis process. On the other hand, regular and thorough team debriefings after each round of data collection as well as the

involvement of the Zambia Stakeholder Advisory Group helped zero in on and validate the most important themes. Overall, the assessment paints a rich and detailed picture of Zambia's front-line health teams, capturing nurses' perceptions of their leadership and management responsibilities as facility heads, complemented by the perspectives of the CHAs and CBVs that nurses oversee, the neighborhoods they serve and the district and provincial managers who supervise them.

Conclusions

The Zambian government seeks to build a community health system that offers "equity of access to quality, cost-effective healthcare as close to the family as possible" (Republic of Zambia 2006). Our assessment results indicate that the role of facility head at rural health centers and health posts – a position primarily occupied by nurses - merits recognition for its unique management, leadership and clinical responsibilities. The country's community health system can be strengthened considerably if nurses' intrinsic qualities are leveraged with further training and recognition. The evidence furnished by the assessment can inform recommended adjustments to the Nursing and Midwifery Act for a job description and certificate-level training to establish the competencies that will help nurses and midwives lead rural facilities most effectively. The government of Zambia and its partners need capable hands to nurture their community health investments so that they yield measurable and sustainable success. Adequate, prepared and motivated human resources are vital to continue advancing the rural health system with improved access to commodities, technologies and other modern tools for improved service delivery. With adequate institutional support, nurses who lead rural health facilities in Zambia have an opportunity to strengthen the community health system to an ever greater degree.

Declarations

Ethics approval and consent to participate

The study protocol received ethical approval from the University of Zambia's Biomedical Research Ethics Committee and IntraHealth International's institutional reviewer. All study participants provided verbal informed consent and were offered a copy of the consent form, with another copy dated, signed and retained under locked storage by the data collection team.

Availability of data and materials

The data generated and analyzed during the study are not publicly available because they contain information that could compromise research participant privacy. The authors declare that the principal data supporting the findings of this study are available within the article. Further details about the study and datasets generated and/ or analyzed during the study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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contributed to the research design, carried out data collection, collaborated on data coding and analysis and participated in writing and reviewing the manuscript, respectively. GTM and SM contributed to the research design and interpretation of the data, as well as helping conceptualize and review the manuscript. LH contributed to the research design, collaborated in data analysis and interpretation and reviewed the manuscript. CV contributed to the conceptualization of the manuscript, interpreted data, wrote the first draft and revised all subsequent drafts. All authors read and approved the final manuscript.

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Transforming Health Workers' Education for Universal Health Coverage: Global Challenges and Recommendations*



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Abstract

Health workforce challenges remain a critical bottleneck in achieving universal health coverage (UHC) goals in most countries. As it stands, health professional training is primarily clinical, curricular and delinked from the needs of the health system. To achieve global health goals and maximize opportunities for employment and economic growth, all in the context of limited fiscal realities, a paradigm shift is needed with respect to the health workforce and corresponding education systems. There is a need to shift towards fair, gender friendly employment at a rate that matches the overall growth of the health economy, which acknowledges the role of the private sector in education and training. This paper emphasizes the importance and implications of such a paradigm shift. It argues the need for a 21st century framework for health professional education. This framework should represent a more satisfactory interface between supply and demand for health professional labor, in line with the need for UHC, job creation and economic growth.

Introduction

The health workforce has received increasing attention over the last decade. This is driven, in part, by the need to achieve the United Nations' (UN) Millennium Development Goals (MDGs) and more recently the Sustainable Development Goals (SDGs) (Anand and Barnighausen 2004; Wyss 2004). Despite some progress, health workforce challenges remain a critical bottleneck to the achievement of Universal Health Coverage (UHC) goals in most countries. A recently published report by the World Bank estimates that global health workforce demand is expected to increase to about 80 million health workers by 2030 (Liu et al. 2016). However, the same report estimates that the growth in the supply of health workers will only reach 65 million,

which amounts to a global shortage of some 15 million workers by 2030. This represents a two-fold increase over the estimated shortage of million workers in 2013 (Liu et al. 2016). The regional picture of this supply-side shortage suggests that lower-income settings such as Sub-Saharan Africa face the greatest supply shortfall relative to need, whereas in middle-income settings the supply shortfall is largest relative to demand.

While these numbers are striking, they fail to reflect the issues that affect countries and which are likely to accentuate the severity of supply shortfalls such as: the skew in skills and the inclination for health workers to cluster in urban, more prosperous settings. Despite more than a decade of concerted global action to address the health workforce crisis, collective efforts are falling short in

scaling-up the supply of health workers. While the shortages of health workers challenge the health systems, quality concerns are increasing on whether the health professionals are educated and trained to respond the needs of the communities that they will serve. This paper aims to stimulate the global debate on how investments in the education of health workers can help to accelerate progress towards UHC.

How UHC Links the Demand and Supply for Health Workers with Health Needs

The UHC agenda, with the underlying goal that everyone should have access to the quality health services they need, without financial compromise, brings attention to three universal needs of all health systems: financing; services; and populations. UHC offers a compelling opportunity to better align the demand for health services and the demand for health workers with population health needs. However, the alignment of demand and need around UHC must find a tangible link to the supply of health workers.

In the absence of UHC, health systems tend to the health needs of wealthier, educated and urban-dwelling populations. Healthcare services become skewed towards specialized, therapeutic treatments paid for by those who can afford services. Not surprisingly, the location of the health workforce reflects the prevailing demand for services, and attracts better educated and well-off students towards high-end professional training in tertiary-care hospitals where the pay and working conditions are better. This may be a dramatic oversimplification, but it is fair to say that in the absence of UHC, the prevailing demand-side signals from the health system skew the supply of health workers further away from population health needs and stall efforts to reform health workforce education (see Figure 1).

The growth in demand for the training of health professionals has shaped health education to respond to labor market demands, often at odds with population health needs. Globally, there is an increasing trend for medical students to specialize in

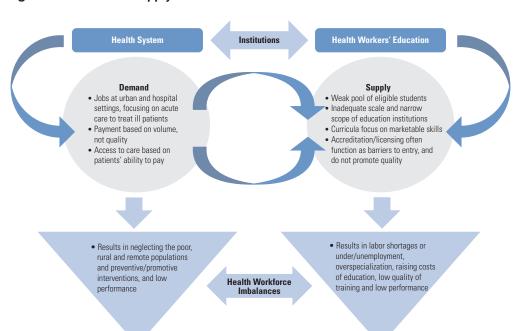


Figure 1. Demand and supply of health workers in the absence of UHC

surgical and medical sub-specialties, and a declining trend in the popularity of general practice. The trend towards overspecialization appears to be mainly driven by a significantly higher rate of return. Nicholson (2008), for example, reports that non-primary care physicians in the US earn far more than general or family practitioners (Nicholson 2008). Vaughn et al. (2010) estimate that in 2008, a cardiologist's average earnings in the US were double those of a primary care physician (Vaughn et al. 2010). Technological advances in the healthcare industry further accentuate the bias towards specialist skills, shifting the career preferences of health professionals towards those specialties (Schumacher 2002).

Private education has increased rapidly across the world as a response to the market opportunities generated by health and labor market dynamics, and the inability of most governments to respond. Private clinical and medical education has been a relatively new phenomenon in Africa that emerged in the 1990s, and which has accelerated from 2000 (Mullan et al. 2011). In South Africa, for example, nurses that graduated from private institutions increased from 45% in 2001 to 66% in 2004. In Kenya, 35 out of 68 nursing schools were privately run in 2009/10 (Reynolds et al. 2013). Private schools dominate in Asia, for example: India has more schools of medicine than any other country, and 137 are private; in Bangladesh, Japan, the Republic of Korea, Nepal and Taiwan, more than half the schools are private (Shehnaz 2011); in South America, 35 of Chile's 60 schools of medicine are private and in Brazil, private higher education institutions represent 56% of the total of medical schools and account for 54% of the total enrolment (Scheffer and Dal Poz 2015).

The rapid expansion of private schools raises concerns about the quality of education where regulatory mechanisms are often viewed as inadequate and/or corrupt. In Indonesia, for example, a decline in the

quality of services provided by healthcare professionals was associated with the fast expansion in the number of private schools. By the late 2000s, 57% of medical schools in Indonesia were private, and over half of the 7,000 doctors graduated from private schools. One-third of the country's medical schools were not accredited, and only a quarter received the highest accreditation standard given by the Indonesia Directorate General of Higher Education (World Bank 2015). According to the Association of Indonesian Medical Schools, by 2007 only 50% of students passed the national examination that has a pass score of only 45 out of 100. In India, the privatization of medical education is associated with inadequate and corrupt regulation and poor quality of teaching (McPake et al. 2015).

UHC offers a compelling opportunity to transform the prevailing signals from the health system that inform the development and the deployment of the health workforce by using the three key elements: financing; services and populations. Most importantly, in the context of this paper, the reforms required to accelerate progress towards UHC place a wide spectrum of demands, and a diversity of expectations, on the health workforce that must be able to: (1) provide a full range of good quality population-wide health and clinical services; (2) respond to the needs of particularly disadvantaged populations; (3) provide surge emergency support services in times of crisis; (4) include the competencies required to secure complex core systems functions. These demands and expectations must be translated into paid employment and career prospects (see Figure 2).

While it is vital to focus UHC towards the health workforce, this is by no means sufficient. Many health systems have undertaken successful reforms towards UHC, but continue to struggle with the factors that influence the supply of health workers especially those related to their

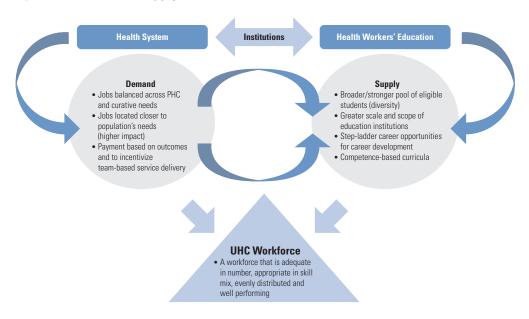


Figure 2. Demand and supply of health workers with UHC

education. The challenge of managing the supply of health workers is evident in the chronic shortfall in appropriately trained staff in many OECD countries, and their dependence on recruiting health workers from other countries (McPake et al. 2013). In Canada for example, which has had UHC since the early 1960s, the system remains dependent on foreign-trained medical doctors to fill vacancies primarily in remote areas of the country (Preker et al. 2013).

Education Investment Strategies to Strengthen Health Labor Supply towards UHC Needs

To address the shortfalls in health workforce supply, there is a pressing need to identify national and international health worker education investment strategies. The key entry points for interventions to shift the supply of health workers closer to meeting the demands of UHC can be found along the professional education pipeline (PEP), the institutions that influence the flow of students into the health labor market and then employ them. The flow

starts at: primary and secondary education level in preparing students for entry into training; progresses into pre-service health workforce training institutions (post-secondary) and then continues with skills development through in-service training, specialization and continuing education (see Figure 3).

Active, progressive, competitive and fair recruitment of the next generation of students

The rapid growth of health sector employment and wages has increased the worldwide demand for health professional training (McPake et al., 2015). This appears to have resulted in an excess of demand, that is, more applicants than available training slots. Excess demand has led to extreme competition for the limited places available and, consequently, to a rapid increase in admission fees (Asch et al. 2013; McPake et al. 2015). These trends discourage applicants from lower socioeconomic backgrounds from applying and/or gaining admission. Other factors too can compromise the pool

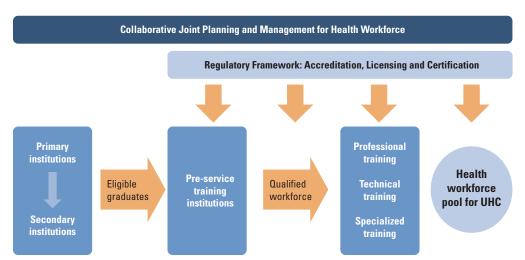


Figure 3. Health professional education pipeline and entry points for intervention

of eligible students for health worker training, such as: insufficient quantity and quality of secondary school education; and diversity shortfalls from gender, wealth, ethnic minority or geographic residence perspectives.

In many low-and middle-income countries (LMICs), only a minority of the students complete secondary education and very few from poor households reach higher education (Ilie and Rose 2016; UNESCO 2015). This introduces a skew in the pool of students eligible for health worker training, a problem that is not limited to LMICs. In the US, for example, the likelihood of obtaining a college degree (a prerequisite for medical training) is: 82% in the white community; 6.9% in the African-American community and only 4.5% in the Hispanic community (Campbell–Page et al. 2013). Redressing the structural inequality in access to secondary and tertiary education will increase the number, quality and diversity of students applying for health professional training in the medium-to-longer term, and therefore represents a critical focus area of intervention for the education sector recognizing that is beyond the direct influence of the health sector.

Achieving better scale, scope and valuefor-money in pre-service education

There is little evidence, beyond a few anecdotes, of systems-wide change in the scale, scope and value-for-money in pre-service education. This slow progress is a concern because the SDGs assume that UHC will be achieved by 2030, and that the supply deficit of health professionals is projected to grow to 15 million (US National Center for Education Statistics 2016). The severe lag in the scale of the response to the supply of health workers appears to be growing with time, compared to previous assessments (Bhuiya et al. 2015; Liu et al. 2016). While tackling the supply shortfalls in the health workforce as an urgent priority, we should also reflect on why strategies remain so unsuccessful. One key reason, for example, could be the current investment model behind the expansion of the health professional education system.

The existing investment model for health professional education can be characterized as a "one institution at a time" approach. This is bound by the need to satisfy expectations of tertiary education institutions and national accreditation bodies. Securing

university consent and gaining approval from accreditation bodies are complex processes, which invariably take two years or more before the first group of students can be enrolled. The pre-requisites for the approval of new entrants are designed to ensure quality of pre-service education. In practice, approval and accreditation processes are excessively rigid and resistant to change such as incorporating new forms of social accountability – and are too susceptible to make a compromise in standards and unethical behaviours. This is linked to the monopoly powers of accreditation bodies (Woollard 2006).

Investment strategies in an environment of scarce resources should be informed by growing evidence on what are the best-buys in education that lead to improved distribution and retention of workforce. Despite the lack of return on investment analysis in pre-service education, there are emerging studies that give some direction on investment priorities. Recent analyses of low-income settings suggest very positive returns on investment from training front-line workers, including nurses, midwives and community health workers (CHWs) (Bhuiya et al. 2015; Chen 2006). Added to this, there is growing evidence on how best to ensure graduates work in remote and rural regions by: locating training in those areas; focusing on lower and mid-level workers; and making sure students come from lower socioeconomic and rural backgrounds (Anderson and Anderson 1999; Fagerlund and Germano 2009). There is evidence that highlights the impact of transformative innovations in curricular content and teaching methods that improve education quality and efficiency.

Continuing professional development

Following successful completion of preservice training, there is widespread recognition that continuing professional development is needed to maintain and acquire new competencies over a career that may span 20-30 years. However, the two to three decades of health work also present important opportunities for progressive career development and advancement that can harness experience, nurture scarce leadership and limit premature exit from the health workforce. The School of Health Sciences in Leyte in the Philippines has implemented a stepladder curriculum since 1976. The community and competency-based program integrates training into a single, sequential and continuous curriculum of CHWs, midwives, hygienists, nurses, nurse practitioners and medical doctors. Before completing each step of their education, students must provide services in the community, and nurses, midwives and doctors must complete national license-topractice exams. Not only is their performance on national exams above average, but their retention rates are also impressive (PAHO 2006).

Career paths are also being defined by changes in roles and responsibilities that occur with the growing practice of task shifting. Task shifting is a cost-effective solution to address specific health worker needs and competencies rapidly (Allen et al. 2014; Martínez-González et al. 2015). It involves shifting general clinical tasks normally undertaken by doctors to other professions, such as: nursing; clinical officers; CHWs and care assistants. This is an increasingly common solution to strengthen and expand the health workforce rapidly, particularly in rural areas. Such strategies can be appropriate when implemented alongside other strategies that are designed to increase the total number of health workers of all levels. In Sub-Saharan Africa, many health workers with non-traditional competencies work across primary care settings. In high-income countries, the number of unlicensed and/or unregistered care assistants, nurses and rehabilitative staff in hospitals and long-term care settings has expanded (McPake et al. 2015).

Interventions to strengthen national, regional and international regulatory capacity

To ensure that quality assurance mechanisms are in place to set standards to evaluate the competencies and standards required to address national priority health needs, accreditation of training institutions should set standards that reflect the national context and required outcomes. To achieve compliance with quality or social standards, governments should set strict conditions to foster improvements in quality. At a minimum, some form of enforcement or incentive process is needed to make the process of accreditation of training institutions effective. If it is considered too costly to establish, implement and enforce independent and well-managed accreditation processes, authorities should consider establishing links with regional or international accreditation agencies. This could contribute to the UHC agenda by opening self-regulatory control to review, and to assessment by regional or international professional peers, jointly with nonspecialists and other experts (e.g., leading academics or reformers in medical education methodology). International accreditation would also have the advantage of raising national standards, and allow information exchange between different professions in different places.

The certification process provides assurance to the public that a certified medical specialist has successfully completed an approved educational program and evaluation that includes: an examination process designed to assess the knowledge; and experience and skills necessary to provide high-quality care in a specialty. National licensing examinations exist in the US and throughout Western Europe, and are usually taken on completion of the medical school curriculum. Until 2005 in France, the university diploma awarded at the end of training functioned as the certification that

authorizes clinical practice. Subsequent reforms have introduced a law making continuing-to-advanced training a requirement for practice, as well as a set of competency programs and practice evaluation procedures. More needs to be done on this front: fewer than 60% of developing countries require graduating medical students to pass national certification exams, and in Africa and South-East Asia the figure drops to below 40% (Tayag and Clavel 2011).

Moving Forward: Key Messages

Achieving UHC of quality services according to need, and without financial compromise, focuses attention on the numbers, locations and skill sets of health workers that are needed. Success in rebalancing will hinge a great deal on reforms in health worker education that: target the next generation of health workers; reform the scale, scope and value-for-money of pre-service education institutions and make continuing education a continuous opportunity for career advancement. Implementation of such reforms will benefit from a concerted focus on three cross-cutting fronts: Leadership; Financing; Evidence.

Supporting leadership for UHC through Health Professional Education Institutions (HPEIs)

Developing groups of leaders able to accelerate the journey to UHC is essential, together with the creation of employment and seizing the potential for HPEIs to contribute to UHC more systematically. The role of HPEIs is to contribute critical knowledge and learning that support the achievement of health goals through education and research. If they focus on what's required to achieve UHC in a more concerted way, reforms in health worker education would follow. For example, the challenge of providing universal access to maternal healthcare in disadvantaged populations

might compel HPEIs to examine how to use their education resources to ensure sufficient numbers of community midwives, who already have appropriate technical and cultural competencies and are ready to work and remain working in those communities. UHC should provide the focus that HPEIs need to revitalize the supply of health workers. To achieve this clarity of mission requires strong national-level stewardship that promotes: participation of key stakeholders; high-level ownership and buy-in to a common strategy; and shared accountability for results.

Towards the big picture and integrated financing with UHC

The current state of financing health workforce education is generally inadequate, inefficient and inequitable. To scale-up the education and supply of health workers requires transformation of the system. Just as UHC provides a unifying vision for financing the health sector, a similar "big picture" approach is required to finance health worker education. This involves articulating how to mobilize the resource targets needed to achieve improvements in the health workforce PEP, and the development of criteria to set priorities and guide budget allocation decisions. Finance sources vary according to the entry point for investment, for example: public sector (education or health); private sector (health institution) and individual/ student. Public subsidies for student tuition usually vary: full for secondary school students in underrepresented minorities; concessional loans for students in pre-service education and interest-bearing loans for continuing education.

A further step towards big picture financing is to integrate financing for workforce education into overall UHC funding, which will bring it into the mainstream rather than being marginalized from the broader health sector (Kim and Evans 2014). UHC is about promoting the pooling

of healthcare resources, and dedicated efforts to create larger pools, or new compacts, between the public and private sector. New integrated models that bring health worker education into the mainstream of private healthcare delivery deserve more attention. They could sustain equitable growth with quality in health worker training capacity (Celletti et al. 2011). Linking health worker education more directly to the growth of the health sector may also help to create new opportunities. For example, public and private partnerships can support the development of niche service industries to deliver critical education resources such as e-learning or distance learning with higher quality, and at lower cost (MacPake et al. 2015). Integration also increases the likelihood of engaging development partners involved in UHC funding. This brings with it more explicit support to build financing capacity in line with the 2015 Addis Ababa Financing for Development agenda (Celletti et al. 2011).

Marshaling evidence and monitoring performance for accelerated improvement against targets

The common challenges faced across countries in managing health worker education to achieve UHC provide rich opportunities for joint learning about what does or doesn't work, and why. To move beyond anecdotes of success or failure, more rigorous evaluation and comparative assessments are required. For example, comparative assessment of alternative accreditation regimes might provide valuable insights on how best to balance the need to preserve quality/standards with the need to promote innovation. Likewise, guidelines produced for curriculum renewal and teaching reform through systematic review help education institutions keep their teaching resources up-to-date. Research can be used to demonstrate the return on health workforce education investment, and the

value-for-money in the delivery of education. While this type of evidence is invaluable, it is rarely available because of the lack of funding for education research.

Fundamentally, there is a need to invest in information systems to develop common and comparable measurement standards (metrics) within and across countries. The standards can assess the performance of the health worker education systems compared to their expected contribution to achieving UHC. This would include a comprehensive needs assessment of: the number of health workers required by category and the labor market demand for these health workers; their training or work locations; their diversity profile; and the costs of training. Comparing the comprehensive needs assessment to a baseline will identify health education worker shortages, help to develop improvement targets and measure the social returns of social returns (contribution to public health) of investing in health worker education (McPake et al. 2015). Progress towards the targets will support leaders to focus on how to stimulate a culture of learning and improvement.

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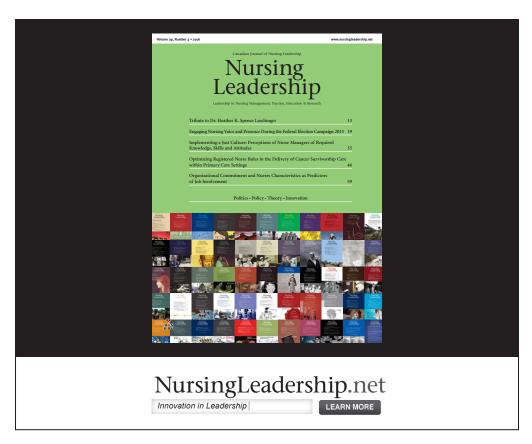
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The Collaboration Challenge: Global Partnerships to Achieve Global Goals



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Abstract

As capitalism is being re-invented and the voices of multiple stakeholders are becoming more prevalent and demanding, it is the perfect time for the private sector to embrace large-scale collaboration and a shared sense of purpose. Since the explosive growth of Corporate Social Responsibility (CSR) in the 1990s, a new era of responsibility, purpose and a re-envisioned capitalism are dramatically apparent. Beyond financial support, business leaders have the opportunity to galvanize networks, advocate for regulation and policy change, and form supporting consortia to support global development. The role of the private

sector in development has changed significantly from a model of benevolent contributor to a model of collaborator, investor, business partner and exponential value creator. The new era of collaboration should move beyond a shared value mindset to new models of partnership where each contributor plays an equal role in defining challenges and designing solutions with the greater goal of sustainable value creation. Non-Governmental Organizations (NGOs) have the unprecedented opportunity to take leadership roles in engaging the private sector in more game-changing collaborations.

Since the explosive growth of Corporate Social Responsibility (CSR) in the 1990s, a new era of responsibility, purpose and a re-envisioned capitalism are dramatically apparent. For many years, leading scholars at business schools throughout the world have argued that business has the unique opportunity to accelerate efforts to create a more sustainable world (Donaldson and Preston 1995; Handy 2003). CSR has grown to encompass what companies do with their profits as well as how they generate their profits. Going beyond philanthropy, the new CSR addresses how companies manage their economic, social and environmental effects on society. Most important, more attention is being paid to a company's "relationships in all key spheres of influence: the workplace, the marketplace, the supply chain, the community, and the public policy realm" (Harvard Kennedy School 2012). Thus, companies are increasingly being asked by stakeholders to demonstrate and report on how business strategy and practice contribute to a more sustainable world (CECP 2010). The role of the private sector in development has changed significantly from a model of benevolent contributor to a model of collaborator, investor, business partner and exponential value creator. However, how to engage with the private sector, from a non-governmental organization (NGO) perspective, remains both complicated and mysterious.

In the wake of the Sustainable Development Goals (SDGs or Global Goals), industry, foundations, NGOs, governments, universities and multi-laterals are being challenged to make commitments to the 17 SDGs. The 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development were adopted by world leaders in September 2015. All countries, with the support of business, foundations and other partners, are called upon "to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind." (United Nations 2017) The 17 SDGs are different from the eight Millennium Development Goals (MDGs) in that they are more comprehensive and aim to end poverty and include more focus and guidance on implementation and measurement. (United Nations 2017)

Development partnerships are moving more toward supporting national health and environmental priorities and building upon existing strategies of the collaborating partners. For example, Microsoft YouthSpark, in partnership with governments, nonprofit organizations and businesses has created educational, employment and entrepreneurial opportunities for more than 300 million youth around the world (Microsoft 2017). To reach the scale implied by the Global Goals, more and bigger collaborations involving the private sector will be required. The long-time horizons represented by the 2030 SDGs targets are more compatible with corporations seeking to demonstrate long-term shareholder value as companies increasingly realize that they can only thrive in a healthy and sustainable world. As a recent Brookings publication

states, "As more large companies take such a long-term view, any gap between their activities and broader development impact becomes narrower" (Brookings Blum Roundtable 2014). In this early stage of SDG goal-setting, there is a strategic opportunity for NGOs to play the role of broker in developing partnerships and alliances aimed at the SDGs.

Re-Defining the Role of Business in Society

Since CSR's growth period in the 1990s, the world has witnessed increased globalization, growing social inequality, a rising population, development challenges and climate change. In moving the argument beyond social responsibility, advocates such as Stuart Hart have argued that companies possess assets such as technology, resources, capacity, global reach and employee social capital to help solve societal challenges (Hart 2010). In the business sector, leaders such as John Mackey of Whole Foods and Paul Polman of Unilever are helping to redefine capitalism in more humanistic terms through advocacy and business practices. The advent of terms like "conscious capitalism" (Mackey and Sisodia 2014) and the creation of Benefit Corporations signal a move away from traditional and shareholder-driven business practices to a view where business is seen as a positive force for society and sustainable development (Cho 2017). While CSR has been an effective tool for many companies to demonstrate their commitment to society, it is increasingly recognized that there are limits to CSR's ability, in its traditional practice, to be the sole force for creating the type of systemic change required to make major shifts in society (Vogel 2007). For the private sector, the definition of value has moved well beyond profit and social responsibility has become a key consideration for all facets of a business.

Evidence of increased engagement by business with societal issues can be seen in

the UN Global Compact (United Nations Global Compact 2017). The Global Compact, created in 1999, was an early effort to encourage businesses to adopt sustainable and socially responsible policies, and to report on their implementation. In the year 2000, there were 47 members; today there are more than 9,000. Although membership is voluntary, the Compact is one of the more mature efforts to create standards of behaviour to govern business in society. There is also a growing interest in responsible business practices from the financial markets, where the UN-backed Principles for Responsible Investment (PRI) lists more than 1,600 members (Kell 2017).

Among the many thought leaders seeking a new model of capitalism, Porter and Kramer (2011) argue that capitalism itself can be reinvented around the pursuit of shared value to advance the economic and social conditions where a company operates while enhancing the company's competitiveness. The essence of shared value is that companies link competitive advantage with CSR by seeking the profitable points of intersection between business opportunity and social need. Shared value has gained momentum but is not without its critics (Aakhus and Bzdak 2012; Crane et al. 2014). Mainly, the shared value approach reveals a poor understanding of how many corporations work with stakeholders. In fact, many NGOs would be reluctant to work directly with business units seeking financial returns but have comfortably worked with corporate philanthropy, CSR and citizenship professionals. In general, the private sector's profit motive is often a barrier, whether real or perceived, to enduring public-private partnerships.

While shared value was gaining momentum, legal scholar Lynn Stout challenged the prevailing wisdom of shareholder primacy in 2012 by offering compelling arguments around the absence of a legal basis for a company to be solely focused on profit.

Stout (2012) claims that the principal-agent reasoning underpinning shareholder primacy is fallacious and that, indeed, there is a deeper business-to-society relationship to be explored. In other words, maximizing share price is not a legal requirement of for-profit corporations. This makes it easier for companies to behave in a more prosocial manner as opposed to solely creating value for shareholders. More recently, Zingales and Hart (2017) have revealed that many shareholders care about broader social issues beyond profit and that companies should maximize shareholders' "welfare." This re-definition of the role of business in society is partially responsible for the increased visibility of the private sector in development efforts.

The transition from the MDGs to the SDGs has provided a rich opportunity for reflection on global goal setting and how to engage stakeholders in defining targets and indicators. The SDG consultation process, for example, was much more inclusive of a broad array of stakeholders which, in turn, enabled a much richer landscape for collaboration. A 2015 report "Transitioning from the MDGs to the SDGs" released in late 2016 and prepared jointly by the staff of the United Nations Development Programme (UNDP) and the World Bank Group (WBG) with input from the Secretariat of the UN System Chief Executives Board for Coordination (CEB) outlines a collaboration agenda for the next few decades (UNDP 2016). Although the report outlines a new vision for a "One UN," it provides little in the way of defining a role for the private sector.

As Jeffrey Sachs advises, "Private-sector companies should support the SDGs in practical and measurable ways, in their policies, production processes, and engagement with stakeholders." (Sachs 2012). Implicit in Sachs' statement is a call for business to engage beyond philanthropy and traditional CSR. Companies are encouraged to bring all of their assets to the global table

because, as Browne and Nuttal note, "The success of a business depends on its relationships with the external world – regulators, potential customers and staff, activists, and legislators. Decisions made at all levels of the business, from the boardroom to the shop floor, affect that relationship." (Browne and Nuttal 2013). The key here is stakeholder engagement, internally and externally, as a key foundation for public-private partnerships on an unprecedented scale. Again, NGOs can play a critical role in linking private sector aspiration to engage in partnerships and alliances aimed at the SDGs and finding solutions to social challenges at the local, national and global levels.

A New Era for Collaboration and Engagement

Because corporations are now answering to a diverse group of stakeholders, the ways that they engage with these stakeholders has changed dramatically. Over the course of the last twenty years, specific principles of engagement, especially in community health, have become more or less common in many communities (National Institutes of Health 2011). The basic premise is that those who are affected by a decision have a right to be involved in the decision-making process (The International Association for Public Participation 2017). The key element in these engagement efforts is the deliberate and deep involvement of community members. The recent literature on community empowerment strongly supports the idea that the community should define problems and potential solutions. Communities and individuals need to "own" the issues which includes: naming the problem, identifying action areas, planning and implementing strategies and evaluating outcomes (National Institutes of Health 2011). This applies also to a recent reframing of global development efforts in developing economies. Calton et al. (2013) offer a new model of creating value with (not at) the bottom of

the pyramid. The model calls for multistakeholder, open-system interactions with business being recast as an equal stakeholder - taking on a co-participant role as opposed to a leadership role. For instance, the Johnson & Johnson Bridge to Employment program was founded on a partnership model involving multiple stakeholders in targeted communities to help youth succeed (Bzdak 2007). The model is based on the needs of a local community and is codesigned by local Johnson & Johnson operating company leaders, teachers and NGOs to leverage the assets in each community to support youth in preparing for further education and careers.

This type of engagement, especially for corporate funders, represents a shift away from noblesse oblige to a more inclusive model or, as Austin portrays the shift, "from benevolent donor and grateful recipient, toward deeper, more strategic alliances" (Austin 2000b). The new model focuses on long-term engagement and recognizes the need to build relationships and trust by moving from consultation and information sharing to shared responsibility. The concept of collaborative community engagement among corporate and private funders as well as academic institutions, NGOs and governments has become an increasingly common approach to tackling social issues. The most successful collaborations have been centered on solving a problem that is identified by a variety of stakeholders including those most affected at the community, regional and/or national level. Nestlé, for example, is integrating their sustainability goals with the 2030 United Nations SDGs. In fact, executives from Nestlé participated in developing the SDGs. The company has set ambitious goals including: "helping 50 million children lead healthier lives; improving 30 million livelihoods in communities directly connected to their business activities" (Nestlé 2017). Other consumer-facing corporations such as PepsiCo, Coca-Cola, SABMiller and Unilever have all mapped their sustainability targets against select SDGs (Edie.net 2017).

Increasingly, the private sector has become part of many coalitions involving NGOs, government and other funders to focus on making a measurable difference in solving one or more global issue. In these new models of engagement, NGOs and other civil society members are held accountable not only by the funder and/or regulator but also by those that they serve. In many cases, the metrics are developed to measure the social benefits for the common good rather than a particular business benefit. In the case of the MDGs, numerous multi-sectoral partnerships evolved to tackle the complexities of the problems behind the MDGs. However, the SDGs differ from the MDGs in at least two important ways: (1) the SDG process included many more stakeholders and resulted in broader goals; (2) the SDGs, for business, allow the latitude to integrate a company's sustainability goals within the broader framework of the SDGs. Key to the new and evolving paradigm of public-private partnerships are transparency and multi-stakeholder engagement efforts. In addition, the increasing prevalence of pro-bono and skills-based volunteerism has expanded the private sector's contributions to development efforts.

As public-private partnerships began to proliferate in the late 1990s, researchers increasingly developed theories and frameworks to explain the how and why of collaboration. In 2000, James Austin published a collaboration framework based on empirical examples comprising four elements (Austin, "Strategic Collaboration" 2000a). Austin proposes a "collaboration continuum" which is a categorization framework that identifies the various stages of a partnership and includes: philanthropic, transactional and integrative. A fourth category, transformational, was added in a subsequent article (Austin and Seitanidi 2012). This fourth element looks at "alliance enablers that contribute to the effective

management of the relationship." These conceptual and analytical frameworks comprise a holistic construct providing detailed guidance on all aspects of a multiparty collaboration. Its practical value is derived from the fact that it is based on several real-world examples of varying scale and therefore it can be useful for all stakeholders entering new collaborative ventures.

Among the pioneers in developing new models of public-private partnerships, leaders at Starbucks were truly progressive in its early collaborative efforts with NGOs such as CARE and Conservation International (CI). For example, Starbucks entered into a partnership with Conservation International (CI) in 1998 and in 1999 introduced a shade-grown coffee grown in Chiapas, Mexico as part of their partnership (Austin, J.E. and C. Reavis. 2002). In addition to buying the beans, Starbucks also provided financial support and technical assistance to the project. In 2001, Starbucks announced new purchasing guidelines co-developed with CI, which awarded points to suppliers based on specific sustainability indicators. Suppliers that scored high received preferential treatment from Starbucks, who also agreed to pay a premium to suppliers who met sustainability guidelines (Coffee and Conservation 2006). The collaboration between Starbucks and CI was complex and forged new ground in the global publicprivate partnership space.

In 2011, CI and Starbucks renewed their commitment to sustainable coffee production with a three-year agreement. This new model of stakeholder engagement between CI and Starbucks revealed three important attributes for engagement: (1) their relationship is long term and focused on issue of mutual importance; (2) the collaboration involved exposure to risk for both organizations; (3) the partnership engaged multiple stakeholder groups including the consumer. The collaboration was based on the shared belief that Starbucks and CI each had a

"stake" in the future of coffee growing and the well-being of the coffee farmers. The collaboration (and the relationship) was also based on long-term horizons as opposed to short-term profitability.

Interest has grown in public-private partnerships and other forms of multistakeholder initiatives as ways to leverage resources and talents to address pressing social issues (Zadek 2005). Although collaborations between corporations and NGOs are not a new phenomenon, there is a call for both an increase in the number of collaborations as well as an increase in the scale of these efforts. The urgency around this call is intensified by the monumental change implied by the SDGs. The new model of collaboration also involves assessing all elements of value that the company can bring to a collaboration (Aakhus and Bzdak 2015). Taking a cue from Austin, there is an opportunity for NGOs to take the lead in creating a basic framework for all partnerships – a framework that meets the needs of communities, NGOs, government and the private sector.

For example, all collaborating partners should clearly articulate the anticipated value to be derived from a potential alliance. Recognizing that partners have varying motivations in joining a collaboration, candid conversations around expectations and perceived and anticipated value are critical. What should begin as a basis for dialogue and negotiation could then become the documentation of potential outcomes and impacts. Second, the collaborative could develop their own set of operating principles. For example, defining the partnerships' relevance to national health or natural resources plans and further defining how the collaborative will advance local, regional or national goals. Finally, a metrics framework will ensure that agreed-upon outcomes are being delivered as projected and as intended.

Reflecting a new model of collaboration and alliance building, in 2011 Dow

announced an innovative partnership with The Nature Conservancy (TNC) to explore water conservation (Environmental Leader 2011). Dow sought to name the "environment" as a key stakeholder and thoughtfully engaged an NGO to help. This collaborative approach was not new to TNC. In the early 1990s, they partnered with Georgia-Pacific on a unique land stewardship project in Virginia (Austin, Collaboration Challenge 2000b). The collaboration with Dow is investigating linkages between business operations and the environment, with the goal of making sure "that Dow can value nature and its services in everything the company does." (Tercek 2013). TNC is providing counsel and technical support to Dow in developing assessment models quantifying its environmental footprint with the goal of fostering innovation in environmental performance. In addition, the partnership was projected to result in shared findings and publicly available research results. Similar to the Starbucks examples, the key attributes for engagement from this partnership include: (1) partnering with a potential adversary, (2) evidence-based practice and (3) putting an environmental value at the center of the network.

Starbucks, Dow and many other companies are shifting their stakeholder engagement efforts from a vertical orientation to a more horizontal inclusiveness and from the short term to the long term. Similarly, NGOs such as CI and the TNC were willing to the take the risk of working with for-profit entities to seek potential partnerships that could have mutual benefit. The companies leveraged their CSR practices and their reputations, allowing them to create credible engagement opportunities for them and their stakeholders.

Standards of Engagement

Not surprisingly, some organizations have developed ground rules to govern these new collaborative efforts. Reminiscent of Austin's framework, the Tropical Health & Education Trust (THET), a UK NGO, developed "Principles of Partnership" to offer guidance to their health partnerships, sending a clear message to all partners on shared responsibility and accountability (Figure 1). The eight principles provide thoughtful and in-depth direction on a number of key areas. One of the key principles is "Harmonized & Aligned" which includes the following "Hallmarks of good practice:" A. Partnership plans reflect national health priorities or are designed to influence national priorities; B. Partnerships' plans build on an institution's strategic health plan; C. Partnerships are supported by senior management and colleagues in each partner institution; D. Partnerships engage national regulatory, governance and research bodies with the potential to support and learn from their work more broadly or in the longer term; E. Partnerships collaborate where possible with other NGOs and INGOs to maximize effectiveness. While all of these are important, three of the hallmarks (A, B and C) are particularly critical because they reflect basic elements of long-term thinking and sustainable practices. For example, in Hallmark C, support from senior management and colleagues implies that the partnership is part of a larger strategic framework with implied targets and accountabilities.

Opportunities to Accelerate Change

While it is still early in terms of SDG goal-setting and commitment making, there is a sense of urgency to develop and design the new large-scale partnerships that will allow dramatic progress in reaching the 2030 targets. As Jorge Moreira da Silva, director of the Development Co-operation Directorate at the Organisation for Economic Co-operation (OECD), reminds us, "... meeting the Sustainable Development Goals in developing countries will require \$3.3–4.5 trillion in additional investment. Without increased private

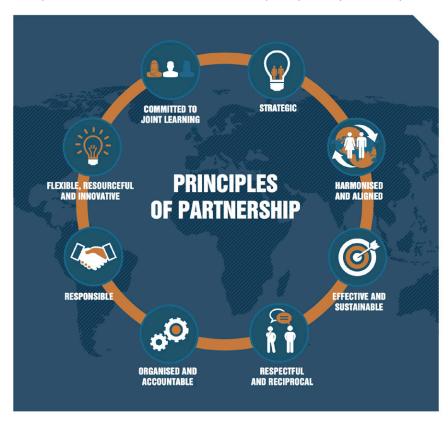


Figure 1. Tropical Health & Education Trust (THET) "principles of partnership"

sector involvement – including the growth of healthy and sustainable businesses in low-income countries – we will never make it" (da Silva 2017).

There are three immediate opportunities to accelerate SDG progress through partnerships. First, there is a clear need for agreed-upon principles of engagement for large-scale and formal collaborations. The Tropical Health and Education Trust has a practical model that could serve as a starting point for potential collaboratives. There is also an opportunity to build and scale existing collaborations. For example, the Frontline Health Workers Coalition has played a critical role as a convener and thought leader. The Coalition, including members of the private sector, provides an inclusive space for stakeholders to debate and advocate for health workers. A policy analysis released by the Coalition in November 2016 calls for governments and all stakeholders to collect and deliver critical data on health workers, including CHWs, that will address the most severe access gaps (Frontline Health Workers Coalition 2016).

The Coalition has an even greater opportunity to advocate for health workers given the recent work by the UN High-Level Commission on Health Employment and Economic Growth which argues, "This is a once-in-a-generation opportunity to build a sustainable health workforce in all countries by 2030, shaping the unprecedented demand for 40 million health workers, and addressing the needs-based shortfall of 18 million health workers." (WHO 2016) There are many opportunities for business to engage with the Commission's recommendations. One idea proposed is social business (also known as

social enterprise) a hybrid approach and model straddling profit-seeking and social good. The many opportunities suggested by the Commission are built around an economic model proving the socioeconomic returns on investment in the health workforce, an argument that follows a business logic.

Second, assuming that each partnership has measurable goals, there is a critical opportunity to develop a tracking and reporting mechanism where all partners and partnerships can credibly report progress. The SDG Philanthropy Platform is one promising approach led by The Foundation Center, United Nations Development Programme (UNDP) and Rockefeller Philanthropy Advisors Advocate to advocate for the use of data as a driver for philanthropic investment and to promote accountability among funders (Cheney 2017). In addition, Unilever has developed a sophisticated measurement tool for reporting on environmental impact, social value and profit (Carroll et al. 2012). Also promising is the advent of the Gold Standard for the Global Goals, a certification body designed to quantify and certify projects related to climate security and sustainable development (Gold Standard 2017). Most important, the Gold Standard work was initiated by the World Wildlife Fund providing another example of an NGO-led attempt to standardize and quantify impact measures.

Third, and related to the previous opportunity, common terms and tools for measurement can provide a consistent method for all participants to report outputs, outcomes and impact. As an example of one promising development that points to progress on common monitoring and evaluation practices, the Global Reporting Initiative (GRI) has updated its Sustainability Disclosure Database to include SDG target 12.6. This move will help member states to encourage or require companies to report on their sustainability activities. The Target 12.6 – Live Tracker (http://

database.globalreporting.org/SDG-12-6/) tracks the progress of sustainability reporting around the world. Although limited to one goal, this type of method to encourage progress and transparency is a potential model for reporting. Similarly, in the social investment domain, Clearly So announced a promising new impact measurement tool for private equity and venture capital funds (Thorpe 2016).

Finally, as capitalism is being re-invented and the voices of multiple stakeholders are becoming more prevalent and demanding, now is the perfect time for the private sector to embrace large-scale collaboration and a shared sense of purpose. The next 15 years will see more private sector leadership in developing commitments to address the SDGs, including new business models, new social investment models and new ways of measuring progress. Corporate Venture Capital Funds, for example, have been hailed as a new and effective way for both large and small companies to engage in social investment. John Elkington claims that a "better alignment between their venture capital operations and the 'strong' version of the sustainability agenda would produce benefits many orders of magnitude greater than anything they are likely to do under the citizenship, CSR or shared value banners alone" (Breakthrough Capitalism 2014). Similarly, Clearly So, a new breed of investment bank that helps to connect social enterprises to impact investors, advocates that the financial system can be a powerful force for good (Thorpe 2016). Beyond financial support, business leaders have the opportunity to galvanize networks, advocate for regulation and policy change and form supporting consortia and a host of other possible interventions, including the deployment of skilled employees.

In the past twenty years, corporations have developed several innovative practices to engage their employees in their social impact work. Recognizing the value of employee engagement, IMPACT 2030, a global, private sector-led collaboration to mobilize employee volunteers in support of the SDGs, was founded to advance this element of social responsibility. Their ambitious agenda, created in response to a UN Resolution, includes the development of open-source measurement frameworks, benchmarks and reports on how volunteer efforts impact the SDGs. (IMPACT 2030 2016.) As the practice of HR becomes more closely aligned to CSR in terms of recruitment, retention and professional development, there is tremendous opportunity for private sector employees to accelerate progress toward the Global Goals. Many companies have recognized the value of these human capital programs for professional development but the global health field also benefits from more cultural agile business leaders who are more poised for collaboration with NGOs and governments (White 2015).

It is also the perfect time to reflect upon the lesson learned from "pioneers in collaboration" such as Starbucks, Dow and many other documented cases of pioneering partnerships. There are also lessons to be learned by companies pursuing internal transformation around collaboration. IBM, for example, learned a great deal about trust and collaboration throughout the 1990s as they radically moved to another operating model (Heckscher 2015.) It is also an opportune moment to re-examine the important contributions to collaboration theory as advanced by scholars like James Austin. In the context of the SDGs, linking collaborative efforts to national health and environmental priorities is critical to achieving progress in any public health intervention. Second, any new efforts should build upon the existing strategies of the collaborating partners. The new efforts should reflect the missions and strategic intentions of the partners. The THET Principles provide a promising example of NGO leadership in defining the rules of

engagement for public-private partnerships. The new era of collaboration should move beyond a shared value mindset to new models of partnership where each contributor plays an equal role in defining challenges and designing solutions with the greater goal of sustainable value creation. In the end, it is shared visions, respectful partnerships and bold goalsetting that will lead to creating transformative and lasting value for society. NGOs have the unprecedented opportunity to take leadership roles in engaging the private sector in more game-changing collaborations.

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