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HEALTH WORKERS COALITION

A COMMITMENT TO COMMUNITY HEALTH WORKERS

Improving Data for Decision-Making

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Executive Summary

It is estimated that 7.2 million doctors, nurses, and midwives are urgently needed to provide essential health services worldwide. Community health workers (CHWs) have emerged as critical human resources able to deliver health services directly to communities, including services that could prevent the majority of child deaths. To meet immediate health needs, to achieve the Millennium Development Goals (MDGs), and to achieve universal health coverage (UHC), integrating CHWs into functional health systems is an urgent necessity.

The global health community recognized this need in the 2013 *Joint Commitment to Harmonized Partners Action for Community Health Workers and Frontline Health Workers* (Harmonization Framework). Commitment to the Harmonization Framework has more strongly aligned human resources for health (HRH) stakeholders in their support of CHWs. This report recommends implementation of the Harmonization Framework, which calls for collaboration among various stakeholders to advance effective and rational integration of CHWs into national health systems and to optimize the role that CHWs play in achieving national health goals.

One constraining factor impeding the implementation of the Harmonization Framework is the lack of consensus or clarity around what is a CHW. From country to country, and even within the same country, there are wide, and sometimes discordant, variations in "CHW" roles, trainings, credentials, and services. In some communities, CHWs provide health education messages; in others, they provide higher-level services such as assisting at births. Against this backdrop, there is no shared agreement on the definition of a CHW.

The International Labour Organization (ILO) developed a definition of CHWs and their common tasks in 2008. Uneven application of this definition and lack of human resources information systems data perpetuate variations in CHW types and tasks. As a result, governments and their partners have insufficient data to gauge CHWs full impact on health outcomes and to make decisions regarding CHWs' roles. Insufficient data on CHWs also impedes researchers from assessing global trends and progress over time. As a step towards implementation of the Harmonization Framework and strengthening data collection on CHWs, this report calls for HRH stakeholders to create a common definition for the "community health worker" along with an agreed-upon set of core tasks and competencies, using the ILO definition as a guiding framework. To enhance the quality and availability of data for decision-making the report also calls for the creation of guidelines for a minimum data set of information on CHWs and the creation of national registries integrated into national human resources information systems to house this minimum data set.

As the world looks toward expanding access to health services through the post-2015 UHC agenda, CHWs will be a vital link to the communities beyond the current reach of formal health systems. Strengthening support, planning, and decision-making related to CHWs will help governments and their partners to maximize CHWs contributions to expanding access to quality health care to all people.

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Acknowledgements

A Commitment to Community Health Workers: Improving Data for Decision-Making

A simple but universal truth is that there can be no health without a health workforce. Yet, today's health systems' human resources shortcomings are significant. The World Health Organization (WHO) and the Global Health Workforce Alliance (GHWA) estimate that 7.2 million more doctors, nurses, and midwives are currently needed to provide essential health services worldwide—a shortage that could reach 13 million by 2035 if left unchecked.[1] Further, health workers are too often clustered in or near urban centers and more affluent areas, leaving the neediest rural and urban populations underserved.

Community health workers (CHWs) have emerged as critical human resources able to extend health systems and basic services directly to communities and households. For example, data suggest that many interventions that could prevent the majority of child deaths could be delivered at the community level by CHWs.[2] As part of efforts to ramp up progress toward universal health coverage (UHC), there is an urgent need to focus attention on more rational integration of the CHW into functional health systems.

The global health community recognized this urgency and responded by drafting the *Joint Commitment to Harmonized Partners Action for Community Health Workers and Frontline Health Workers* (Harmonization Framework),[3] presented at the Third Global Forum on Human Resources for Health in Recife, Brazil in 2013. The Harmonization Framework calls for collaboration among government leaders, donors, health workers, and civil society working in the area of human resources for health (HRH) to align with country objectives and harmonize actions supporting CHWs.

Despite this increasing emphasis and attention on CHWs, great variation in scope of practice exists. Roles, trainings, credentials, and services vary by community and country. In some villages, CHWs provide health education messages and gather data; in others, they provide higher-level services, such as dispensing medications and assisting at births. This diversity impedes the quest for greater clarity regarding CHWs' many roles, definitions, and relationships in their communities. Further challenging that clarity is the differentiation between community health workers who contribute full-time or significant regularized time to providing care (such as the health extension workers in Ethiopia) and those who are clearly providing voluntary contributions to their communities with unpaid, non-regularized hours (such as female community health volunteers in Nepal).

ILO DEFINITION OF CHWS

"Community health workers provide health education, referral and follow-up, case management, basic preventive health care, and home visiting services to specific communities. They provide support and assistance to individuals and families in navigating the health and social services system."

The International Labour Organization (ILO) developed a standard CHW definition and common tasks in 2008. However, due to the lack of adherence to the ILO definition and a lack of systems for data capture, great variation exists in CHW types and expected tasks. Furthermore, governments and their partners face difficulties in gathering available data on CHWs and making data-driven decisions about rational integration for health service delivery.[4] Thus, an essential first step toward answering the Harmonization Framework's call is to adopt a common definition and a core set of agreed-upon CHW tasks and competencies.

Adopting a common CHW definition and common set of tasks and competencies will lay the groundwork for urgently needed improvements in counting, assessing, and supporting the CHW cadre. It will also be a step toward synchronizing management systems and eventually regulating this important cadre, while distinguishing this cadre from the wider network of volunteers and community groups that provide integral support within the community fabric.

With a firm, fixed starting point—a common definition for the CHW and a core set of tasks and competencies—priorities can be set, plans can be made, and results may be more apt to be achieved. A common CHW definition and core tasks and competencies will better equip all actors to follow the Harmonization Framework's recommendations to:

- Harmonize donor support, based on commitments by all partners to collaborate at the global and national levels
- Build greater synergies among communities, districts, and countries across CHW programs, guided by national leadership, national strategies, and nationally agreed-upon systems for monitoring and evaluation
- Improve efforts to integrate CHWs into the broader health system, with a particular focus on effective linkages between community-based and facility-based health workers at the front lines of service delivery, so that individuals receive the health services they need.[5]

Photo Credit: Kate Holt/Jhpiego

The Invisible Cadre

Community health workers can be highly visible to the households they serve but, to varying degrees and despite their ubiquity, they are an "invisible cadre" within health systems. The 2014 State of the World's Midwifery report found that, in 79% of countries surveyed, midwives supervised CHWs concerning sexual, reproductive, maternal, and newborn health, suggesting that countries often informally integrate CHWs into the health system.[6]

Despite their active involvement in the health system, CHWs frequently are invisible in policies, strategies, and budgets at the national and subnational levels. The lack of adherence to a common definition and the related lack of human resources information systems data on CHWs cause significant challenges in making data-driven decisions about how to best involve CHWs in national health systems. Simply to determine who is and who is not a CHW, and to rationalize in what numbers and where CHWs are most effectively deployed, is impossible without a common definition.

The Importance of Global Data

In many parts of the world, doctors, nurses, and midwives have well-defined scopes of work, receive government-mandated and university-led competency-based training, and must meet professional licensing requirements in order to practice. Many countries have processes for counting and tracking these health workers, though low-resource countries may lack adequate systems to do so. Using country-level data from governments, WHO regularly reports on the numbers of these professional cadres, sharing the information in outlets such as annual WHO indicator reports. Available data allow these cadres to be studied, researched, and evaluated in detail, as is well demonstrated in the 2011 and 2014 State of the World's Midwifery reports.[7] Globally relevant data sets like those described in the midwifery reports do not exist for CHWs.

The lack of data on CHW numbers, attributes, and services means that governments and their partners cannot rationally integrate CHWs into the health system nor gauge the full impact of CHWs on health outcomes. Moreover, ministries of health face difficulties planning for an appropriate skills mix without a common understanding of expected tasks and competencies. Without data across years, researchers cannot look at global trends and progress made over time. Further, lack of data on CHWs prevents CHWs and their supporters from being able to effectively advocate in the policy arena. In short, the lack of CHW data significantly constrains national decision-making within ministries of health, and makes it difficult for the global community to identify the best ways to overcome the severe shortages of health professionals that prevail in over 80 countries.

From Fragmentation to Harmonization

Currently, knowledge of the numbers and skills accessible through the CHW cadre is fragmented. To gather the varied existing data points, fill gaps, and tell the full story of CHW impact will require harmonization. Disparate data must be examined through a single lens with one purpose: to shape a comprehensive, shared description of CHWs and their expected tasks and competencies. This is the essential first step on the road to determining their numbers and their impact.

The recent commitment by health development partners and national governments articulated in the Harmonization Framework suggests that national and global stakeholders recognize the value in moving toward synchronization. This report presents the argument that achieving greater harmonization and consistency of care on the front lines begins with each country's national stakeholders agreeing to use a *common definition* for "community health worker" along with an *agreed-upon set of core tasks and competencies*.

While some countries may wish to shift some tasks based on their burden of disease, a core set of CHW tasks is feasible and already outlined by the ILO's International Standard Classification of Occupations (ISCO-08), as shown in the following table.

Definition of Community Health Worker Tasks (ISCO-08)	
CHW delivers to individuals and families in a designated community	• Health education, referral, and follow-up • Case management, basic preventive health care, and home visiting services • Information, support, and assistance in accessing and using local health and social services
CHW provides, in a local establishment or during a home visit, information on	• Nutrition • Hygiene • Infant and child care • Immunizations • Family planning • Risks and prevention of common infectious diseases • Poisoning prevention • First aid or treatment of simple and common ailments • Substance abuse • Domestic violence
CHW regularly monitors certain conditions during home visits to families not usually accessing medical establishments, including	• Progress with pregnancy • Child growth and development • Environmental sanitation • Other conditions
CHW distributes and instructs family and community members in the use of	• Medical supplies to prevent and treat endemic diseases (e.g., malaria, pneumonia, diarrheal diseases)
CHW reaches out to groups not usually accessing medical establishments to	• Provide information and basic medical supplies to prevent and manage health conditions for which groups are most at risk (e.g., HIV/AIDS, other communicable diseases)
CHW collects from households and communities who do not usually access medical establishments	• Data for patient monitoring, referral, and reporting to meet health regulations

Note: Providers of routine personal care and traditional medicine are not included here.[8]

CHW Data Indicators and Tracking

To support the ILO's common definition, this report recommends creating guidelines for a minimum core set of CHW data indicators—currently unavailable—to better track and make decisions regarding CHW numbers, training, placement, outputs, and outcomes. The effort being led by GHWA to create a global strategy on human resources for health for post-2015 acknowledges the centrality of accurate and consistent health workforce data to support decision-making on the health workforce and is focusing on ways to embed interoperable data sets to improve strategic health workforce intelligence.[9]

Better data on CHWs will:

- Provide a consistent evidence base to analyze positive CHW impact in communities

- Identify key gaps and challenges

- Suggest key workforce analytics indicators that will monitor, manage, and optimize CHW performance

- Allow for a national dialogue about health workforce development that includes all levels of workers

- Inform the rational integration of CHWs and other health worker cadres to improve national skill mix and integration into the health system

- Encourage planning that takes into account the possibility of career advancement for CHWs within the health system

- Help researchers and analysts from other disciplines understand and apply their sciences to help improve health care utilization and health system effectiveness as they relate to CHWs.[10]

The use of a health worker registry makes it possible to aggregate a *minimum data set of information* from all available health workforce information systems and other sources of HRH data to provide an authoritative list. Collection of this type of core data and key indicators on CHWs in a national system is essential, particularly for eventual formal regulation of CHWs. Having a formally recognized cadre of CHWs can allow policy-makers to more easily define how the cadre will support and interface with other midlevel health worker cadres and more easily establish guidelines on the reporting structure for CHW supervisors and managers.

Capturing consistent data could lay the foundation for a new, collaborative global effort: the compilation of a *State of the World's Community Health Workers* report. This could achieve for CHWs what the 2014 and 2011 SOWMY reports achieved for midwifery, shining a bright, data-driven, actionable light on CHWs' contributions to health systems. *A State of the World's CHWs* report would be a tremendously useful step toward positioning the CHW as a visible player in achieving the proposed post-2015 sustainable development goal of health for all, at all ages.

The CHW Cadre's Importance

The public health literature reinforces the role of CHWs in bringing health care to the last mile and calls attention to the need to rationally integrate them into the public health system. A 2012 review of CHWs specifically looked at their effectiveness in a range of Millennium Development Goal (MDG) health priority areas, outlining CHW success in reducing maternal, newborn, and child morbidity and mortality through increased immunization coverage, community-based management of childhood pneumonia, malaria bed net distribution, home-based newborn care, and family planning. Key to their effectiveness is the fact that most CHWs are drawn from the local communities in which they serve, enabling them to reach households that clinic-based workers may not be able to reach. CHWs are often the bridge between communities and the formal health system.[11]

A 2010 report by GHWA notes that the role of CHWs in support of people living with HIV and AIDS needs further development.[12] Since that time, WHO has articulated more than 300 specific tasks that address HIV prevention, identification, and basic care for those who are HIV-positive, and initiation and maintenance of antiretroviral therapy (ART). WHO's recommendation that 115 of those tasks be performed by CHWs provides clear guidance for ministries of health to consider as they evaluate the appropriate skills mix for their national health priorities and burdens of disease.[13]

"…The need to systematically and professionally train lay community members to be a part of the health workforce has emerged not simply as a stop-gap measure, but as a core component of primary health care systems in low-resource settings."

– One Million Community Health Workers Campaign

2015 and Beyond

The work of CHWs has advanced progress toward the MDGs and is expected to continue to move countries forward toward their national health goals. As of 2010, however, only 19 of the 68 Countdown to 2015 priority countries—which account for more than 90% of maternal and child deaths worldwide—were on track to meet the target on child survival.[14]

Ghana, Nepal, and Ethiopia have produced rapid achievements in reducing childhood under-five mortality since 1990. While Ghana is still in the process of rolling out widespread coverage of a centrally defined CHW program, each of these countries has seen CHWs play a major contributory role in progress on child survival (see below).

As countries focus on meeting the 2015 MDG targets and look toward a post-2015 agenda that includes UHC, research makes it increasingly clear that countries must recognize and account for the effectiveness of CHWs in expanding access to health services. Defining CHWs and documenting their numbers, tasks, and impact in the health workforce are vital steps to support these workers and effectively extend the continuum of care to the community level.

Ghana CHW Program

Ghana's evolving CHW efforts provide an example of a government working toward building an effective CHW program to accelerate progress on meeting the health MDGs. To address its shortage of health workers, the country has been shifting its focus from direct doctor-patient care to community-level primary care. In 2000, the government implemented the Community-based Health Planning and Service (CHPS) program, deploying trained, salaried nurses as community health officers (CHOs) to rural areas to provide household-level services. The CHOs are based in community health compounds (CHCs), each intended to serve approximately 3,000 people. Although areas with fully functional CHPS programs have shown promising reductions in fertility and child mortality rates, access to care remains uncertain

in most CHPS zones. Lack of funding, weak supply chains, and inadequate training and supervision often limit CHOs' services to the CHCs, rather than extending services "at the doorstep."

In order to reach the health MDGs, Ghana's Ministry of Health (MOH) has partnered with the One Million Community Health Workers Campaign (1mCHW Campaign) to strengthen the existing CHPS program through the addition of a world-class cadre of CHWs. This lower-level cadre of health workers will extend essential health services to the household level, functioning as a core component of the community-based health services team alongside CHOs and community health management committees (CHMCs). The MOH is committed to developing and deploying this revamped community health system across the country.[15]

In 2013–2014, partnering with the 1mCHW Campaign, the MOH and the Ghana Health Service developed a roadmap to build the new CHW cadre, defining goals, responsibilities, and a scale-up strategy. These are now integral to Ghana's *Human Resources for Health Strategies and Implementation Plan 2013*, marking a national commitment to integrate and empower CHWs. The plan calls for 15,157 CHWs by 2016 (serving 60% of the rural population) and 27,845 CHWs to achieve 100% rural coverage by 2019—a plan that would be difficult to formulate without a definition and head count of CHWs.

With the national CHW program comes a unique opportunity for Ghana to harmonize current best practices in building a health system with easy access to basic health care at all levels—while also accelerating progress toward achieving MDGs 4, 5, and 6.

Nepal Female Community Health Volunteer Program

Nepal's national CHW program—known as the Female Community Health Volunteer (FCHV) Program—has been essential in the country's rapid progress in reducing child mortality, which has declined by an average of 5.5% annually since 1990.[16] The Nepal program emerged in the late 1980s. An outgrowth of an earlier CHV program, the FCHV program engaged an all-female volunteer force to ensure distribution of vitamin A in poor, rural areas.

Over the 1990s, the program grew to include more than 40,000 workers. Recently, these female CHVs were given expanded responsibilities that include:

- Detection and treatment of common childhood diseases, including pneumonia
- Home-based neonatal care
- Distribution of oral contraceptives

- Promotion of available health services for first aid, antenatal care, family planning, and immunization.

Nepal's focus on improving access to frontline health workers has paid off—the country achieved its MDG 5 target on maternal mortality early and is on track to achieve its MDG 4 target on child mortality.[17]

Ethiopia Health Extension Program

Ethiopia provides a model of government leadership and community engagement to deliver frontline health care services. In 2003, the Government of Ethiopia launched the national Health Extension Program (HEP) to improve access to and utilization of preventive, wellness, and basic curative services. Working with UNICEF and nongovernmental organizations (NGOs), the HEP trained and deployed more than 30,000 salaried CHWs (referred to in the field as health extension workers or HEWs) with clearly defined numbers, roles, and positions to serve the rural areas that are home to 85% of Ethiopia's population.

The HEWs must complete one year of Ministry of Education instruction and field training in:

- Managing health post operations
- Conducting home visits and outreach services to teach and encourage preventive health behaviors
- Providing reports to district health offices
- Making and following up on referrals to health centers
- Identifying, training, and working alongside community health volunteers.

The HEWs' work is supervised by HEP nurses, thereby ensuring that their activities are reported into the formal, regulated system. Below are highlights of a case-control study conducted in HEP and non-HEP villages from 2005–2007:

METRIC	HEP VILLAGE		NON-HEP VILLAGE	
	2005	2007	2005	2007
% households with access to improved sanitation	39%	76%	27%	36%
Increase in contraceptive use among married women	31%	46%	30%	34%

The HEP's multifaceted strategy has been central to its successes. It was understood from the outset that simply growing the CHW cadre's numbers would not be the solution; there had to be integration into the health system nationwide, including a definition of a CHW. To ensure alignment across all actors, NGOs working in Ethiopia were required to use the national HEW curriculum to contribute to the extension of the model.

Ethiopia's national health policy and strategies show that accelerated training for health care and related infrastructure growth can serve as priority approaches to achieving the 2015 health MDGs and goals beyond. Indeed, Ethiopia met MDG 4 two years early, slashing child mortality by 75% between 1990 and 2013. It is also on track to reduce the maternal mortality rate by 75% (MDG 5).[18]

A Way Forward: Implementing the Harmonization Framework

The *Joint Commitment to Harmonized Partners Action for Community Health Workers* and Frontline Health Workers articulates a shared vision across the entire spectrum of stakeholders— ministries of health, donors, civil society organizations, international agencies, and implementing partners— for greater alignment in their support for CHWs. Harmonization of partners supporting CHWs will advance effective and rational integration of CHWs into national health systems. It will also allow countries and their partners to optimize the role that CHWs play in scaling up primary health care to achieve the MDGs and move forward to UHC.

To accelerate progress on harmonization, this report calls for governments and global actors to implement the steps drawn from the monitoring and accountability platform paper that accompanies the Harmonization Framework, outlined in the table on the next page.

Recommendations to Strengthen Support for CHWs

More than sufficient evidence is available indicating that CHWs can and must play an increasingly significant role in health care delivery, if rationally integrated into the system. As the world looks toward expanding access to health services through the post-2015 universal health coverage agenda, CHWs will be a vital link to communities beyond the current reach of formal health systems. Given the importance of CHWs in ensuring that all people have access to quality health care, strengthening support, planning, and decision-making related to CHWs must become pressing national and global priorities. To accelerate these efforts, this report calls for strengthening data collection on CHWs and harmonizing multi-stakeholder support for CHWs. Specifically, the report recommends that national and global-level stakeholders come together to do the following:

- Using the ILO definition as a guiding framework, create a common definition for "community health worker" along with an agreed-upon set of core tasks and competencies. This will allow for aggregation and greater evaluation of data and trends to inform national-level decisions and will

provide a global snapshot of CHWs that could be used to create a State of the World's CHWs report.

- Create guidelines for a minimum data set of information on CHWs enabling governments to make evidence-based decisions on integrating and supporting CHWs as a key component of community health systems.

- Create national registries and integrate them into national human resources information systems to house a minimum data set of information on CHWs to support planning and strengthen monitoring and evaluation.

- Implement the Harmonization Framework, agreed to by governmental and nongovernmental actors, across policy and planning, support systems, and monitoring and evaluation—including formalizing cadres of CHWs into public health systems and enabling district health leaders to properly implement and monitor CHW programs.

Better data on CHWs and stronger alignment among partners will help governments ensure that CHWs receive adequate and fair support. Additionally, governments will be able to make data- driven decisions on their CHW programs to maximize the contributions that CHWs make toward improving the health and well-being of their communities.

Recommendations to Accelerate Harmonization[19]

Governments	NGOs/Global Actors
Policy and Planning	
1. Establish the policy and principles to which all CHW programs should adhere. This should be integrated into national HRH plans and the overall health strategy and linked to existing national coordination processes.	1. Coordinate and harmonize CHW programs with national HRH programs and strategies.
2. Establish a common CHW definition and set of tasks and competencies that is aligned with the CHW definition and framework created by the ILO.	2a. Ensure that any CHWs recruited, trained, and on-boarded fit within the purview of the common CHW definition established by the government. 2b. Introduce and adopt a World Health Assembly resolution requiring WHO to define competency standards for CHWs and governments to report on community health worker data.*
3. Formalize cadres of CHWs within the public health system based on the needed national skill mix and common set of tasks and competencies. Establish standards and methods for the motivation and support of CHWs that are ethical, noncompetitive, sustainable, and locally relevant under a unified country policy.[20]	3a. Provide technical support in establishing standards for CHW cadres that are rooted in best and evidence-based practices. 3b. Follow national and district guidelines for salaries and incentives.
Support Systems	
1. Define the scope of district facilitation and coordination of CHW program implementation so that it is in line with the national CHW policy. During this process, space should be left for district authorities to apply and adapt national guidance to the local context and engage with the different actors in CHW programs to follow up the principles through district-level collaboration.	1. Contribute to planning and policy meetings and share experience and knowledge to support the implementation and coordination of CHW programs.
2. Enable district health leaders and facilities to properly implement and monitor CHW programs with the skills, budgets, and resources needed.	2. Assist in the monitoring of CHW programs by providing necessary data and sharing experience and knowledge to support and improve CHW programs.
Monitoring and Evaluation	
1. Use internationally standardized core indicators to monitor and evaluate CHWs and CHW programs. National observatories or relevant knowledge institutions should keep updated information on CHW programs in the country and track progress. Data, analysis, and program maps and documents should be made publicly available.	1. Submit scheduled reports containing all necessary indicators to Ministry of Health (per national guidelines); the host country office will monitor receipt of reports from all partners.
2. Build on data and information gathered and develop a national CHW program research and innovation agenda to inform strategies for successful contribution of CHWs to UHC.	2. Participate in global discussions and disseminate information; follow the recommendations of the research agenda proposal.[21]
Not in Harmonization Framework. Added by authors.	

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1. Campbell, J., G. Dussault, J. Buchan, F. Pozo-Martin, M. Guerra Arias, C. Leone, A. Siyam, and G. Cometto. *A universal truth: No health without a workforce*. Forum Report, Third Global Forum on Human Resources for Health, Recife, Brazil. Geneva: Global Health Workforce Alliance and World Health Organization, 2013. http://www.who.int/workforcealliance/knowledge/resources/GHWA-a_universal_truth_report.pdf?ua=1

    This landmark report was authorized by the Global Health Workforce Alliance Secretariat and the World Health Organization (WHO) to consolidate the most recent information available on the state of the global health workforce. This updated version includes 36 country reports that offer a detailed analysis of the availability of human resources for health (HRH) in each country. In these country reports, the WHO Global Health Observatory provides data regarding the number of physicians per person, the ratio of nurses per physician, the status of the country's HRH strategy, and other demographic information. Although the No Health Without a Workforce report does not include country-level data pertaining to the community health workforce, it nevertheless provided our community health worker (CHW) report with the most recent statistics on health workforce shortages both globally and in the countries discussed. In addition, several of its recommendations on achieving and sustaining universal health coverage (UHC) by strengthening the global health workforce are cited throughout our report.

2. Dawson, P, Y Pradhan, R Houston, S Karki, D Poudel, S Hodgins. *From research to national expansion: 20 years' experience of community-based management of childhood pneumonia in Nepal*. Bulletin of the World Health Organization 2008;86(5):339-343.

    This WHO publication found that community-based management of pneumonia provides a medium-term solution to address a leading cause of child mortality while efforts continue to strengthen and extend the reach of facility-based care. Trained community health workers can significantly increase the number of pneumonia cases receiving correct case management in resource-constrained settings, with appropriate health systems' support for logistics, supervision, and monitoring. Community-based management of pneumonia can be scaled up and provides an effective approach to reducing child deaths in countries faced with insufficient human resources for health. These findings were used in our CHW report as part of our country case studies section, in which we were able to report that Nepal's focus on improving access to frontline health workers contributed to the country achieving the MDG 5 target on maternal mortality early.

3. The Earth Institute. *One million community health workers: Technical task force report*. New York: Columbia University, n.d. http://www.millenniumvillages.org/uploads/ReportPaper/1mCHW_TechnicalTaskForceReport.pdf

    The Earth Institute report provides recommendations on how to adapt key ingredients of a successful health workforce system to varied local settings. The findings are based on observations from the Millennium Villages Project across ten sub-Saharan African countries; various NGO-driven international CHW programs; national guidelines for primary health systems; and input and review by a wide array of CHW technical experts, UN agencies, and the Nigerian National Primary Health Care Development Agency. The report provides recommendations for CHW scale-up and national integration, some of which we included in our CHW report.

4. Feysia, Berhanu, Christopher H. Herbst, Wuleta Lemma, Agnes Soucat, Feng Zhao, Nejmudin Kedir, and Christophe Lemiere (Eds.). *The health workforce in Ethiopia: Addressing the remaining challenges*. Washington, DC: The World Bank, 2012. http://issuu.com/world.bank.publications/docs/9780821389843/82

    This paper provides integral data on the national scale-up of CHWs in Ethiopia (including training, deployment, and retention), forming the basis for the informative Ethiopia case study in our CHW report. The paper describes the successes seen in Ethiopia resulting from greater health workforce investment and commitment, but also highlights the remaining gaps in the health system and methods to address them. These findings helped inform our CHW recommendations and supported our case for the importance of a commonCHW definition and CHW integration into health systems.

5. Foster, Allison Annette, Kate Tulenko, and Edward Broughton. *Community health workers and universal health coverage: Monitoring and accountability platform for national governments and global partners in developing, implementing, and managing CHW programs*. Geneva: Global Health Workforce Alliance, October 2013. http://www.who.int/workforcealliance/knowledge/resources/M_A_CHWs.pdf?ua=1

    This paper is one of three working papers commissioned by the Global Health Workforce Alliance. The series provides a platform for discussions about how to better capture synergies, harmonize support, and address knowledge gaps in planning, developing, and delivering CHW programs. Collectively, the papers were created to inform the Third Global Forum on Human Resources for Health side event entitled "CHWs and other frontline health workers: Moving from fragmentation to synergy to achieve universal health coverage." At the 3rd Global Forum, many global leaders committed to working toward UHC, and in doing so they acknowledged the integral role to be played by CHWs in achieving UHC. The paper describes a stakeholders' framework for CHW program development and management, based on three pillars: a national CHW strategy; a lead national authority, respected by all partners; and a monitoring and accountability platform. The coordinated approach discussed in the working paper helped inform our recommendation for an integrated CHW approach, a common CHW definition, and standardized data collection.

6. Frymus, Diana, Maryse Kok, Korrie de Koning, and Estelle Quain. *Community health workers and universal health coverage: knowledge gaps and a need based global research agenda by 2015*. Geneva: Global Health Workforce Alliance, October 2013. http://www.who.int/workforcealliance/knowledge/resources/CHWsResearch_Agenda_by2015.pdf?ua=1

    This paper is the third of three working papers commissioned by the Global Health Workforce Alliance. The series provides a platform for discussions about how to better capture synergies, harmonize support, and address knowledge gaps in planning, developing, and delivering CHW programs. Collectively, the papers were created to inform the Third Global Forum on Human Resources for Health side event entitled "CHWs and other frontline health workers: Moving from fragmentation to synergy to achieve universal health coverage." This third working paper provides an important overview of data gaps and challenges surrounding CHWs and discusses methods to improve CHW research and registration.

7. Global Health Workforce Alliance. Joint commitment to harmonized partners action for community health workers and frontline health workers: *Moving from fragmentation to synergy towards universal health coverage*. Third Global Forum on Human Resources for Health, Recife, Brazil. Geneva: Global Health Workforce Alliance, 2013. http://www.who.int/workforcealliance/knowledge/resources/chw_outcomedocument01052014.pdf

   The Joint Commitment to Harmonized Partners Action for Community Health Workers and Frontline Health Workers (Harmonization Framework) was created out of a mutual agreement by several health development partners and national governments that country-level strategies designed to support CHWs ought to be administered through a harmonized national strategy. To optimize efficiency for CHW initiatives, it explains how interventions ought to be administered "through one national strategy, one national authority, and one monitoring and accountability structure." The framework provided by this report provides the basis for our own recommendations for a common definition and a core set of CHW tasks and competencies. Our CHW report also addresses how to accelerate the harmonization recommendations laid out in the Harmonization Framework through synchronized global collaboration and action.

8. Global Health Workforce Alliance. *GHWA: Towards a global strategy on HRH for post-2015*. Thematic working group 3: Workforce data and measurement of impact. Terms of reference. April 2014. http://api.ning.com/files/t08dki1KeXyjUE6ytwexXKpYXnOg**BOOHIEKiv5lYXYvwDDyFrx 6zT0hWs8ks7HC3tn9LYxfhMLyzzz-BFQDLmctBxmLiek/TWG3_Data_Measurement_TOR_08Apr14.pdf

   This document outlines the Global Health Workforce Alliance's efforts to create a global strategy on human resources for health for the post-2015 international health agenda. It acknowledges the importance of having accurate and consistent health workforce data to provide decision-makers with the strategic intelligence they need to support their national health workforce. Our report builds on GHWA's call for creating relevant data sets for the global health workforce by focusing specifically on the need to collect core data and indicators on CHWs at the national and international levels.

9. Global Health Workforce Alliance. *Global experience of community health workers for delivery of health related Millennium Development Goals: A systematic review, country case studies, and recommendations for integration into national health systems*. Geneva: Global Health Workforce Alliance and World Health Organization, n.d. http://www.who.int/workforcealliance/knowledge/publications/CHW_FullReport_2010.pdf?ua=1

   The overall aim of this report was to identify CHW programs with a positive impact on the MDGs related to health (or on other MDGs). A global systematic review was undertaken of CHW interventions, as well as eight in-depth country case studies in sub-Saharan Africa (Ethiopia, Mozambique, and Uganda), Southeast Asia (Bangladesh, Pakistan, and Thailand) and Latin America (Brazil and Haiti). In addition to the focused data on key impact indicators, this report offers draft recommendations for the development of recruitment, training, supervision, and other criteria for CHW programs to address global health goals as well as recommendations for further regional and global consultation among stakeholders.

10. International Labour Office. International standard classification of occupations (ISCO-08). *Volume 1: Structure, group definitions and correspondence tables*. Geneva: ILO, 2012:192. http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_172572.pdf

    This International Labour Organization (ILO) document provides standard occupational classifications for various cadres of workers, including a standard definition of the roles, responsibilities, and common tasks of community health workers. Our report discusses the problematic lack of adherence to this ILO definition and the great variation that exists in the international health community when attempting to define types of CHWs and expected tasks.

11. McPake, Barbara, Anthony Scott, and Ijeoma Edoka. *Analyzing markets for health workers: Insights from labor and health economics*. Washington, DC: The World Bank, 2014. https://openknowledge.worldbank.org/bitstream/handle/10986/18780/888890PUB0Box30EPI2102240June122014. pdf?sequence=1

    This World Bank report seeks to fill a gap in the existing HRH literature by incorporating an economic perspective of the key issues that arise when applying economic thinking to an analysis of health workers' labor markets. The report also provides insights on how to appropriately apply labor economics and labor market analysis to improve the status of human resources in the health care sector. Inspired by this document, our CHW report points to the need to help researchers from other disciplines (like economics) utilize and apply their sciences to improve health system effectiveness as it relates to CHWs.

12. Ministry of Health and Ghana Health Service. *Government of Ghana: National community health worker (CHW) program*. Ghana: Ministry of Health, March 2014. http://1millionhealthworkers.org/files/2014/04/GH1mCHW_Roadmap_2014-04-20_Final_compressed.pdf

    Ghana's Ministry of Health and Ghana Health Service and Earth Institute's One Million Community Health Workers (1mCHW) Campaign worked on a joint effort to create this operational roadmap to build a world-class national community health worker platform. This case study—describing Ghana's use of CHW scale-up at a national level to reach MDGs 4, 5, and 6—is used as an example in our report.

13. Møgedal, Sigrun, Shona Wynd, and Muhammad Mahmood Afzal. *Community health workers and universal health coverage: A framework for partners' harmonized support*. Geneva: Global Health Workforce Alliance, October 2013:6. http://www.who.int/workforcealliance/knowledge/ resources/Framework_partenrs_harmonised_support.pdf?ua=1

    This paper is the second of three working papers commissioned by the Global Health Workforce Alliance. The series provides a platform for discussions about how to better capture synergies, harmonize support, and address knowledge gaps in planning, developing, and delivering CHW programs. Collectively, the papers were created to inform the Third Global Forum on Human Resources for Health side event entitled "CHWs and other frontline health workers: Moving from fragmentation to synergy to achieve universal health coverage." Our CHW report utilized the authors' discussion of key issues such as fragmentation, confusing typology with varied labeling and definitions of CHWs, and the need for a harmonized and synergized solution at the national and global levels.

14. Perry, Henry, and Rose Zulliger. *How effective are community health workers? An overview of current evidence with recommendations for strengthening community health worker programs to accelerate progress in achieving the health-related Millennium Development Goals*. Baltimore: Johns Hopkins Bloomberg School of Public Health, 2012. http://www.coregroup.org/storage/Program_Learning/Community_Health_Workers/review%20of%20chw%20effectiveness%20for%20mdgs-sept2012.pdf

    During the past decade, there has been an explosion of evidence and interest concerning community health workers and their potential for improving the health of populations where health workforce resources are limited. Given the massive shortage of health workers in Africa and Asia, the inequitable distribution of health workers within countries, and the need to accelerate progress in achieving global health goals, it is essential to take stock of the current body of evidence. This document provides an update and supplement to the extensive review carried out by Bhutta and colleagues under the auspices of the World Health Organization and the Global Health Workforce Alliance in 2010. Perry's and Zulliger's review helped to inform our report's comments about CHW data, the current understanding of CHW impact, and existing gaps.

15. Singh, Prabhjot, and Jeffrey D Sachs. *1 million community health workers in sub-Saharan Africa by 2015*. Lancet 2013;382(9889):363-365. http://1millionhealthworkers.org/files/2013/01/1mCHW_article_Lancet_2013-03-29.pdf

    In this article, Prabhjot Singh and Jeffrey Sachs recognize CHWs' integral role in primary health care delivery and assert the need to fully integrate CHWs into states' formal health care systems. Singh and Sachs call for a "massive scaling up of CHWs" (p.1) in sub-Saharan Africa and throughout the world, which can be achieved by utilizing advances in point-of-care diagnostics technologies, investing in inputs to improve CHWs' service delivery capabilities, and improving training and supervisory support for CHWs. This article was especially relevant for our report, providing data to suggest how community-level health interventions administered by CHWs could prevent the majority of child deaths. In particular, the article summarizes evidence from a 2011 WHO study on CHWs in sub-Saharan Africa, which illustrates the life-saving role CHWs have played in managing some of the preventable causes of under-5 mortality: malaria, pneumonia, malnutrition, and diarrhea.

16. UNFPA. *The state of the world's midwifery 2011: Delivering health, saving lives*. New York, NY: UNFPA, 2011:10. http://www.unfpa.org/sowmy/resources/docs/main_report/en_SOWMR_Full.pdf

    The State of the World's Midwifery 2011 was coordinated by the United Nations Population Fund (UNFPA) and responds directly to the Symposium on Strengthening Midwifery's "Global Call to Action" in Washington, DC in June 2010. This report presents detailed information on the availability and quality of midwifery services around the world. It also emphasizes the usefulness of these data for helping states to strengthen their midwifery workforce to accelerate progress in achieving the three Millennium Development Goals (MDGs) on health. Finally, the midwifery report demonstrates how improving the availability of data on a cadre of health workers can provide enormous opportunities to support health workforce strengthening initiatives in different countries. These observations inspired our report's call for a State of the World's Community Heath Workers report with similar aims and our recommendation to develop a globally relevant data set for the community health workforce.

17. World Health Organization. *Classifying health workers: Mapping occupations to the international standard classification.* Geneva: World Health Organization, 2008:8. http://www.who.int/hrh/statistics/Health_workers_classification.pdf

    This document is largely based on the International Standard Classification of Occupations (ISCO, 2008 revision) and provides guidelines with which one could define the role and responsibilities of different categories of health workers. Our CHW report utilizes the definition and common tasks for CHWs outlined in this WHO document as a tool to overcome the great definitional variation that currently exists when discussing CHWs.

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