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Maternal and Child Survival Program

Landscape Analysis of National Community Health Worker Programs

In 22 of 25 USAID Priority Maternal and Child Health Countries

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The Maternal and Child Survival Program (MCSP) is a global United States Agency for International Development (USAID) initiative to introduce and support high-impact health interventions in 25 priority countries to help prevent child and maternal deaths. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment. MCSP will tackle these issues through approaches that also focus on household and community mobilization, gender integration, and digital health, among others.

Advancing Partners & Communities (APC) is a cooperative agreement funded by USAID under Agreement No. AID-OAA-A-12-00047, beginning October 1, 2012. APC is implemented by JSI Research & Training Institute, Inc., in collaboration with FHI 360. The project focuses on advancing and supporting community programs that seek to improve the overall health of communities and achieve other health-related impacts, especially in relationship to family planning. APC provides global leadership for community-based programming, executes and manages small- and medium-sized sub-awards, supports procurement reform by preparing awards for execution by USAID, and builds technical capacity of organizations to implement effective programs.

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Acronyms

APC	Advancing Partners & Communities
APE	*Agentes Polivalentes Elementares*
ASM	*Animatrice de santé maternelle*
CHEW	community health extension worker
CHS	community health systems
CHW	community health worker
FP	family planning
HIV	human immunodeficiency virus
iCCM	integrated community case management of childhood illnesses
IPTp	intermittent preventive treatment for malaria in pregnancy
LMIC	low- and middle-income country
MAM	moderate acute malnutrition
MCH	maternal and child health
MCSP	Maternal and Child Survival Program
MDGs	Millennium Development Goals
MNCH	maternal, newborn, and child health
NGO	nongovernment organization
PHC	primary health care
PPH	postpartum hemorrhage
RMNCH	reproductive, maternal, newborn, and child health
SDGs	Sustainable Development Goals
SPRING	Strengthening Partnership Results and Innovations in Nutrition Globally
UHC	universal health coverage
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	water, hygiene, and sanitation
WHO	World Health Organization

Executive Summary

Background and Purpose

Community health programs and community health workers (CHWs) are essential to national health systems. Recent compelling modeling data demonstrate that the number of maternal, newborn, and child deaths and stillbirths could be decreased by 32% if just 30 evidence-based interventions deliverable by CHWs were scaled up to achieve 90% coverage in 73 high burden countries.[1] To make this possible, country governments, with the support of global and local partners, need to continue to invest in expanding their community health workforce.

The Maternal and Child Survival Program (MCSP) is one such partner working to strengthen community health platforms to prevent child and maternal deaths. MCSP recognizes that effective community-based approaches are essential to improving reproductive, maternal, newborn, child, and adolescent health and supports health promotion, prevention, and curative service delivery in and with communities. CHWs can and do play critical roles in this service continuum. MCSP advocates for institutionalizing community health as part of national health systems, strengthening the CHW workforce, and supporting community infrastructure in partnership with country governments and civil society organizations. MCSP undertook this landscape review to inform the provision of targeted technical assistance to its focal countries in their efforts to reduce child and maternal deaths and improve equitable access to health care.

This landscape analysis of national CHW programs focused on key features of programs in 22[a] of the 25 countries deemed priority by the United States Agency for International Development's (USAID) Office of Maternal and Child Health and Nutrition for which data were available. It aims to:

- Complement the individual country profiles contained in the Community Health Systems (CHS) Catalog[2] and documentation in the Maternal and Child Health Integrated Program's *Developing and Strengthening Community Health Worker Programs at Scale: A Reference Guide and Case Studies for Program Managers and Policymakers* (hereafter referred to as the CHW Reference Guide)[3] and other literature concerning the successes and challenges faced by large-scale CHW programs.
- Provide a cross-sectional reference point for the status of national CHW programs as reflected in policy and related documents.
- Highlight promising practices and gaps in policy and strategy when reviewed in light of the literature and the World Health Organization's recently released *Guideline on Health Policy and System Support to Optimize Community Health Worker Programmes* (WHO CHW Guideline).[4]
- Inform ongoing development of CHW programs, policy and strategy design, scaling, and sustainability in the priority countries.

Methods

The landscape analysis focused on key components and characteristics of national CHW programs such as planned numbers and types of CHWs relative to the population, selection criteria, compensation, scopes of work, and intervention packages delivered. It is based on content from the 2017 update of the CHS Catalog database, itself derived from a review of country-level policies, guidelines, reports, training plans, curricula, and other publicly available documents pertaining to reproductive, maternal, newborn, and child health (RMNCH) and nutrition.[2] The CHS Catalog, a product of USAID's Advancing Partners & Communities (APC) project, contains data from 25 countries prioritized by USAID's Office of Population and Reproductive Health. MCSP and USAID's Strengthening Partnership Results and Innovations in Nutrition Globally (SPRING) project collaborated with APC to update and expand the 2014 version of the catalog by recommending additional content fields pertaining to RMNCH, plus nutrition and community engagement.

[a] USAID priority countries for MCH for which data were available: Afghanistan, Bangladesh, Democratic Republic of the Congo, Ethiopia, Ghana, Haiti, India, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan (Punjab), Rwanda, Senegal, South Sudan, Tanzania, Uganda, and Zambia. Data were not available for the USAID MCH priority countries of Indonesia, Myanmar, or Yemen.

APC developed data collection tools and its in-country staff and consultants collected, extracted, and inputted data into online forms in 2016–2017. The data were cleaned and shared with MCSP in Excel for this analysis, intentionally limited to the 22 USAID priority countries for maternal and child health for which data were available (data were not available for Myanmar, Indonesia, and Yemen). Findings were discussed in the context of policy and program support to strengthen and scale up national CHW programs, drawing upon existing evidence and literature to influence the recommendations and conclusions.

Limitations

This analysis did not attempt to assess program implementation. Rather, it is based on review of policy and related guidance for national CHW programs in the 22 countries of interest, as collected by APC. Country policies and programs are dynamic, making it inevitable that some features will have changed since data collection. Nonetheless, it provides a cross-country comparison for program planners and implementers as they support scale-up of national CHW programs in light of the recently published WHO CHW Guideline.[4]

Findings

- All 22 countries had at least one policy or related document governing community health and CHW programs. Overall, 53 CHW cadres were described, with an average of 2 to 3 CHW cadres per country. One-third of countries documented only one CHW cadre.
- From 2012 to 2017, 80% (19/22) of the countries had drafted or updated at least one CHW policy-related document, demonstrating country initiative to address gaps in policy. The existence of such documentation also shows a commitment to invest in CHW programs to address gaps in accessible and equitable health services to improve health outcomes.
- In two-thirds of the countries, information was available on the total number of at least one CHW cadre, indicating important country efforts to enumerate CHWs.
- In more than three-quarters (17/22) of the countries reviewed, the recommended number of at least one CHW cadre required to meet the stipulated population coverage was identified, and almost a third of the countries (7/22) had documents indicating that the recommended number of CHWs had been met.
- More than one-third (7/22) of the countries differentiated according to one of the following when determining the appropriate number of CHWs to serve a given population or geographic area: distance to the health facility, urban versus rural setting, terrain, region, or the community's decision.
- CHW estimates in more than two-thirds of the 22 countries (excluding Ethiopia, India, Pakistan, and Rwanda) revealed significant gaps between the targeted and actual number of CHWs per cadre.
- The most common selection criteria for CHWs were community residency, literacy, age, and gender. Other criteria included education level, willingness to volunteer, and local language skills.
- In all 22 countries, at least one cadre received both financial and nonfinancial incentives. Per diems were the most common financial incentive (16/22), followed by salary (14/22), cash payments (10/22), and performance-based payments (8/22).
- All 22 countries reviewed had nationally recognized volunteer cadres who received nonfinancial incentives. These volunteer cadres typically worked in communities providing health promotion services (i.e., pertaining to social and behavior change communication, but not treatment).
- Twenty-five of the 53 CHW cadres (47%) were either employed by the government or contracted to the local authorities or to nongovernmental organizations implementing the government program. For another 25 cadres (47%), in 16 of the 22 countries, connection with the health system was through supervision, with a health facility-based staff member supervising CHWs. Most employed CHWs worked from a government health post or health clinic.

- Fifty of the 53 CHW cadres were documented to be supervised by a higher-level government health care or management professional. In more than two-thirds of the countries (15), supervision was shared with a nongovernmental organization that supported CHW program implementation. Almost as many countries (14) had documented guidance for determining CHW performance or ensuring quality of service rendered.
- In all 22 countries, guidance was specified for all CHW cadres to collect and track data from home visits, case management, and other services; document life events; manage commodities; and/or monitor disease outbreaks. However, less universal was specific guidance on data use at the community level (16 countries, 72%), or how to involve the community in data analysis or decision-making, which was reported for 16 of the 22 countries.
- Intervention packages in RMNCH provided by these CHWs varied from country to country and from one cadre to the next, with CHWs providing services across many health areas and at different levels.
- Nearly all of the 22 countries reviewed had policy or related guidance for CHW delivery of three key intervention areas (nutritional interventions during pregnancy[b], integrated community case management of childhood illness [iCCM], and handwashing with soap) highlighted by Chou et al. as having greatest potential impact on lives saved, if community-based primary health care programs were to deliver these interventions at scale.[1] Exceptions were Madagascar (maternal nutritional interventions), Haiti (information not available for iCCM) and Zambia (water, sanitation, and hygiene-related interventions).

Recommendations and Conclusion

The global commitment of "A Promised Renewed" to prevent child and maternal deaths by 2035 will be unattainable if CHW programs are not expanded. The following recommendations pertain to major features of CHW programs considered in this analysis and based on the corresponding literature, including the CHW Reference Guide and WHO CHW Guideline, as applicable. The recommendations are grouped according to the specific features reviewed, and selected overarching systems support considerations. They also highlight promising country examples worthy of emulation and intended for the consideration of country program planners, policymakers, implementers, and donors.

Recommendations specific to key features reviewed:

- **Enumerate and map CHWs to** document existing numbers and their geographic distributions to aid comparison against policy targets, as demonstrated by examples from Ethiopia, India, Pakistan, and Rwanda. Target ratios of CHWs per population or geographic area may require flexibility to account for differences in terrain, distance to health facilities, population density, and other factors affecting workload.
- **Provide CHWs with consistent financial and nonfinancial incentives.** WHO guidance recommends that CHWs be remunerated "commensurate with the job demands, complexity, number of hours, training and roles that they undertake."[4] Nonfinancial incentives that have been noted to improve CHW performance include frequent supervision, continuous training, and identification of clear roles and communication channels for CHWs within health systems.[5]
- **Include education commensurate with the tasks required, along with community nomination and consent, in the CHW selection criteria.** Literacy and numeracy are important for CHW cadres who perform tasks such as case management, stock inventory, and completion of reports. In settings where it is difficult to identify and/or retain individuals with higher levels of education, tools and expectations may need to be adjusted to accommodate individuals who have lower levels of literacy but are otherwise well-suited for the tasks and demonstrate ability to learn what is required of them.[3]

[b] The CHW Catalog did not specifically track balanced energy and protein supplementation during pregnancy among other maternal nutrition interventions.

- **Involve the community in selecting CHWs** and defining CHW program activities (either collectively or through representation such as by village health committees or community leaders using transparent criteria) as it contributes to community ownership and may enhance engagement arising from increased trust and acceptance. The WHO CHW Guideline validates this recommendation in stating that community membership and acceptance should be a required selection criteria.
- **Clarify CHW links to other health professionals** within the ministry of health as a means to increase health professionals' commitment to CHW **supervision** and support. CHWs should be **integrated into the health system** on the basis of a core set of skills that are defined at the national level and with appropriate supervision and support.
- **Integrate data generated from national CHW programs into national health management information systems and provide guidance for using data at the community level.** The WHO CHW Guideline recommends enabling CHWs to collect, collate, and use health data on routine activities. When CHWs and communities use the collected data, service delivery and community health outcomes can improve.[6]
- **Prioritize evidence-based interventions** in CHW scopes of work that have the most potential to improve RMNCH outcomes in their context, as summarized earlier.[1]

Recommendations pertaining to selected overarching systems support considerations:

- **Embed leadership and governance** of CHW programs within an agency that has the clout and position to implement and scale the programs nationally. This however should be balanced at the community/district with appropriate local leadership and ownership. Donors and partners should support ministries of health as they develop strong guidelines and strategic plans.
- **Integrate CHW programs within national health systems.** CHW programs with strong policy support that defines CHWs' formal roles, includes budget for remuneration or other incentives, provides essential supplies, supervision, training (via an accredited curriculum), and a clear career path are worthwhile investments for strengthening primary health care.[7] Such programs are likely to be more sustainable and effective, with improved CHW performance and health outcomes at the community level.[3, 8]
- **Design policy and strategy documents** that outline CHW program key characteristics and components (guiding principles, governance structures, selection criteria and processes, training, incentives, etc.) to guide program implementation within countries. These documents should articulate and **reflect needs of vulnerable and marginalized populations to improve equity.**
- **Mobilize resources based on costed CHW plans.** The CHW Reference Guide contains helpful advice on governance and financing of large-scale CHW programs nationwide, and multiple tools exist to support planning and costing (see chapters 4 and 5[3]).[c]

In conclusion, CHWs are not temporary or second-best solutions to persistent and significant workforce challenges. When effectively integrated into national health systems, they form a foundation for primary health care, complementing and linking communities with facility-based services and even functioning as transformative agents of change.[1, 9] This landscape analysis highlights trends across countries pertaining to key features of CHW programs, including common areas for improvement. Supporting countries to create well-articulated CHW polices and related documents that reflect systems thinking is an unfinished agenda for development partners and donors alike.

[c] Resources for costing community health programs include the following, as summarized in the MCSP Technical Brief, Costs and Cost-Effectiveness of Community Health Investments in Reproductive, Maternal, Neonatal, and Child Health: Costing of Social Norm Interventions: A Primer for the Passages Project; Costing the Standard Days Method; OneHealth Tool; MSH Integrated Community Case Management (iCCM) Costing and Financing Tool; and the UNICEF/MSH Community Health Planning and Costing Tool.

Introduction and Background

Advancing community health is central to achieving the Sustainable Development Goals (SDGs), particularly SDG 3—**to ensure healthy lives and promote well-being for all at all ages**—and its related target 3.8—to attain universal health coverage (UHC) by 2030. To achieve this, countries will need to increase access to trained and supported health workers.[10] However, most countries face shortages and inequitable distribution of the health workforce. The World Health Organization (WHO) estimates that more than 400 million people across the globe lack access to basic health services.[11] Furthermore, in light of the global health security agenda and recent trends in epidemics of infectious diseases, building resilient health systems has become a global imperative. Resilient health systems demand strong health promotion, service delivery, and surveillance systems that extend to hard-to-reach and vulnerable populations through community-based delivery of reproductive, maternal, newborn, and child health (RMNCH) interventions.[12] The contribution of community health workers (CHWs) toward achieving the Millennium Development Goals and the important role that they will continue to play in meeting the SDGs and UHC targets, as well as their crucial role in engaging communities for building resilient health systems, has been highlighted repeatedly.[13] As has been well documented, a package of evidence-based interventions provided through community platforms focused on CHWs (paid and volunteer), and engaged communities could avert approximately 2.4 million child and maternal deaths annually if scaled up.[14] Furthermore, compelling modeling data demonstrate that the number of maternal, newborn, and child deaths and stillbirths could be reduced by 32% if just 30 evidence-based interventions deliverable by CHWs were scaled up to achieve 90% coverage in 73 high burden countries.[1]

Consequently, institutionalization of CHW approaches and programs into national and local health policies and systems is needed as countries strive to fast-track implementation of the new United Nations Global Strategy for Women's, Children's and Adolescents' Health to achieve the SDGs.[15] In this light, country governments, with the support of their global and local partners, need to invest in expanding their community health workforce to extend health care access to "last mile" communities—those farthest from existing health services.

Resilient community health systems are foundational for primary health care (PHC) and should be "based on recognized frontline health workers," inclusive of CHWs (see Box 1, critical principle 3).[16]

MCSP recognizes that effective community-based approaches are essential to improving RMNCH and underscores the critical roles that CHWs play in the service continuum. MCSP advocates for institutionalizing community health as part of national health systems and works to strengthen the CHW workforce and supporting

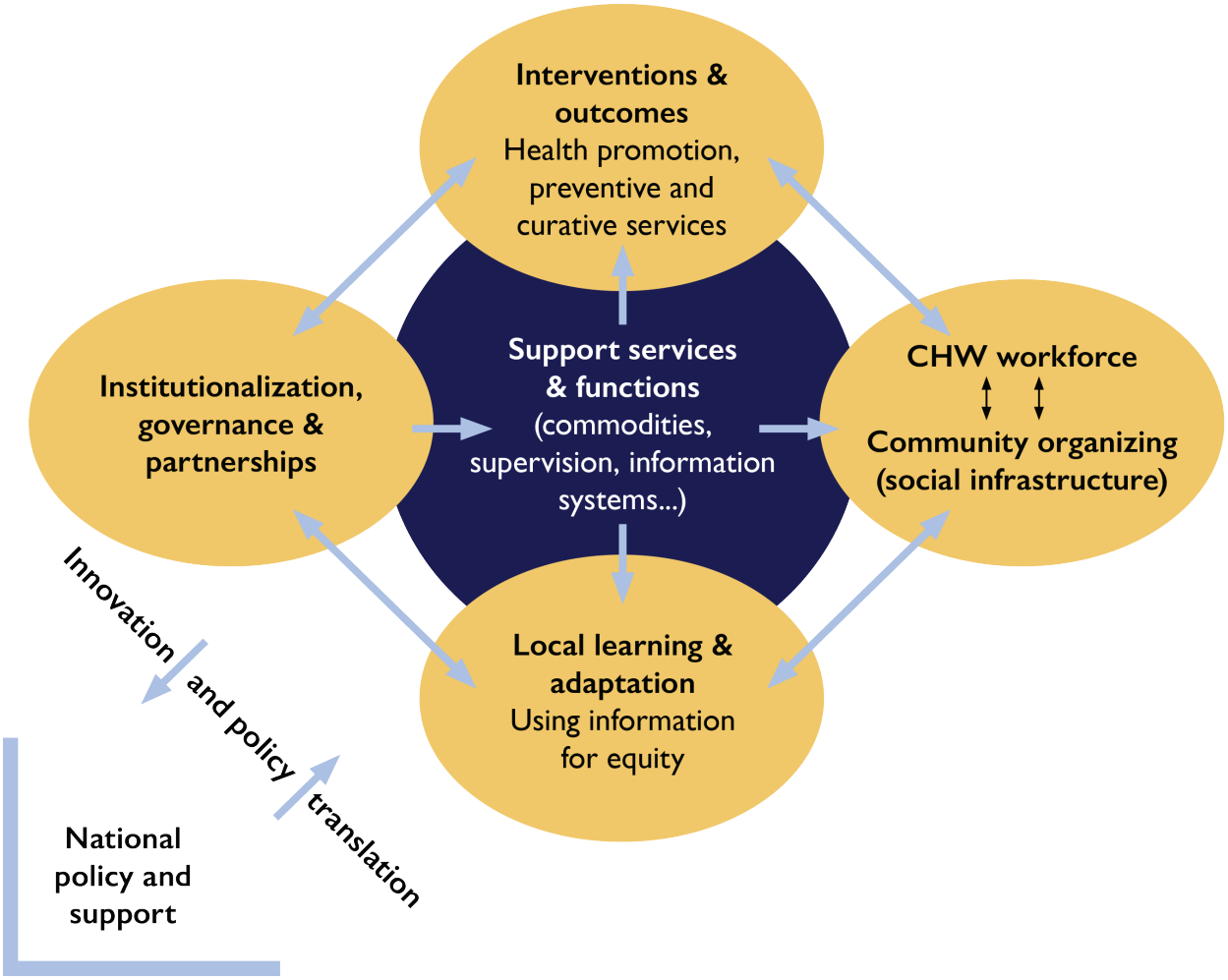
Box 1. Critical principles for community health

From the Institutionalizing Community Health Conference, Johannesburg, South Africa, 2017

1. Engage with and empower communities to build viable and resilient community health systems with strong links to health and other relevant sectors
2. Empower communities and civil society to hold the health system accountable
3. Build integrated, resilient community health systems based on recognized frontline health workers
4. Implement national community health programs at scale, guided by national policy and local systems context, to ensure impact
5. Ensure sufficient and sustainable financing for community health systems that is based on national and international resources, includes the private sector, and contributes to reducing financial barriers to health
6. Program to reduce health inequities and gender inequalities
7. Ensure that communities facing humanitarian crises receive essential healthcare, particularly at the community level
8. Invest in the development of inclusive partnerships to leverage and coordinate diverse civil society and private sector actors to support national acceleration plans and enable communities to shape and support implementation of policies
9. Integrate community data into the health information system, including investment in innovative technologies
10. Employ practical and participatory learning and research to identify, sustain, and scale up effective community interventions while providing opportunities for country-to-country lesson sharing and informing a shared global learning agenda

community infrastructure in partnership with country governments and civil society organizations. In line with these principles, the program advances a holistic view of community health platforms (see Figure 1), within which CHWs are situated and represent a vital component, along with other community resources such as committees and other social infrastructure.[16] This model is consistent with UNICEF's tripartite model (comprised of communities, PHC facilities, and CHWs) in which the CHW is recognized as integral to the successes or failures of community health programs.[17] Naimoli et al. describe a CHW "logic" model that encompasses contextual factors, health and community system components, and system- and program-level factors that support improved CHW performance to guide large-scale CHW programming.[18]

Figure 1. Viable integrated community health platform



Rationale and Purpose

Historically, CHWs have played an important role in increasing access to preventive and curative services to reach remote and vulnerable underserved populations, facilitating progress toward global health and development goals and targets. As part and parcel of many health systems, their deployment is considered a key strategy to respond to the scarcity of health personnel, particularly in low- and middle-income countries (LMICs).[19]

The Maternal and Child Health Integrated Program's *Developing and Strengthening Community Health Worker Programs at Scale: A Reference Guide and Case Studies for Program Managers and Policymakers* (hereafter referred to as the CHW Reference Guide), a compendium of discussion and guidance on the many operational issues that large-scale CHW programs need to address during their development, expansion, or strengthening, notes that for CHW programs to be a central and effective strategy for improving community health outcomes, CHWs' identity; roles, and responsibilities must be well defined in the guiding documents.[3] It further notes that the fit between CHW profile and capacity and assigned tasks and population coverage must be clarified. Also, recent discourse in the literature supports the need to embed CHW programs within national health systems with strong policy support, budget for incentives, essential supplies, supervision, training (via an accredited curriculum), and a clear career path.[19]

Because there is considerable variability across countries and programs, MCSP undertook this landscape review to inform the provision of targeted technical assistance to priority countries as they continue to develop their CHW programs. It describes key features of CHW programs in 22[d] of the 25 countries deemed priority by the United States Agency for International Development's (USAID) Office of Maternal and Child Health and Nutrition based on data from the Community Health Systems (CHS) Catalog, developed by the USAID-funded project, Advancing Partners & Communities (APC).[2] This review aims to:

- Complement the individual country profiles contained in the CHS Catalog and documentation in the CHW Reference Guide[3] and other literature concerning the successes and challenges faced by large-scale CHW programs.
- Provide a cross-sectional reference point for the status of national CHW programs as reflected in policy and related documents.
- Highlight promising practices and gaps in policy and strategy when reviewed in light of the literature and the recently released *WHO Guideline on Health Policy and System Support to Optimize Community Health Worker Programmes* (WHO CHW Guideline).[4]
- Inform ongoing development of CHW programs, policy and strategy design, scaling, and sustainability in the priority countries.

This analysis answers the following question: **"What are the key components and characteristics of government CHW programs in 22 USAID priority countries for maternal and child health (MCH) according to national policy, strategy, and guidance documents?"** Features of particular interest include the planned number and types of CHWs relative to the population, selection criteria, compensation, scopes of work, and intervention packages delivered.

[d] USAID priority countries for MCH for which data were available: Afghanistan, Bangladesh, Democratic Republic of Congo, Ethiopia, Ghana, Haiti, India, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan (Punjab), Rwanda, Senegal, South Sudan, Tanzania, Uganda and Zambia; Data were not available for the USAID MCH priority countries of Indonesia, Myanmar or Yemen.

Additional questions guiding the subanalysis include:

- How many countries have a specific, approved national policy, strategy, or plan for their CHW program? If there are no standalone policies, in how many countries are community health and CHWs embedded in other health sector plans or development strategies?
- How many CHW cadres exist across the 22 countries being reviewed?
- Are the estimated number of CHWs required for coverage stated and are they reported as having been met?
- Have CHW-to-population ratios been specified? How were they expressed?
- Are the formalized CHW cadres on the government payroll? If so, in how many of the 22 countries? If not, what other incentives do they receive?
- What are the CHW selection criteria and processes? Do they include gender considerations?
- What are the linkages of the CHW cadre with the health systems?
- Is there guidance for CHWs' use of data at the community level?
- What is the coverage (rural versus urban or national) of the CHW programs?
- What is the scope of work of the CHWs?
- What key RMNCH interventions do CHWs provide?

The CHW programs reviewed in the CHS Catalog encompass 136 types of interventions that community providers may be tasked with across the spectrum of RMNCH and nutrition, selected infectious diseases, and water, sanitation, and hygiene (WASH). This report focuses specifically on the role of the CHW in the delivery of a subset of key interventions in the following program areas: child health, family planning (FP), maternal health, newborn health, nutrition, and WASH. The CHS Catalog uses the general term "community health provider" for all community-based staff who deliver any form of health service at the community level, irrespective of whether they are salaried or volunteers or their length of training, and refers to specific titles adopted by each respective country as deemed appropriate. This report uses the terms CHW and community health provider interchangeably.

Findings are discussed in the context of policy, planning, and program support to strengthen, scale, and sustain national CHW programs, drawing upon existing evidence and literature to influence the recommendations and conclusions. The analysis highlights key features of CHW programs with implications for a range of global and in-country stakeholders, including program implementers, international and local nongovernmental organizations (NGOs), donors, development partners, governments, policymakers, and the private sector. The review is particularly relevant in the light of the recently released WHO CHW Guideline which examines evidence and provides recommendations on many of these key CHW program features.[4]

Methods, Data Sources, and Data Analysis

Methods and Data Sources

MCSP conducted this activity in collaboration with APC, based on content from the 2017 update of the CHS Catalog database. The CHS Catalog is an online resource that is derived from a desk review of community health systems-related policy, guidelines, plans, reports, training curricula, and other publicly available documents pertaining to RMNCH and nutrition; it does not assess the state of CHW program implementation.[2]

The CHS Catalog is based on the WHO health systems framework and contains data from 25 countries deemed priority by USAID's Office of Population and Reproductive Health. MCSP and USAID's Strengthening Partnership Results and Innovations in Nutrition Globally (SPRING) project collaborated with APC to update and expand the 2014 version of the CHS Catalog by recommending additional content fields pertaining to RMNCH, plus nutrition and community engagement. APC developed data collection tools and its in-country staff and consultants collected, extracted, and inputted data into online forms in 2016–2017. APC staff cleaned the data and shared it with MCSP in Excel for this analysis.

Data Analysis

Data analysis was largely descriptive of the major features of the CHW programs and community health systems in each focus country. The CHS Catalog provides information on 136 distinct interventions provided by CHW cadres, ranging from referral to treatment provision for specific conditions. MCSP technical experts helped to prioritize a subset of RMNCH interventions for which the scopes of services provided by CHWs in the 22 countries were identified for analysis and reporting. The lead author of this report, with support from a data analyst, conducted a cross-country comparison of the major CHW program components to identify trends. In addition, they analyzed the Excel-based database using a variable map to connect each question of interest to the corresponding Excel sheet, column, and variable name. Data were cleaned when necessary to make sure they were in the correct format for a pivot table. Next, the data analyst created pivot tables for the **provider** sheet, **main** sheet, and **intervention** sheets.

Qualitative data were first sorted by country on the corresponding pivot table; then new variables were created as qualitative data were sorted into predetermined categories. For country-level questions, if any CHW cadre within that country had the characteristic of interest, the country was counted as "yes." Formulas were then used in Excel to summarize the data. Similarly, quantitative data were analyzed in pivot tables and summarized using formulas in Excel.

Findings were discussed in the context of policy and program support to strengthen and scale national CHW programs, drawing upon existing evidence and literature to influence the recommendations and conclusions.

Findings and Discussion on Key Components of CHW Programs

Country Policies Guiding CHW Programs

The CHS Catalog includes strategic plans and other guidance documents used to structure a country's community health system under the term "policy."[2] Recent years have seen renewed interest in integrating CHWs into formal health systems. Countries striving to meet their UHC goals and challenged with health worker shortages have increasingly provided at least some guidance on these cadres in their health policies and plans.[20] This subanalysis sought to answer the questions, "How many countries have a specific, approved national policy, strategy, or plan for the CHW program?" and "In the absence of standalone policies, in how many countries are community health and CHWs embedded in other health sector plans or development strategies?" All 22 reviewed countries reported having at least one policy document governing CHW programs and service delivery, many of those with apparent standalone community health or CHW-specific guidance documents.

Across the 22 countries, there were a total of 95 policies, strategies, or guidelines providing guidance on working with CHWs. This translated to a range of two to eight policy documents per country, with an average of four. Although it was reported in the database that only Zambia had a standalone community health policy, it appears that additional countries also had guidance documents that could be described from their titles as specific to the community health or CHW program, as reflected in Table 1. Malawi has since developed a standalone community health guidance document, the *Malawi National Community Health Strategy*, and other countries have related works in process.[21]

Table 1. Countries with apparent standalone community health or CHW-specific guidance documents at the time of data collection

Country	Title of community health or CHW guidance document
Afghanistan	*Community Based Health Care Strategy (2015–2020)*
Ethiopia	*Health Extension Program Implementation Guideline (Revised)*, 2012
Ghana	*National Community-Based Health Planning and Services Policy*, March 2016
Haiti	*Organisation des soins de santé communautaire* (Organization of community health care)
Kenya	*Strategy for Community Health 2014–2019*
Liberia	*Revised National Community Health Services Policy 2016–2021*, 2015
Madagascar	*Politique nationale santé communautaire à Madagascar (PNSC)* (National community health policy), 2009
Mali	*Soins Essential dans la communauté : Guide nationale pour la mise en œuvre* (Essential community health care national implementation guide), 2015
Mozambique	*Programa de Revitalização dos Agentes Polivalentes Elementares* (APE revitalization program)
Nepal	*National Female Community Health Volunteer Strategy*, 2010
Rwanda	*National Community Health Policy*, 2015
Senegal	*Politique Nationale de Santé Communautaire* 2014–2018 (National community health policy)
Tanzania	*Community-Based Health Program (CBHP) Policy Guidelines*, 2014
Uganda	*Community Health Extension Workers Strategy in Uganda, 2015/16–2019/20*
Zambia	*National Integrated Strategy for Community Based Health & Social Development Workers and Volunteers in Zambia* (draft), 2014

The recent push to update policies guiding CHW programs across these 22 countries is encouraging given that inadequate national-level guidance on CHWs has been identified as one of the challenges hampering scale-up and sustainability of CHW programs.[8] In countries without distinct, comprehensive policies or strategies, guiding principles for community health and CHW program implementation were often spread across different policy documents (such as health sector strategic plans, health promotion policies, and growth and development strategies). In such cases, the information was not always clear, often incomplete, and sometimes contradictory, thus having the potential to confuse program implementers and technical assistance partners.

The driving force for planning national CHW programs could come from many sources, and this impacts who leads the process and its outcomes.[22] However, the leadership and governance of CHW programs must be clearly embedded within an agency that has the clout and positioning to carry the programs forward and scale them up nationally. Thus, specific community health policy and strategic plan documents are necessary to elaborate the leadership body and delineate program scope, guiding principles, and other key components and characteristics (such as the CHW selection criteria, coverage ratio, links to the health systems, and supervision and management structures). In addition, such policy, plan, or guidance documents serve as resource mobilization instruments that can attract budgetary allocations. Countries should therefore articulate specific guiding documents for CHWs in terms of policy and costed strategic plans.[e] In concert with the rapid expansion of CHW programs in LMICs over the past decade, 19 of the 22 countries revised at least one CHW policy-related document within the prior 5 years, likely in a bid to scale up delivery of PHC services to meet the MDGs and subsequently attain UHC. Nearly one-third (30/95) of the policy documents had been updated since 2015, providing an impetus for updating APC's CHS Catalog to capture current trends in community health programming.[23]

Community Health Worker Profiles Across Priority Countries

Definitions for CHWs and community-based practitioners vary widely across countries. The term "community health worker" embraces a variety of community health aides selected, trained, and working in the communities from which they come.[24] The International Labor Organization's definition focuses on function, highlighting CHWs as providing "health education, referral, and follow-up, case management, basic preventive health care and home visiting services to specific communities."[25]

Box 2. Definition of a community health worker (*Source*: Scott et al.[26])

- Has a supportive function in health service delivery, including provision of direct health services, health advocacy, and community agency
- Is directly connected to the communities the CHW serves, living in the community and accountable to the people there
- Has a lower level of education than trained health workers such as doctors and nurses.

A more robust definition of CHWs proposed by Scott et al. combines all of these features (Box 2).[26] The WHO CHW Guideline references the following description of CHWs, developed from a systematic review of literature on the integration of CHWs in health systems, "health workers based in communities (i.e., conducting outreach beyond PHC facilities or based at peripheral health posts that are not staffed by doctors or nurses), who are either paid or volunteer, who are not professionals, and who have fewer than two years of training but at least some training, if only for a few hours."[4, 27]

[e] As summarized in the MCSP technical brief, *Costs and Cost-Effectiveness of Community Health Investments in Reproductive, Maternal, Neonatal, and Child Health*, resources for costing community health programs include *Costing of Social Norm Interventions: A Primer for the Passages Project*; *Costing the Standard Days Method,* WHO's OneHealth Tool, the Management Science for Health (MSH) Integrated Community Case Management (iCCM) Costing and Financing Tool, and the UNICEF/MSH Community Health Planning and Costing Tool.

This analysis identified a total of 53 community health provider types, ranging from volunteer to professional cadres, across the 22 countries reviewed. On average, this represented two to three CHW cadres per country, ranging from one (Afghanistan, Democratic Republic of the Congo, Ethiopia, Haiti, Madagascar, Mozambique, and Tanzania) to seven (Malawi) (see Table 2 for the number of cadres by country). CHWs may be women or men, young or old, with high or low levels of literacy, salaried or volunteer, full-time or part-time.[3]

This cadre count does not include more informal cadres that were not captured in the CHS Catalog because they were not reflected in the reviewed policy documents. Or, as in the case of Ethiopia, volunteer cadres like the Health Development Army were identified in policy documents but not classified by the government as a recognized CHW cadre. Overall, the number of CHW cadres across the 22 countries appears to reflect appreciation for their potential contributions to achieving UHC, though the existence of government-recognized CHW cadres is simply a starting point.

Table 2. Number of CHW cadres by country

Country	Number of CHW cadres
Afghanistan	1
Bangladesh	3
Democratic Republic of the Congo	1
Ethiopia	1
Ghana	2
Haiti	1
India	3
Kenya	2
Liberia	2
Madagascar	1
Malawi	7
Mali	2
Mozambique	1
Nepal	3
Nigeria	4
Pakistan (Punjab province)	2
Rwanda	2
Senegal	5
South Sudan	5
Tanzania	1
Uganda	2
Zambia	2
Total	53

CHW Numbers and Targets Required for Population Coverage

The landscape analysis further sought to identify if policy and related documents stated the estimated number of CHWs required for population coverage and if they reported these numbers as having been met. As Table 3 shows, in 19 of the 22 countries (86%), documents stated the **estimated** number of at least one of the two to three CHW cadre types, indicating efforts at the country level to enumerate and possibly map CHWs.

In 16 countries (73%), policies and related documents outlined the **recommended** number of at least one CHW cadre type required to provide adequate population coverage. Of these 16 countries, only seven had complete information on the recommended and estimated numbers of *all* categories of community health providers (see Table 4). CHW estimates in more than two-thirds of the 22 countries (excluding Ethiopia, India, Pakistan, and Rwanda) revealed significant gaps between the targeted and actual numbers of CHWs per cadre for which data were available.

Table 4 highlights countries with complete information on recommended and estimated numbers of CHW cadres. Because CHWs are an important part of the fit-for-purpose workforce that countries need to achieve UHC and SDG goals, lack of complete information on the recommended and estimated numbers of CHWs to achieve intended coverage in guidance documents has implications for policy implementation, planning, and measuring impact of community health and CHW programs.

A 2014 Frontline Health Workers Coalition report noted that absence of CHW numbers implies that host country governments and their partners cannot plan rationally for and integrate CHWs effectively into health systems.[28] In contrast, knowing CHW numbers, locations, trainings, and competencies should help decision-makers better strategize and support CHW cadres and other members of the frontline health team so they can work together to deliver patient-centered care that is effective, efficient, responsive, and safe. It is also important for sustainability of countries' CHW initiatives.[10] The ability to contrast CHW actual or estimated numbers with the recommended number for anticipated coverage enables countries to realign limited resources to address imbalances. It is therefore recommended that countries and partners conduct CHW enumeration and mapping exercises to better understand how to plan and implement their CHW programs

Table 3. Countries with an estimated number of at least one CHW cadre

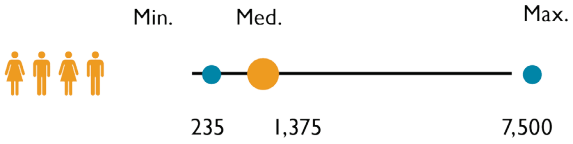
Country	Includes estimated number of at least one CHW cadre
Afghanistan	Yes
Bangladesh	Yes
Democratic Republic of the Congo	No
Ethiopia	Yes
Ghana	No
Haiti	Yes
India	Yes
Kenya	Yes
Liberia	Yes
Madagascar	Yes
Malawi	Yes
Mali	Yes
Mozambique	Yes
Nepal	Yes
Nigeria	Yes
Pakistan (Punjab Province)	Yes
Rwanda	Yes
Senegal	Yes
South Sudan	Yes
Tanzania	No
Uganda	Yes
Zambia	Yes

Specification of CHW-to-Population Ratios

Specifying CHW ratios to population has direct implications on CHW workload, which has been reported to influence CHW performance.[29, 30] The analysis sought to identify if CHW-to-population ratios were specified and, if so, how they were expressed. In all 22 countries reviewed, documents specified the recommended ratio of at least one CHW cadre per population to be served; no ratios were specified for just six of the 53 CHW cadres.

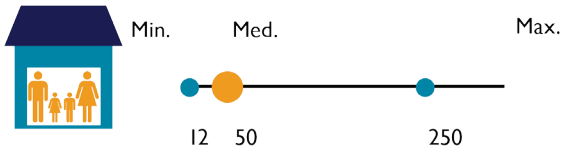
Across the 22 countries, variability in how the CHW-to-population ratio was expressed made comparison across countries challenging and, in turn, makes standardizing country guidance more challenging.[22] For almost half of the 53 CHW cadres, the coverage ratio was expressed as a set number of people per CHW (Figure 2). For 12 of the 53 cadres, ratios were expressed relative to households (Figure 3). For the remaining cadres, CHWs were assigned either per health facility catchment area, such as the community health planning services zone for community health officers in Ghana; per health post, as for junior community health extension workers (CHEWs) in Nigeria; or per village or community. Less commonly, some cadres, such as the family welfare assistants in Bangladesh, were assigned per number of couples, per neighborhood, or per street, as in urban Tanzania.

Figure 2. Population number per CHW



Across the 53 cadres, about half (25) of the CHW population coverage ratios were expressed in terms of people per CHW.

Figure 3. Household number per CHW



For 12 of the 53 cadres, ratios were expressed relative to households

Source: Adapted from graphics developed by Advancing Partners & Communities.

Table 4. Recommended versus estimated actual CHW numbers

Countries and CHW types	Number of CHWs		
	Recommended	Actual	Gap
Afghanistan • Community health workers (CHWs)	40,000	28,000	–12,000
Ethiopia • Health extension workers (HEWs)	41,665	> 38,000	–3,664
Haiti • *Agent de santé communautaire polyvalent*	10,920	3161	-7759
India • Anganwadi workers • Accredited social health activist • Auxiliary nurse midwife	1,366,766 961,113 178,963	1,174,388 859,331 212,185	–192,378 –101,782 +33,222
Pakistan • Community midwives • Lady health workers	9,000 51,500	4,200 48,500	–4,800 –3,000
Rwanda • *Animatrice de santé maternelle* (ASM) • Agent de santé binôme (male or female community health worker)	14,873 29,746 = 44,619	45,011	+392
Nepal • Auxiliary health worker • Auxiliary nurse midwife • Female community health volunteer	4,012	3,600	–412

Although these ratios were most commonly specified per population or per number of households, in most countries there was more than one reference point even within the same cadre. For example, a CHEW in Kenya is assigned to a community unit of approximately 5,000 people; in Uganda a CHEW is assigned to 500 households or about 2,500 people; and in Bangladesh a community health care provider is attached to a community clinic that serves on average 6,000 people.

Furthermore, at least seven countries (Figure 4), provide specific guidance on how provider-to-beneficiary ratios may be adjusted to best meet local needs. For example, ratios could be adjusted according to urban versus rural setting, community proximity to a health facility, geographic region, or population density. This flexibility indicates a country's effort to manage variables that affect CHW workload and performance.

The WHO CHW Guideline examined the evidence for defining target population size per CHW and concluded that optimal population size per CHW may depend on the number and nature of tasks assigned to the CHW, among multiple other factors that affect time demands.[4, 31]

Compensation and Incentives

The analysis sought to identify if formalized CHW cadres were on government payroll, and if so, in how many of the 22 countries. It also looked at other forms of financial and nonfinancial incentives beyond salary.

In all 22 countries reviewed, at least one CHW cadre received both financial and nonfinancial incentives (Table 5). Financial incentives were in the form of salaries, per diems, cash payments, and performance-based incentives (Figure 5).

Figure 4. Examples of country adjustment of community health provider ratios

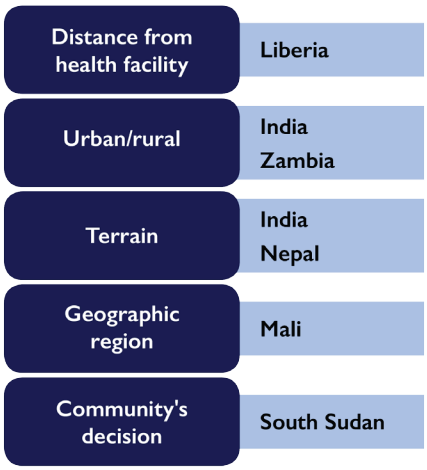


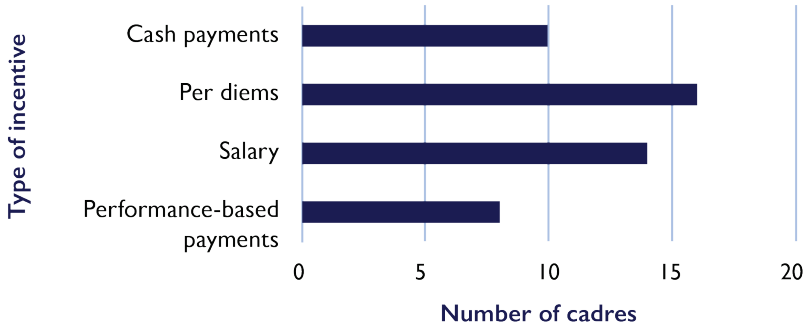
Table 5. CHW compensation types by country

Country	Financial incentive	Nonfinancial incentive	Salaried CHW
Afghanistan	Yes	Yes	No
Bangladesh	Yes	No	Yes
Democratic Republic of the Congo	Yes	Yes	No
Ethiopia	Yes	Yes	Yes
Ghana	Yes	Yes	Yes
Haiti	Yes	Yes	Yes
India	Yes	Yes	Yes
Kenya	Yes	Yes	Yes
Liberia	Yes	Yes	No
Madagascar	Yes	Yes	No
Mali	Yes	Yes	No
Malawi	Yes	Yes	Yes
Mozambique	Yes	Yes	No
Nepal	Yes	Yes	Yes
Nigeria	Yes	Yes	Yes
Pakistan (Punjab Province)	Yes	Yes	Yes
Rwanda	Yes	Yes	No
Senegal	Yes	Yes	No
South Sudan	Yes	Yes	No
Tanzania	Yes	Yes	Yes
Uganda	Yes	Yes	Yes
Zambia	Yes	Yes	Yes

Across 14 countries, 20 (38%) of the 53 CHW cadre types were salaried. The majority of salaried CHWs had a higher level of education, worked in a health facility post, and had received more training. For six of these salaried cadres, the guidance documents indicated a salary ranging from the equivalent of US$63–$157 per month.

Thirteen cadres in eight countries received performance-based incentives. For example, accredited social health activists in India received payments for escorting women to facilities for delivery and ensuring a child was fully immunized. Figure 5 gives a breakdown of the type of financial incentives received by CHWs by number of countries.

Figure 5. Types of financial incentives



Per diem: Payment intended specifically for meals, incidental expenses, travel, and lodging costs

Cash payments: Payments not tied to meals, incidental expenses, travel, or lodging costs

Providing CHWs with predictable financial and nonfinancial incentives has been reported to be one of the most effective policy approaches for integrating them into health systems. Others include frequent supervision, continuous training, and identification of clear roles and communication channels for CHWs within health systems.[5] Standardized financial incentives are perceived as acceptable, motivating, and providing a sense of financial independence and self-confidence among community workers, with an ultimate positive impact on CHW performance. The converse is also true; high CHW attrition rates are associated more closely with volunteer programs.[32] Predictable and fair incentives could help to ameliorate CHWs' high attrition rates.[33, 34]

In countries with fragmented CHW programs, both the government and NGOs provide financial and nonfinancial incentives in a nonstandardized fashion. This tends to undermine motivation and leads to high turnover with a negative impact on long-term commitment among CHWs. Bhattacharyya et al. reported that it can be more demotivating for CHWs to expect compensation and then not receive it regularly than for CHWs to acknowledge their volunteer status.[33] Some countries (e.g., Liberia, Sierra Leone, Uganda, and Haiti) are opting for a standardized incentive, and others are instituting a dual cadre structure of salaried CHWs that oversee a volunteer cadre that receives nonfinancial incentives (e.g., health extension workers and the Health Development Army in Ethiopia, and CHEWs and village health teams in Uganda) or making CHWs a part of the public service structure (Kenya, Uganda, and Zambia). In Bangladesh, the three community health provider cadres reviewed received only financial incentives, whereas in South Sudan and Zambia, the different cadres received only one type of incentive or the information was not available in policy and related documents. All countries except for Bangladesh offered at least one CHW cadre some kind of nonfinancial incentives (Table 5).

Notably, cadres that receive only nonfinancial incentives (such as periodic training, T-shirts, bicycles, umbrellas, formal social recognition for services and opportunities for career advancement, and preferential access to health care or microcredit) are often volunteer cadres who provide health promotion services (i.e., pertaining to social and behavior change communication but not treatment) in the communities. When surveyed, such volunteer cadres have indicated that receiving a financial incentive would greatly help to improve their morale, with some expressing hope that the volunteer role might lead to salaried employment.[35]

The recent WHO CHW Guideline recommends that CHWs be remunerated "for their work with a financial package commensurate with the job demands, complexity, number of hours, training and roles that they undertake" (7A), clarifying in the discussion that it does not "rule out a priori the continued existence of dedicated volunteers that willingly perform their roles on a pro bono bases, in addition to having as individuals a different, main source of livelihood."[4]

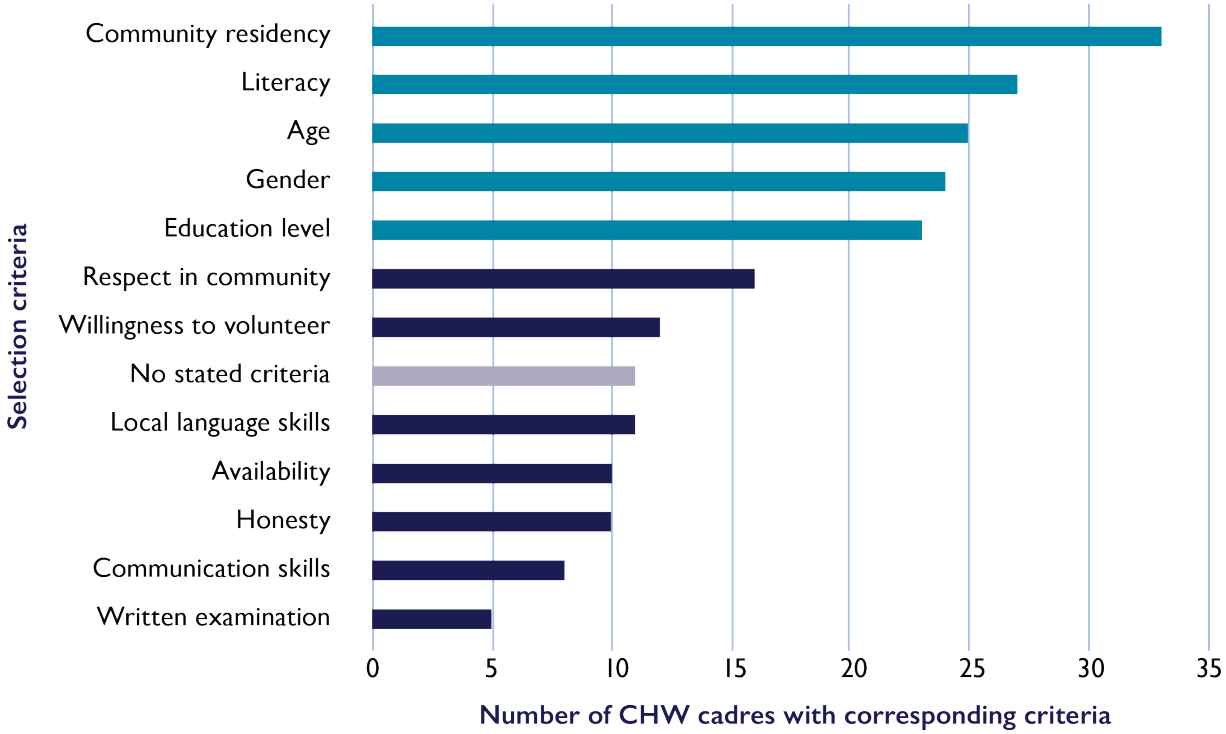
CHW Selection Criteria and Processes

The landscape analysis reviewed whether policy and related documents included CHW selection criteria and processes, with specific attention to gender considerations.

Selection Criteria

In all but two of the 22 countries, policy and related documents outlined selection criteria for at least one CHW cadre. However, when examined by cadre, 11 of the 53 lacked explicit criteria. The most common selection criteria were community residency, literacy, age, and gender (Figure 6). Other criteria included education level, willingness to volunteer, and local language skills.

Figure 6. CHW selection criteria frequency by cadres



Across the 22 countries, a minimum level of education was a key selection criterion for nearly a third (60%) of the 20 salaried cadres. Literacy, which is closely related to possessing a minimum education level, is particularly important for cadres that perform tasks requiring literacy and numeracy, such as case management, stock management, and completion of reports. In some countries (e.g., Haiti, Liberia, and Nepal), certain cadres require a written test to prove literacy. In other countries, such as South Sudan, basic literacy and numeracy is preferred but not required, especially for female candidates. Educational status has been linked to better CHW performance, with knowledge about job responsibilities higher among CHWs who were educated up to at least an intermediate level[36] and the more educated CHWs were, the more knowledge and leadership self-efficacy they demonstrated.[37] Evidence suggests that CHWs should possess a minimum functional educational level that is appropriate for the tasks they will be performing.

Nonetheless, requiring literacy when it is not needed can preclude people who would be effective CHWs. As noted in the CHW Reference Guide, "More than the level of education, it is far more important that the person selected is engaged with his or her work, responsive, accountable, respected, and trusted by the community. These attributes are often associated with age and children. CHWs do not necessarily need high qualifications, but they must be able to and open to learn."[3]

For almost half (25) of the 53 CHW cadres, age was noted as an important criterion, although there is limited evidence on whether the selection of older or younger CHWs has a positive impact on outputs or outcomes. For more than half of these cadres, the minimum age was 18 years; in Senegal, however, the minimum age was 17 years and the upper limit was 50 years. A minimum age of 18 years is a strong indication that young adults are encouraged to be involved in community development. In countries where CHWs are salaried or receive a standardized incentive, community health work is considered an avenue for engaging unemployed young people in the rural areas. In 15 countries, policies specified inclusion of younger adults (18–35 years) as a selection criterion for at least one CHW cadre.

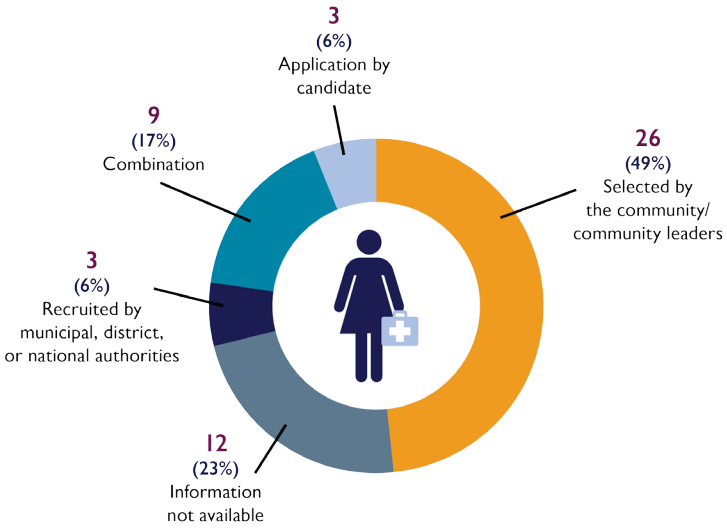
For more than half of the cadres (29) and across 15 countries, gender was a key selection criterion. A preference for females was noted for certain cadres (10) such as midwives or where deemed culturally or religiously appropriate. In more than four instances where males and females were eligible, females where prioritized. Although prioritization of women has the potential to create opportunities to develop skills and increase social status, care should be taken to avoid exacerbating gender inequalities by adding to women's workload, particularly if expectations for the role exceed compensation.

Overall, having clearly established selection criteria for CHW cadres promotes transparency, fairness, and consistent standards across the program and country, whereas a degree of flexibility can help to identify and retain individuals from hard-to-reach populations that might otherwise go unserved.

Selection Process

All 22 countries provided policy and related document guidance for selecting at least one CHW cadre, revealing diverse processes for selecting community health providers. However, for 12 cadres across six countries (Haiti, Kenya, Malawi, Nigeria, South Sudan, and Zambia) no guidance was specified. In many cases, documents outlined who selects the provider rather than details of the selection process.[23] Across the 53 cadres, the most common selection process involved selection by the community and/or community leaders (Figure 7). Some CHW cadres were recruited by higher-level authorities, by application, or selected through a combination of processes. For the nine cadres for which selection was undertaken by a combination of methods, community involvement was also reported. Community involvement in the selection of the CHW cadre and definition for program activities either collectively or through representation (e.g., village health committees or community leaders) has been reported to give community members a sense of ownership and enhances engagement arising from increased trust and acceptance.[38]

Figure 7. CHW Selection process by number of cadres



Source: Adapted from graphics developed by Advancing Partners & Communities.

Linkages and Relationship to the Health System

CHW program effectiveness is highly dependent upon linkages between CHW cadres and the formal health system. The most common link reported was a contractual/employment relationship with the government or local authorities. Contracts are written agreements specifying details such as CHW working conditions, job responsibilities, remuneration terms, and rights. Twenty-five of the 53 CHW cadres (47%) were either employed by the government or contracted to local authorities or to NGOs implementing the government program. For another 25 cadres (47%), in 16 of the 22 countries, connection with the health system was

through supervision, with a health facility-based staff supervising CHW cadres. Most employed CHWs work from a government health post or health clinic. CHWs serve as a vital connection between the people and the health system, and reviewed documents report that 25% of the 53 CHW cadres have a role in making formal community referrals. Effective community-based service delivery requires a community-based health workforce, managed in addition to and in close coordination with the facility workforce and other elements, as elaborated in comprehensive community health platform or logic models.[16, 17]

Inadequate connections between CHW programs and formal health systems limit successful and sustained scale-up. For CHW programs to have successful outcomes, CHWs should be part of a strong PHC team with supervisors based at the PHC facility for support and mentorship along with replenishment of supplies.[39, 40] CHWs must be integrated into the health system based on a core set of skills defined at the national level and with appropriate supervision and support.

Supervision and Quality

Closely related to the issue of CHW linkages to the health systems is that of supervision and quality control of the services delivered by these cadres. Reviewed documents showed that 50 of the 53 CHW cadres were supervised by a higher-level government health care or management professional. In more than two-thirds of the countries (15), supervision is shared with an NGO that supports CHW program implementation. Almost as many countries (14) had documented guidance for determining CHW performance or ensuring quality of service rendered. The inability of government health systems to adequately supervise active CHWs on the ground has been identified as one of the failures of the post-1978 Alma Ata declaration drive for large-scale CHWs programs.[41, 42] Although lack of clarity in the relationship between CHWs and other health professionals within the PHC team tends to undermine overall commitment to and capacity for CHW supervision and support, frequent supervision is one of the effective approaches to successful integration of CHWs into health systems.[43]

Data Use at Community Level

Another key component of the CHW programs reviewed was guidance on use of data at the community level. In all 22 countries, policy and related documents provided guidance for all CHW cadres to collect and track data from home visits, case management, and other services; document life events; manage commodities; and/or monitor disease outbreaks. However, less universal was specific guidance on data use at the community level (72%; 16 of the 22 countries, excluding Bangladesh, Ghana, Haiti, Liberia, Punjab Province of Pakistan, and Zambia) and how to involve the community in data analysis or decision-making.

Collection and use of data are fundamental to quality improvement and have the potential to positively impact health outcomes. CHWs generate a lot of data from their work at the community level. At times, data may be reported up the chain to the formal health systems with little reference as to how it can be used to guide work or improve performance at the community level. Emerging evidence suggests that CHW use of data at the community level could help to improve service delivery and ultimately result in better community health outcomes. Research on this subject is ongoing.[6]

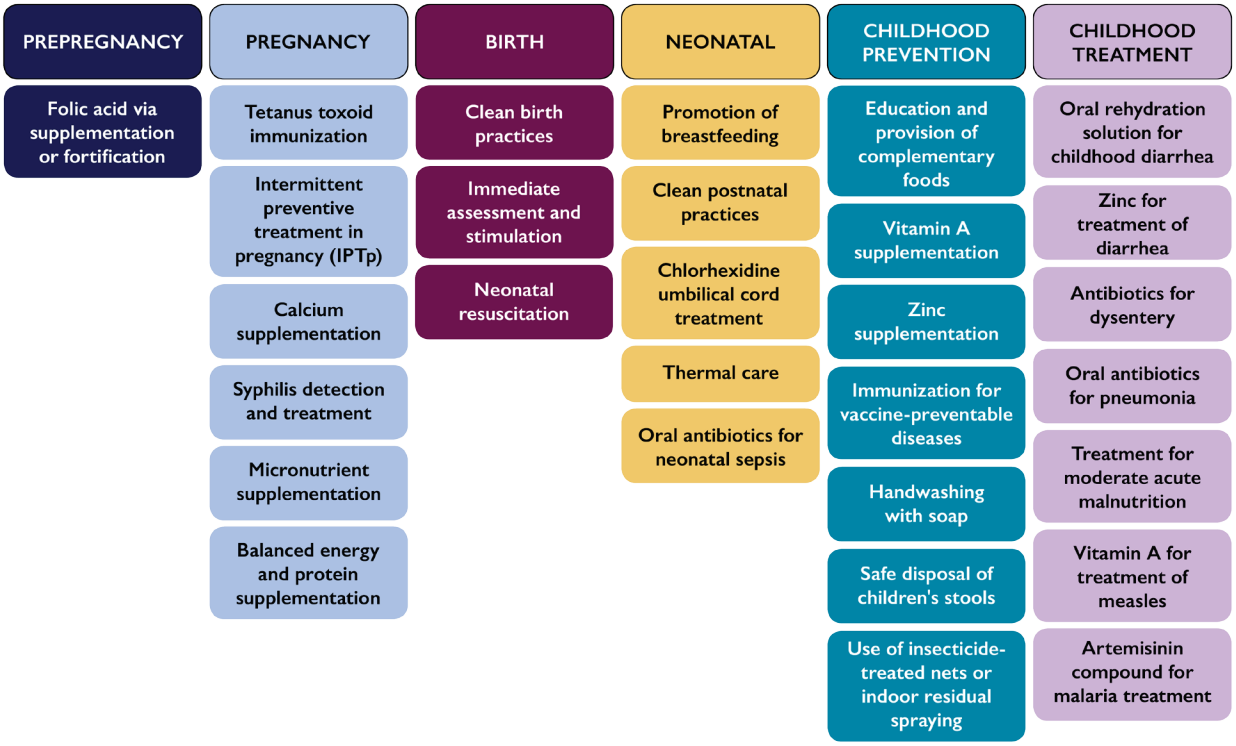
Rural, Urban, and Peri-urban Coverage

Thirty CHW cadres in 15 countries are intended to provide coverage across rural, peri-urban, and urban areas, as described in policy documents. Exceptions include Bangladesh and Mozambique (rural only), Ethiopia and India (urban and rural only), Liberia and Zambia (rural and peri-urban only). No details of this nature were included for Senegal. In two countries (Liberia and Mali), documents provided additional guidance on coverage areas relative to distance from the nearest health facility. Given that countries rely on CHW programs as a means to make access to health care more equitable, challenges posed by disability, geography, and settlement patterns are important considerations for national policy documents that set the stage for program planning and provide direction for donor support.[43]

CHW Scope of Work

Globally, intervention packages provided by CHWs vary from country to country and from one cadre to the next, with CHWs providing services across many health areas and at different levels (see Figure 8).[44] Across the 22 countries, almost 80% of the 53 CHW cadres documented provide preventive and promotive health information for RMNCH, WASH, malaria, and FP. Table 7 (on page 19) provides information on specific interventions implemented by CHWs by country. Although most community health providers deliver services across multiple service areas, Malawi recorded the greatest number of CHW cadres working in distinct health areas such as nutrition, community-led total sanitation, and community home-based care. WHO has provided recommendations on the interventions CHWs can provide to improve maternal and newborn health.[45]

Figure 8. Evidence-based interventions that CHWs can provide that have been included in the Lives Saved Tool calculations



Source: Chou et al.[1] Used under Creative Commons Attribution 4.0 International License.

The WHO CHW Guideline provides further guidance on whether to have CHWs be generalists or have specific tasks. For a complete breakdown of all 136 interventions surveyed across the 22 countries, please refer to the online CHS Catalog.[2]

Selected RMNCH Interventions Implemented by CHWs

A substantial body of evidence highlights CHWs' contribution to improving RMNCH outcomes.[46, 47] For example, Ethiopia was able to reduce its mortality rate for children under age 5 by 67% between 1990 and 2012, due to nearly 40,000 health extension workers trained to provide basic first aid, contraceptives, vaccinations, and case management services for malaria, diarrhea, and intestinal parasites.[48] CHWs have contributed immensely to improving the health of populations, especially when implementing RMNCH interventions in settings with significant shortages of motivated and capable health professionals.[49]

CHWs can promote newborn care practices, including skin-to-skin contact, exclusive breastfeeding, appropriate care-seeking practices, and help to reduce maternal, newborn, and child deaths through health communication on FP, treatment for common illnesses, and referrals of complex cases in both urban and rural environments. CHWs can also adequately manage common childhood illnesses such as malaria,

pneumonia, and diarrhea (through iCCM). In addition, although it is well known that health care infrastructure and skilled birth attendance are indispensable, the community-based distribution of misoprostol, along with education efforts, have been found to reduce maternal deaths from postpartum hemorrhage (PPH).[50]

Table 7 (on page 19) displays selected RMNCH interventions (from among those included in the CHS Catalog and as prioritized by MCSP technical experts) delivered by CHW cadres by country and tallies of the total number of countries in which each intervention is performed by CHWs, according to the policy and guidance documents reviewed. The table shows the number of countries in which at least one cadre of CHWs provides the intervention, countries in which the information was not available in the reviewed documents, and countries in which the policies do not make provisions for CHW implementation for the selected intervention.

By providing evidence-based interventions as part of community-based PHC, CHWs can help to reduce maternal, neonatal, and child mortality (Figure 8). Chou et al. estimated that scaling up community-based PHC interventions (to 70% in 2016 and 90% by 2020) could prevent between 5 and 7 million deaths between 2016 and 2020 in 73 high burden countries.[1] They noted that African countries had the most to gain if coverage of evidence-based interventions reached 90% by 2020, as 58% of the lives saved would be in that region.[1] "At a population coverage level of 90%, the specific interventions included in our analyses contributing to save the greatest number of lives for all subgroups combined are balanced energy and protein supplementation during pregnancy, artemisinin compounds for treatment of malaria, oral antibiotics for pneumonia, oral rehydration solution for diarrhea, and multiple micronutrient supplementation during pregnancy."[1]

In almost all of the 22 reviewed countries, CHW program documents specified delivery of interventions pertaining to the key intervention areas highlighted by Chou et al.,[1] with the exception of Madagascar (maternal nutritional interventions), Haiti (information not available for iCCM), and Zambia (WASH-related interventions). In *A Review of the Evidence: How Effective Is Community-Based Primary Health Care in Improving the Health of Children*, Perry et al. outlined some of the interventions and approaches that should receive priority in community-based programming, as highlighted in Box 3.[51] Many of the interventions highlighted in their review, along with the high-impact interventions recognized by Chou et al.,[1] were specified in the 22 reviewed countries, as seen in Table 7, with the notable exception of balanced energy and protein supplementation during pregnancy, which was not tracked in the CHS Catalog.[2] The catalog did track calcium and iron-folate supplementation under the maternal nutrition category.

Box 3. Selected community-based interventions and approaches for priority programming

(*Source*: Perry et al.[3])

- Intermittent preventive treatment during pregnancy (IPTp) of malaria in malaria-endemic areas
- Promotion of breastfeeding immediately after birth, exclusive breastfeeding during the first 6 months of life, and continued breastfeeding after 6 months of age
- Home-based neonatal care, which includes promotion of immediate and exclusive breastfeeding, promotion of cleanliness, prevention of hypothermia, and diagnosis and treatment of neonatal sepsis by CHWs
- Promotion of appropriate complementary feeding beginning at 6 months of age
- Promotion of hygiene (including handwashing), safe water, and sanitation
- Promotion of oral rehydration therapy and zinc supplementation for children with diarrhea
- Promotion of clean delivery, especially in settings in which most births occur at home and hygiene is poor
- Community-based treatment of childhood pneumonia

Referral for danger signs in mothers (22 countries) and newborns (19 countries) and children with moderate malnutrition (18 countries) was common across countries. Selected services involving treatment or use of commodities by CHWs included provision of misoprostol for prevention of PPH (nine countries), chlorhexidine for newborn cord care (nine countries), and iCCM for childhood illness (21 countries). Almost all countries (21/22) had screening for moderate acute malnutrition (MAM) using mid-upper arm circumference, although treatment of MAM (eight countries) and treatment of severe acute malnutrition

using ready-to-use therapeutic food and/or ready-to-use supplementary food by CHWs was lower (eight countries).

Both Chou et al.[1] and Perry et al.[3] identified three of the priority interventions as having a significant impact on maternal and child mortality: misoprostol administration for PPH prevention at the community level, chlorhexidine application for newborn cord care, and nutrition interventions in children under age 5. These interventions were collectively specified in documents in only four countries and provided by less than a third of the 53 CHW cadres.

Interventions such as chlorhexidine application for newborn cord care, misoprostol administration, and IPTp are recent innovations and their adoption for delivery by CHWs is slowly increasing. This could explain the relatively small number of countries represented in Table 7 as specifying CHW delivery of these interventions. Chlorhexidine application to the umbilical cord, kangaroo mother care combined with breastfeeding for newborns, and injectable contraceptives for increased access to FP were identified among the 11 emerging innovations modeled by PATH with high potential to reduce mortality in mothers and children under age 2 that can also be delivered by CHWs.[52] In addition, as previously stated, Chou et al. identified balanced energy and protein supplementation during pregnancy as among the most efficacious interventions that can be delivered by CHWs.[1] When designing national-scale CHW programs, it will be important for countries to consider these interventions with proven ability to reduce mortality in newborns, children, and mothers, as applicable to their disease burden.

Table 7. Selected RMNCH interventions delivered by at least one CHW cadre across 22 priority countries

	Selected RMNCH intervention products and services delivered by at least one cadre of CHWs																			
	Reproductive health				Maternal health			Newborn care			Child health	Nutrition							WASH	
Countries	**Provide info, education, and counseling on injectable contraceptives**	**Provide referrals for injectable contraceptives**	**Administer/provide injectable contraceptives**	**Provide emergency contraceptives**	**Recognition of danger signs in mothers during postnatal period**	**Referral for intermittent preventive therapy (IPTp) for malaria**	**Provision of misoprostol for postpartum hemorrhage (PPH) at community level**	**Administer chlorhexidine for cord care**	**Provide postnatal follow-up care for newborns**	**Referral for newborns with danger signs**	**Integrated community case management (including treatment of diarrhea, malaria, and pneumonia)**	**Malnutrition screening in children using mid-upper arm circumference (MUAC)**	**Referral for moderate acute malnutrition**	**Treatment for moderate acute malnutrition**	**Referral for treating severe acute malnutrition with ready to use therapeutic food (RUTF)**	**Treatment for severe acute malnutrition with RUTF**	**Referral for treating severe acute malnutrition with ready to use supplementary food (RUSF)**	**Treatment for severe acute malnutrition with RUSF admnistration/provision**	**Handwashing with soap (info, education, and counseling)**	**Household point of use water treatment (info, education, and counseling)**
Afghanistan	Y	Y	Y	Ø	Y	Ø*	Ø	Y	Y	Y	Y	Y	Ø	Ø	Ø	Ø	Ø	Ø	Y	Y
Bangladesh	Y	Y	Y	Ø	Y	Ø*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Ø	Ø	Y	Ø
Democratic Republic of the Congo	Y	Y	N	Ø	Y	Y	N	N	Y	Y	Y	Y	Y	Ø	Ø	Ø	Ø	Ø	Y	Y
Ethiopia	Y	Y	Y	Y	Y	Ø	Y	Ø	Y	Y	Y	Y	Y	Y	Y	Y	Ø	Ø	Y	Y
Ghana	Y	Y	Y	Y	Y	Ø	Y	Ø	Y	Ø	Y	Ø	Ø	Y	Ø	Y	Ø	Ø	Y	Ø
Haiti	Y	Y	Ø	Ø	Y	Ø	N	N	Y	Y	Ø	Y	Y	N	Y	N	Ø	N	Y	Y
India	Y	Ø	Y	Y	Y	Ø*	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	Y
Kenya	Y	Y	Y	Y	Y	Ø	Ø	Ø	Y	Ø	Y	Y	Y	Ø	Ø	Ø	Ø	Ø	Y	Y
Liberia	Y	Y	Y	Y	Y	Y	Ø	Y	Y	Y	Y	Y	Y	N	Ø	N	Ø	N	Y	Y
Madagascar	Y	Y	Y	Ø	Y	Y	Ø	Ø	Y	Y	Y	Y	Y	Ø	Ø	Ø	Ø	Ø	Y	Y
Malawi	Y	Y	Y	Ø	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mali	Y	Y	Y	Ø	Y	Ø	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mozambique	Y	Y	Y	Ø	Y	Y	Ø	Y	Y	Y	Y	Y	Y	N	Ø	N	Ø	N	Y	Y
Nepal	Y	Y	Y	Ø	Y	Ø*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Nigeria	Y	Y	Y	Ø	Y	Ø	Ø	Ø	Y	Ø	Y	Y	Y	Ø	Ø	Ø	Ø	Ø	Y	Ø
Pakistan (Punjab province)	Y	Y	Y	Y	Y	Ø*	Y	Y	Y	N	Y	Y	Y	Ø	Ø	Ø	Ø	Ø	Y	Y
Rwanda	Y	Y	Y	Ø	Y	Ø	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Ø
Senegal	Y	Y	Y	Ø	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
South Sudan	Y	Y	Y	Y	Y	Y	Y	Ø	Ø	N	Y	Y	Y	N	N	N	N	N	Y	Y
Tanzania	Y	Y	N	Y	Y	N	N	N	Y	N	Y	Y	Y	Ø	Ø	Ø	Ø	Ø	Y	Y
Uganda	Y	Y	Y	Y	Y	Y	Ø	Ø	Y	N	Y	Y	Ø	Ø	Ø	Ø	Ø	Ø	Y	Y
Zambia	Y	Y	Y	Ø	Y	N	N	N	Y	N	Y	Y	Ø	Ø	Ø	Ø	Ø	Ø	N	Y
Total Y (Yes)	**22**	**21**	**19**	**9**	**22**	**8**	**9**	**9**	**21**	**19**	**21**	**21**	**18**	**8**	**8**	**8**	**5**	**5**	**21**	**18**
Total N (No)	**0**	**0**	**2**	**0**	**0**	**2**	**7**	**6**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**5**	**2**	**5**	**1**	**0**
Total Ø (info not available)	**0**	**1**	**1**	**13**	**0**	**12**	**6**	**7**	**1**	**3**	**1**	**1**	**4**	**9**	**12**	**9**	**15**	**12**	**0**	**4**
Ø*: non malaria-endemic countries																				
Yellow indicates interventions that account for the greatest potential to prevent maternal, newborn and child deaths, according to Chou et al.[1]																				

Recommendations and Conclusion

As has been well documented, CHW programs have the potential to expand access to and delivery of essential health services as well as promote healthy behaviors at the community level, particularly for mothers and children. With a view to understanding the policy and guidance landscape for national CHW programs in USAID's priority countries for MCH, MCSP posed the question, **What are the key components and characteristics of government CHW programs in 22 USAID priority countries for MCH according to national policy, strategy, and guidance documents?**

Across the 22 countries, there were on average four CHW policy and related guidance documents per country, with 80% of the countries drafting or updating these policies over the period 2012–2017. This analysis identified 53 CHW cadres, and found that in more than two-thirds of the countries, information on the total number of at least one CHW cadre existed, indicating important country efforts to enumerate CHWs. In all 22 countries, at least one cadre received both financial and nonfinancial incentives, with the majority of those receiving salaries having a higher educational level or having been trained for longer periods than those that did not. Most common among CHW selection criteria was the expectation that CHWs be residents of the communities in which they will serve and that the selection processes involve the community either collectively or via representation. Policy or related documents in all 22 countries provided guidance on data collection by all 53 CHW cadres, and about three-quarters of the documents included specific guidance on data use at the community level. Almost 80% of the 53 CHW cadres provide preventive and promotive health information for RMNCH, WASH, malaria, and FP. Referral for danger signs in mothers (22 countries) and newborns (19 countries) and children with moderate malnutrition (18 countries) was common across countries. Selected services involving treatment or use of commodities by CHWs included provision of misoprostol for prevention of PPH (nine countries), chlorhexidine for newborn cord care (nine countries), iCCM for childhood illness (21 countries), treatment of MAM (eight countries), and treatment of severe acute malnutrition using ready-to-use therapeutic food and/or ready-to-use supplementary food (eight countries).

The global commitment of "A Promised Renewed" to prevent child and maternal deaths by 2035 will be unattainable if CHW programs are not expanded. The following recommendations pertain to major features of CHW programs considered in this analysis and based on the corresponding literature, including the CHW Reference Guide[3] and recent WHO CHW Guideline, as applicable. The recommendations are grouped according to the specific features reviewed, and selected overarching systems support considerations. They also highlight promising country examples worthy of emulation and underscore pertinent considerations for country program planners, policymakers, implementers, and donors in sustaining national CHW programs.

Recommendations specific to key features reviewed:

- **Enumerate and map CHWs to** document existing numbers and their geographic distributions to aid comparison against policy targets, as demonstrated by examples from Ethiopia, India, Pakistan, and Rwanda. Target ratios of CHWs per population or geographic area may require flexibility to account for differences in terrain, distance to health facilities, population density, and other factors affecting workload.
- **Provide CHWs with consistent financial and nonfinancial incentives.** WHO guidance recommends that CHWs be remunerated "commensurate with the job demands, complexity, number of hours, training and roles that they undertake."[4] Nonfinancial incentives that have been noted to improve CHW performance include frequent supervision, continuous training, and identification of clear roles and communication channels for CHWs within health systems.[5]
- **Include education commensurate with the tasks required, along with community nomination and consent, in the CHW selection criteria.** Literacy and numeracy are important for CHW cadres who perform tasks such as case management, stock inventory, and completion of reports. In settings where it is difficult to identify and/or retain individuals with higher levels of education, tools and expectations may need to be adjusted to accommodate individuals who have lower levels of literacy but are otherwise well-suited for the tasks and demonstrate the ability to learn what is required of them.[3]

- **Involve the community in selecting CHWs** and defining CHW program activities (either collectively or through representation such as by village health committees or community leaders using transparent criteria) as it contributes to community ownership and may enhance engagement arising from increased trust and acceptance. The WHO CHW Guideline validates this recommendation, stating that community membership and acceptance should be a required selection criteria.
- **Clarify CHW links to other health professionals** within the ministry of health as a means to increase health professionals' commitment to CHW **supervision** and support. CHWs should be **integrated into the health system** on the basis of a core set of skills that are defined at the national level and with appropriate supervision and support.
- **Integrate data generated from national CHW programs into national health management information systems and provide guidance for using data at the community level.** The WHO CHW Guideline recommends enabling CHWs to collect, collate, and use health data on routine activities. When CHWs and communities use the collected data, service delivery and community health outcomes can improve.[6]
- **Prioritize evidence-based interventions** in CHW scopes of work that have the most potential to improve RMNCH outcomes in their context, as summarized earlier.[1]

Recommendations pertaining to selected overarching systems support considerations:

- **Embed leadership and governance of CHW** programs within an agency that has the clout and position to implement and scale the programs nationally. This however should be balanced at the community/district with appropriate local leadership and ownership. Donors and partners should support ministries of health as they develop strong guidelines and strategic plans.
- **Integrate CHW programs within national health systems**. CHW programs with strong policy support that defines CHWs' formal roles, includes budget for remuneration or other incentives, provides essential supplies, supervision, training (via an accredited curriculum), and a clear career path are worthwhile investments for strengthening PHC.[7] Such programs are likely to be more sustainable and effective, with improved CHW performance and health outcomes at the community level.[3, 8]
- **Design policy and strategy documents** that outline CHW program key characteristics and components (guiding principles, governance structures, selection criteria and processes, training, incentives, etc.) that guide CHW program implementation within countries. These documents should articulate and **reflect needs of vulnerable and marginalized populations to improve equity.**
- **Mobilize resources based on costed CHW plans.** The CHW Reference Guide contains helpful advice on governance and financing of large-scale CHW programs nationwide and multiple tools exist to support planning and costing (see chapters 4 and 5[3]).[f]

In conclusion, CHWs are not temporary or second-best solutions to persistent and significant workforce challenges. When effectively integrated into national health systems, they form a foundation for PHC, complementing and linking communities with facility-based services and even functioning as transformative agents of change.[1, 9] This landscape analysis highlights trends across countries pertaining to key features of CHW programs, including common gaps for improvement. Supporting countries to create well-articulated CHW polices and related documents that reflect systems thinking is an unfinished agenda for development partners and donors alike.

[f] As summarized in the MCSP technical brief, *Costs and Cost-Effectiveness of Community Health Investments in Reproductive, Maternal, Neonatal, and Child Health*, resources for costing community health programs include *Costing of Social Norm Interventions: A Primer for the Passages Project*; *Costing the Standard Days Method,* WHO's OneHealth Tool, the Management Science for Health (MSH) Integrated Community Case Management (iCCM) Costing and Financing Tool, and the UNICEF/MSH Community Health Planning and Costing Tool.

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