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CONCEPT NOTE

Community Health Workers

Community health workers (CHWs)—lay people who engage in efforts to improve the health of their communities—have been widely promoted as a means to provide primary health care in resource-poor settings since the 1978 Alma-Ata Declaration.[1] In the 2000s, CHWs became the subject of renewed interest and debate in low- and middle-income countries (LMICs) facing a growing human resource crisis.[2,3]

In 2013, the World Health Organization (WHO) estimated the world was short 7.2 million health care workers and that this deficiency was expected to grow to 12.9 million by the year 2035.[4] This reality is the product of more than a century of geopolitical processes that have concentrated wealth in the global north. Accordingly, sub-Saharan Africa, which bears an estimated 24% of the world's burden of illness, has only 3% of the health care workers and 1% of the worldwide financial resources for health care.[5] Most acute in rural areas, personnel shortages mean over 1 billion people around the world go their entire lives without seeing a formal health care provider.[6,7] This lack of human resources for health (HRH) significantly impeded progress toward the realization of health-related Millennium Development Goals and imperils the Sustainable Development Goals.[4,8,9]

CHWs have been proposed as a way to fill that gap by extending services to hard-to-reach populations in remote areas.[10] This concept note will provide a brief history of CHWs, consider issues in CHW program design, and outline future directions for research and funding.

Definition of Terms

Several definitions for and variants of the term *community health worker* (CHW) have been employed in the literature. Two systematic reviews of CHW identified nearly 70 unique terms (ranging from "barefoot doctor" to "lady health worker") used worldwide for community health workers (see **Appendix A** for a listing).[2,11] For the purpose of this concept note, we consider the definition adopted by WHO in 1987 and the

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most frequently cited contemporary definition to define community health workers as any lay health workers who:[12]

a. Live in the area they serve
b. Are primarily based in the community (as opposed to a health facility)
c. Belong to the formal health system (i.e., are managed by the government or an implementing NGO)
d. Perform tasks related to health care delivery, and
e. Have received organized training but may not have received formal or paraprofessional certification or tertiary education degree

As Berman et al. (1987) note in their seminal paper on CHWs, "CHW programs represent a mode for the organization of services rather than a type of intervention [task]" (p. 445).[13] Therefore, the roles and responsibilities of CHWs vary depending on facility-based care and available services.[14] Some CHWs have only a few days of training, while others have six months or more; some receive salaries, others volunteer; some are generalists working full time, while others perform a narrowly defined set of interventions specific to one disease.[1]

The tasks performed by CHWs nonetheless tend to fall into four broad categories: (1) assisting individuals and communities to adopt healthy practices, (2) conducting outreach to ensure access to care, (3) providing or supporting primary and chronic care, and (4) advocating structural changes related to community health needs.[15] The proportion of tasks in each category varies by location and, as suggested in a narrative review of CHW programs, the proportion of tasks in the latter category has declined over time.

Given this variation, it is difficult to describe a CHW's routine practice. That said, qualitative descriptions of large-scale programs indicate that CHWs commonly perform their tasks at a health post, during routine home visits or visits in response to an acute issue, and at community-wide gatherings at which they speak.[16–21] These activities can be complemented by a range of other duties that may include: re-stocking medical supplies, traveling to the nearest clinic for regional meetings or training, and undergoing performance-based audits or supportive supervision.[22]

A Brief History of CHW Programs

While the history of individual CHW programs is to some extent specific to the country in which they operate, this section will trace the broad themes in the emergence of this cadre of health workers. The concept of lay health workers first emerged in Eastern Europe in the late 1800s.[1] Known as *feldshers*, they were forerunners of the modern CHW movement and partial inspiration for the first large-scale CHW program, China's 1960s-era barefoot doctors.[1,3,23–29]

First Wave CHW Programs

First-wave CHW programs gained rapid support from national governments after their inception in the 1960s. Following a crisis of vertical health programming (i.e., stand-alone programs established to tackle individual diseases) sparked by the failure to eradicate malaria in the 1960s,[30] influential health theorists argued that technocentric, Western, facility-based approaches to health care were not addressing illness among rural, impoverished populations (e.g., Bryant, 1969; McKeown, 1976; Newell, 1975; Taylor et al., 1976).[31–34] During this time, the idea of engaging local non-professional "barefoot doctors" in the provision of health care gained global currency, and CHW programs proliferated in Asia, Africa, and South America.[1,35–37]

Rather than re-creating doctor-driven, top-down systems focused on tertiary care—systems that had been accused of bias toward urban elites—countries emphasized training health workers who could provide the preventive and routine curative interventions most needed in rural communities.[38] Consistent with the ethos of the era's decolonization and democratization movements, these programs emphasized the role of CHWs not only as providers of care, but "liberators"—nationally supported agents of social change who could tackle the environmental, cultural, and political factors that impact health.[1,35,39–41]

The 1978 International Conference on Primary Health Care at Alma-Ata, Kazakhstan—"the first truly global health conference"—established comprehensive primary health care as essential and cemented CHWs as a cornerstone of this effort.[1,3,30,33,39,42] The vision incorporated two agendas: One was driven by pragmatism and focused on how to create lower-cost alternatives to expensive metropolitan health systems and address the growing shortage of health professionals.[38,43] The other stemmed from the belief that ill health was rooted in poverty and inequality and that CHWs ought to work with communities to address these challenges via political means, as had been done in several postcolonial socialist countries throughout Latin America and sub-Saharan Africa.[40,44–48]

Following Alma-Ata, many countries initiated national CHW programs or scaled-up local initiatives nationally (see **Box 1** for an example).[39] However, reviews in the late 1980s and early 1990s found that these large-scale CHW programs typically failed to achieve the success of smaller community-based programs.[13,40,43,49–51] They suffered from inadequate training, logistical support, incentives, supervision, and integration with the wider health system.[13,40,43,49–51] This led to waning enthusiasm for CHWs among donor organizations and ministries of health.[35]

Box 1: The Trajectory of CHWs in Indonesia (adapted from L Crigler et al., 2013)

Throughout the 1970s, volunteers from Pembinaan Kesejahteraan Keluarga (PKK), a national women's community development movement, conducted health and nutrition promotion activities in each village of Indonesia. The Ministry of Health formally recognized these volunteers, called *kaders*, in the mid-1980s.[39] After a decade, the nationally run kader program was providing basic nutrition, growth monitoring, and immunization services in 86% of villages.[52]

An economic downturn in the mid-1990s, however, significantly affected kader performance: some reports indicate that up to 70% of the health posts (*posyandus*) run by the kader stopped functioning during this time.[53]

In 2001, the Indonesian Ministry of Home Affairs, through a ministerial letter, called for a revitalization of the posyandu program.[54] Today, kaders remain almost exclusively women chosen by and from the community. Kaders receive one week of training and over time accumulate the skills and equipment necessary to carry out tasks such as growth monitoring, treating common illnesses (e.g., diarrhea), and preventing disease and malnutrition. Kaders are accountable to the village committee, the body that appoints them, and continue to provide services without financial compensation.

In addition to conceptual and implementation problems, large-scale CHW programs were hampered by extrinsic factors.[38] Following the global oil crisis of the 1970s, the 1980s saw a global recession and a debt crisis for many developing countries.[1] To access credit from international organizations, notably the World Bank, governments were required to embrace the free market reforms of structural adjustment.[1,3] The reduction of public-sector financing prescribed by neoliberalism undermined community-level service delivery.[30,45,51] Many CHW programs became poorly resourced health service stand-ins, rather than vehicles

of liberation.[52] By the end of the 1990s, most national CHW programs had been disbanded (see **Box 2** for an example).[53,3,52,54,38]

Box 2: CHWs in Zimbabwe (adapted from L Crigler et al., 2013)

Following its independence from Britain in 1980, Zimbabwe launched its Village Health Worker (VHW) program to emphasize health promotion and prevention and provide "some acceptable level of health care to the majority rural population."[52] From 1982 to 1987, the government trained 900–1,000 VHWs annually; by 1987, Zimbabwe had 7,000 VHWs.[39]

The share of the health budget dedicated to preventive services rose from 6.7% in 1980 to 14.4% in 1989.[53] In the mid-1990s, however, economic deterioration tied to Zimbabwe's Economic Structural Adjustment Program (ESAP) led to a rapid decline in the health system. Public expenditure on health care declined by 39% in 1994–1995, and the VHW program collapsed soon afterward.[54,55]

The federal government reinstated the VHW program in 2000.[56] As of 201X, VHWs are provided an initial eight-week training and equipped with a medical supply kit. They are responsible for conducting health promotion, treating common conditions (e.g., malaria and diarrhea), and identifying and referring complicated cases to higher levels of the health system. VHWs receive a quarterly, though often irregular, allowance and are directly supervised by the nurse-in-charge at the health centre.[56]

Second-Wave CHW Programs

Prompted by the HIV/AIDS pandemic, the slow pace of progress in reaching the health-related Millennium Development Goals, and the resulting questions about how to improve coverage and equity of care in the face of a global health workforce shortage, WHO began to promote task shifting—the redistribution of tasks to less specialized health workers—as a way to extend services to populations with limited access to health facilities.[1,22,55–58] Task shifting requires a rapidly expanding cadre of lay health workers, and it is in the context of this strategy that interest in the deployment of CHWs renewed and second-wave programs emerged in the early 2000s.[59]

At that time, several countries again began to invest in large-scale CHW programs,[11,60] though the "liberation, decolonization, democratization and self-reliance" zeitgeist of the 1960s—the notion of CHWs as agents of social change—did not reemerge.[37] For example, CHWs in Latin America (typically, *promotores*) who had once worked at the intersection of Catholic liberation theology and the labor rights movement, were now described primarily as health extension workers, their role as organizers replaced by a largely technical function (see **Box 3** for an example).[37,61]

Box 3: CHWs in Brazil (adapted from L Crigler et al., 2013)

Brazil's 1988 constitution established the Unified System of Health (Sistema Único de Saúde) and defined health as encompassing both social and political dimensions.[62] This development was associated with a movement to provide social protection, encourage mobilization, secure the expansion of social rights, and provide free access to services.[63,64] Soon after, to expand health care access to the poorest Brazilians, it formalized the CHW programs—the Community Health Agents Program and Visitadora Sanitarias programs, both initiated in the 1980s.

In 2002 Community Health Agents (CHAs) were officially recognized as professionals and are now salaried, full-time employees of the federal government.[4,8,65,66] CHAs are closely integrated into the formal health service.[67] They are trained by the Ministry of Health and serve on family health care teams (*equipos de saúde familiar*) comprising a doctor, nurse, auxiliary nurse, and a minimum of four CHAs.[64] CHAs register the households in the areas where they work and are expected to link them to the formal health system.

Community Health Workers Today

Data on the current number of CHWs worldwide are generally poor. WHO's Global Health Workforce Statistics 2014 estimated there were 1,316,600 CHWs globally.[62] These statistics, however, are compiled from diverse sources such as national population censuses, labor force and employment surveys, national statistical products, and routine administrative information systems. As a result, there is considerable variability across countries in the coverage, quality, and reference year of the original data. The CHW estimate reflects this dearth of data: it is based on information from only 46 countries with reference years ranging from 2000 to 2012.

To fill the data gap, the One Million CHWs campaign set up The Operations Room, an information dashboard to collect country-specific information on CHW scale-up activities across sub-Saharan Africa in January 2013.[63] While the dashboard is missing data from several countries (see **Exhibit 1** for a map), it includes 10 countries not currently in the Global Health Workforce Statistics. The estimate for the number of CHWs in sub-Saharan Africa (322,200 CHWs in 34 countries) is three times higher than that of the Global Health Workforce Statistics (98,800 in 24 countries). That said, numbers in the One Million CHW dataset are self-reported by practitioners, without reference years. As a result, estimates may not be exact, coverage may be inconsistent, and information may not be up-to-date.

The Enigma of CHW Performance

While intrinsic factors such as inadequate training, logistical support, incentivization, and supervision, as well as poor integration of CHW programs with the wider health system, contributed to waning donor support in the 1980s, several reviews conducted around the same time suggested CHW programs had not failed, but rather that their potential had not been realized.[13,40,43,49,51]

Since this period, rigorous experimental and quasi-experimental evidence accumulated on the efficacy of CHWs to deliver assorted health interventions, showing mixed results.[12,64–66] Systematic reviews have concluded that CHWs can safely and effectively deliver health services as diverse as birth control injections; perinatal and neonatal care; case management and prevention of malaria, diarrhea, and acute respiratory infections; and HIV care management.[2,11,64,66–71] There is also emerging evidence that CHWs can provide mental health care.[72,73] Meta-analysis of moderate-quality evidence indicates that CHWs can, in comparison to usual care, increase the number of children whose immunizations are up-to-date; promote the initiation

of exclusive breastfeeding; increase care seeking for pregnancy-related complications; and improve pulmonary TB cure rates.[12,65,66,74] A Cochrane review using evidence from randomized controlled trials assessed for quality, indicated that CHWs ultimately provide promising benefits in reducing child morbidity (*RR* = 0.86, 95% CI 0.7–0.99; *p* = 0.03), child mortality (*RR* = 0.75, 95% CI 0.55–1.03; *p* = 0.07), and neonatal mortality (*RR* = 0.86, 95% CI 0.75–0.99; *p* = 0.03) when compared to usual care.[12] Modeling of health system investments in CHWs found that the return was as high as 10:1 when accounting for increased productivity from a healthier population, the avoidance of the high costs of health crises, and the economic impact of increased employment.[75]

While there is substantial evidence supporting CHW programs, reviews are of mixed quality. Some do not publish their protocols, delineate the data extraction process, or assess the quality of included studies. Ethnographies and cross-sectional surveys of programs in several countries have noted high rates of absenteeism, substandard health knowledge, poor diagnostic capacity, and inconsistent reporting among CHWs.[16–21] Moreover, evaluations of national-scale CHW programs—published in the *American Journal of Tropical Medicine and Hygiene* in March 2016—have also reported unfavorable outcomes.[76–78] A dose-response analysis of health surveillance assistants in Malawi, a randomized controlled trial of health extension workers in Ethiopia, and a controlled evaluation of *agents de santé à base communautaire* (community-based health workers) in Burkina Faso all found no improvement in their primary outcomes of interest. While some researchers noted that it was not possible to draw conclusions about the effectiveness of the integrated community case management (iCCM) strategy evaluated given implementation shortcomings,[78] found no improvements in care seeking or mortality.[76,77]

Given mounting pressure to meet the Sustainable Development Goals, proposals to improve the performance of community health workers have taken on revived urgency and prominence.[10,12,22]

Questions in CHW Program Design

There is little consensus about how best to structure CHW programs or what elements are most crucial for effectiveness.[79] While researchers and aid agencies have developed a number of logic models and tool kits to improve programs, there is not a widely recognized conceptual framework for CHW program design and analysis.[80–82]

Qualitative evidence on CHW performance indicates that poor patient outcomes are associated with several factors, including low levels of CHW motivation, poor CHW retention, few opportunities for career advancement, poor CHW-community relations, and negative interactions with managers.[74,83–85] Here we outline the ways in which program design might alter these factors.

CHW Characteristics

Observational studies and narrative reviews have identified characteristics such as village origin, sex, marital status, and age as possible mediators of CHW performance.[39,86–89] CHWs from inside the community, for example, may be more invested and more likely to be retained in employment. When it comes to sex and age, however, the ethics of such lines of inquiry in hiring decisions present challenges. Many high-income countries have employment discrimination laws that prohibit selection on these criteria. Though similar legislation is often poorly enforced in LMICs, researchers and implementers should consider the equity issues at the heart of these debates.[90]

Integration

CHWs that are integrated into the health system and community demonstrate better outcomes; regular contact between CHWs and the health care system is correlated with strong program outcomes.[37,49,91] Observational evidence suggests programs developed and managed by communities better address perceived local needs than those developed by outsiders.[3] Letting communities design the terms of reference for their CHW, for example, may be beneficial.

The gains from integration depend, however, on the strength of the health system supporting the CHW.[92,93] Strong health systems that incorporate CHWs are invaluable for coordination and cooperation during critical times, as demonstrated during the 2014–2015 West African Ebola epidemic.[94–96]

Recruitment

Several reviews cite appropriate CHW selection as a precursor to success. Selecting CHWs who are not respected by the community tends to result in low community engagement with the program.[3,35,39] While the importance of recruitment is, in principle, nearly universally acknowledged, uncertainty remains about how best to operationalize the process and how to balance community selection with input from the health system.[89,37,39] An overview of the recruiting process for a New York–based community health organization is provided for illustrative purposes in **Box 4.**

Box 4: City Health Works—Recruiting Health Coaches Who Excel (contributed by Elsa Haag)

City Health Works in New York's Harlem neighborhood has developed an intensive screening process for hiring community health workers, called *health coaches*. Through the recruitment and selection processes, the team identifies candidates with what they consider to be the core competencies for health coaching, including: familiarity with the neighborhood to be served, capacity for motivational interviewing, empathetic listening skills, adaptability/flexibility, and organizational and time management skills. They require a minimum of a high school diploma/GED.

Many people on staff, including current health coaches, are involved in hiring. Including health coaches in the process helps build pride, confidence, and ownership. The rigorous hiring process also serves as a way to demonstrate to candidates the program's organizational rigor, expectations of professionalism and performance excellence, and commitment to a positive team culture. At each stage, interviewers rate candidates in defined categories, which helps save time, maintain objectivity, and incorporate feedback from multiple sources.

The hiring process has four key steps:

1. **Recruitment:** Outreach to cultivated contacts at local workforce development and job training organizations, community colleges and universities, and community service organizations. Contacts have a thorough understanding of the position and the organization, and they circulate the listing and make personal referrals. City Health Works also posts to local job boards and asks current health coaches to share the listing with their networks, peers, and former clients who may be good candidates.
2. **Interview 1:** The hiring manager conducts the first interview to assess key requirements for role and fit with desired culture.
3. **Interview 2:** The Director of Health Coaching and the Health Coach Supervisor conduct a second interview to assess basic math skills and use scenarios to assess empathetic listening skills and adaptability.
4. **Interview 3:** Current health coaches, the Director of Health Coaching, and the Health Coach Supervisor conduct a group interview to assess organizational fit, ability to learn new skills, and presentation and communication skills. The group interview includes a role-play, and the candidate then has time to speak with current health coaches about the position and organization.

While health coaches are selected from the community they serve, not everyone will have the same life experience. Religion, education, experiences with diseases, family structure, and other factors can all vary greatly even within one area. Hence, all health coaches are educated on the cultures and beliefs of the clients they serve and screened for their capacity to be sensitive to cultural and demographic differences.

In consideration of minimum education requirements, City Health Works tailors the teaching and teaches health coaches to do the same—to teach in a way that is appropriate and matched to the client's education level. Many of the core skills for being an excellent health coach can be developed with or without formal education. If a client can learn the material, then a health coach can learn to teach it.

Once health coaches are hired, they receive ongoing support, training, and performance reviews. City Health Works conducts semiannual rigorous, data-driven individual performance reviews. These reviews inform investments in coach-level and teamwide skill enhancement and learning needs. Reviews ensure that each staff member has formally documented annual objectives, continuous development, and regular feedback. In addition, performance monitoring systems include regular quality assurance calls to clients, and regular check-ins and case reviews between coach and supervisor. Without support, ongoing training and opportunities for improvement, even the most skilled worker will struggle to succeed long term.

Training and Accreditation

Across reviews, there is support for ongoing training, including refresher and advancement sessions.[37] Consistent with the evolution of the CHW role, biomedical, skill-based competency training has gradually replaced training focusing on the social aspects of health.[35,49,97] Specifics about where training should take place, who should conduct it, and how it should be designed remain unclear. More rigorous post-training assessments that lead to CHW accreditation, for example, might reduce CHW errors and improve physical outcomes for patients.

Supervision and Advancement

Supervision is important to maintaining CHW quality and engagement, especially given CHWs work on the periphery of most health systems.[3,35,98,99] While policy documents note that supervisors should be "competent and have appropriate supervisory skills," the specifics of supervision are poorly defined: Questions of who should supervise, how often, and what should occur on such visits, remain unresolved.[22] Practitioners debate the merits of promoting and training CHWs to eventually become supervisors themselves, for example. While creating and stressing opportunities for advancement during CHW recruitment has been found to improve CHW performance, nurse supervisors are able to provide both clinical mentorship and to perform clinical tasks that CHWs cannot.[100]

Incentives

The incentivization of CHWs has been much debated, with entire narrative reviews being devoted to the topic.[39] While there is disagreement in the literature about the ideal form of compensation (i.e., monetary versus nonmonetary), it is clear that CHW motivation must be addressed.[101] The provision of monetary incentives, for example, might aid retention, improve performance, and enable the investment of more time compared with employing volunteer CHWs.[102] Employing women and young people may also contribute to an even greater return on investment, matching health-related benefits with larger societal benefits that come from female empowerment and social cohesion.[75] There is also an ethical consideration: Some have argued it is morally wrong for the poor to volunteer their time and labor to secure their own basic right to health.[103]

Supply Chain

Cross-sectional surveys of CHWs indicate that they are often limited in their work by irregular supplies.[98,104] Interventions to decrease CHW stock-outs, for example, may improve patient cure rates.

An illustrative example of how a Bamako-based community health organization has made choices across these design elements is provided in **Box 5**.

Box 5: Muso (contributed by Ari Johnson, MD, and Youssouf Keita, MD)

Together with government and academic research partners, Muso—based in Mali—has designed, deployed, and tested *proactive community case management* (ProCCM), an approach to CHW-led health care delivery that builds off of the current global standard, iCCM.

To overcome financial, geographic, gender-based, and infrastructural barriers to timely health care, ProCCM includes key design elements:

1. **Proactive case detection:** ProCCM CHWs have a proactive workflow, conducting door-to-door home visits at least two hours per day to search for patients.
2. **Care is provided without fees:** Point-of-care fees delay and reduce access to care, with the most severe effects on the poorest patients.[106–108]
3. **360° supervision:** A dedicated cadre of CHW supervisors provide monthly individual field supervision visits, including synthesis of CHW performance data, patient satisfaction audits, direct observation, and 1:1 coaching.
4. **Payment:** ProCCM CHWs are paid around USD 70 per month (minimum wage).
5. **Primary care integration:** ProCCM CHWs identify and evacuate patients with danger signs to government primary care centers, which are in turn reinforced with expanded infrastructure, human resources, and training.
6. **Ongoing training**: CHWs participate in annual in-service reinforcement training, using primarily participatory learning methods. Ongoing training is also integrated into monthly individual and group supervision meetings.

An interrupted time series study of ProCCM in urban Mali documented an under-5 mortality rate of 155 per 1,000 live births at baseline; three years after the roll-out of ProCCM, the under-5 mortality rate was 17 per 1,000 live births (HR=0.10, $p<0.0001$).[94] Several studies are currently under way to isolate and assess the impact of specific elements of ProCCM, including a cluster-randomized controlled trial of proactive case detection (see NCT02694055, https://clinicaltrials.gov/ct2/show/NCT02694055).

Putting It All Together

While narrative reviews have thus far made general recommendations (e.g., supervisors should have "appropriate supervisory skills"), they typically do not identify actionable strategies to improve CHW performance (e.g., "weekly supportive supervision by a nurse composed of supply audits, patient checks, and on-the-job training"). A recent systematic review of the effects of interventions to improve the performance of CHWs, however, found moderate-quality evidence that the following practices improve behavioral outcomes for patients, utilization of services, and/or CHW quality of care: (1) when recruiting CHWs, emphasize career possibilities rather than benefits to the community; (2) when supervising CHWs, provide escalating reminders for tasks that are overdue and follow up with underperforming CHWs; (3) when incentivizing CHWs, tailor incentives to individual preferences—but only for CHWs performing a single repetitive task, not for CHWs who must perform multiple or more complex tasks; (4) when equipping CHWs, use mobile phone–based procedural guidance applications.[105]

That said, given the complexity of CHW programs—the interdependent components, multiple levels of operation, long causal chains, and potential for threshold effects and interactions with social context—it remains unclear whether improvements in one area depend on the presence of other programmatic or contextual conditions to ultimately improve performance.

Perhaps as a result, the integration of CHWs into the health system is varied across and within countries; best practice is not always replicated, and policies for which there is strong evidence of effectiveness are not uniformly adopted.[106] In response to this, WHO is working to support policymakers and implementers with the development of new guidelines on health policy and system support to optimize CHW programs, projected to be released in 2018.

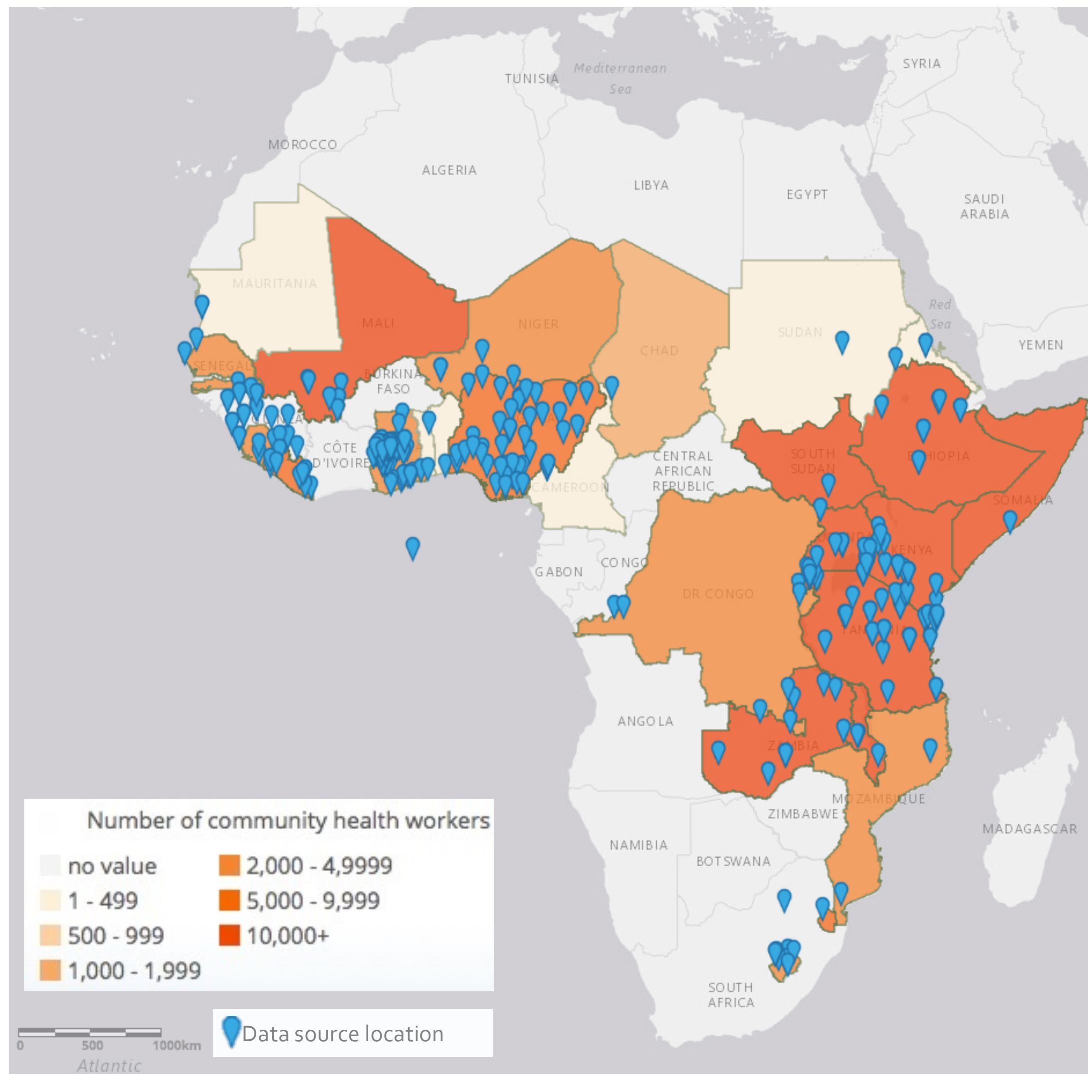
However, understanding that several operational questions are unresolved in the literature, there remains a need for practitioners to share their operational insight and for further research on the delivery science and design questions outlined above.[107]

Conclusion

Current interest in large-scale CHW programs must be tempered by critical reflection on the disappointments that followed a similar wave of enthusiasm in the 1970s and 1980s.[108] CHW programs are complex interventions that require immense effort to assess, optimize, scale, and maintain. While research has made significant contributions to assessing CHW programs and figuring out how to optimize them, challenges in creating large-scale, sustainable public-sector CHW programs remain.

If we are to avert a large proportion of deaths and reach the 1 billion people—typically the poorest and most at-risk populations—who go their entire lives without seeing a health worker, improving health facilities is not sufficient.[6,7,91,109] CHWs, with their unique ability to vastly extend access to high-quality primary care, must be understood as a central part of first-class health delivery—and supported accordingly.[108]

Exhibit 1 *Visual Representation of CHW Density in Sub-Saharan Africa*



Source: One Million CHWs Campaign, 2016.
Note: In map legend, 2,000–4,9999 should read 2,000–4,999.

Appendix A *Alternative Names for Community Health Workers*

1	Accompagnateurs
2	Activista
3	Agente comunitario de salud
4	Agente comunitário de saúde
5	Allied health personnel
6	Anganwadi
7	Animatrice
8	Auxiliary health worker
9	Barangay health worker
10	Barefoot doctor
11	Basic health worker
12	Behvarz
13	Brigadista
14	Colaborador voluntario
15	Community assistants
16	Community drug distributor
17	Community health representative
18	Community health advocates
19	Community health agent
20	Community health aides
21	Community health promoter
22	Community health volunteer
23	Community health worker
24	Community mobilizer
25	Community nutrition worker
26	Community resource person
27	Community reproductive health worker
28	Community support worker
29	Community volunteers
30	Community-based workers
31	Female community health volunteer
32	Female multipurpose health worker
33	Health and nutrition worker
34	Health promoter
35	Home health aides
36	Kader
37	Lady health worker
38	Lay health visitor
39	Lay health worker

40	Link worker
41	Maternal and child health promotion workers
42	Maternal and child health worker
43	Mental health workers
44	Monitora
45	Mother coordinator
46	Nutrition volunteer
47	Nutrition worker
48	Outreach educator
49	Paramedical worker
50	Peer volunteer
51	Postnatal support worker
52	Promotora
53	Raedat
54	Rural health motivator
55	Rural health worker
56	Saksham sahaya
57	Sevika
58	Shastho karmis
59	Shastho shebika
60	Village drug-kit manager
61	Village Health Guide
62	Village health helper
63	Village health promoter
64	Village health worker
65	Village malaria worker
66	Visitadora
67	Voluntary Malaria Workers
68	Voluntary workers
69	Women group leaders

Source: Compiled by authors.

Appendix B

CHWs Are the Future:
CHWs Alone Will Not Fix Failing Health Systems
By Dan Palazuelos, MD, MPH

CHWs are the future
CHWs unlock a new therapeutic frontier

> *the space where patients*
> *truly live*
> *get sick, stay healthy, get healthy*

CHWs are powerful, but they are not a panacea
CHWs can be only as good as the systems supporting them
CHW programs are an incredible return on investment
CHWs are set up to fail when they are seen as "cheaper than nurses"
CHWs are not only for the poor
CHWs would make YOU healthier
CHWs can be equity in action, if given a chance

CHWs are people, not tools
CHWs add new functionality to health systems
CHWs can do what doctors and nurses cannot do
CHWs' daily work and tasks should build value in the system
CHWs doing those tasks should be uniquely able to actually do them
CHWs should be trained, supported and paid
CHWs should be given jobs you yourself would do
CHWs should have time to do community work, not only health work
CHW program funding is often too small

> *culture is not causative*
> *prevention is insufficient*
> *vulnerability is structural*
> *poverty can be liberated*
> *only if the money shows up*

CHW empowerment means giving them the space and materials to participate in the creation of their own destiny
CHWs should escape poverty within a generation because they were once CHWs
CHWs should be invaluable to doctors and nurses who care about outcomes instead of profit
CHWs are not invited to enough of the conferences held to discuss CHWs
CHWs are the first to get fired when budgets get cut
CHWs sometimes unionize, and more will soon
CHWs fail largely when we fail them

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