Microsoft

Community health workers: a strategy to ensure access to primary health care services

WHO Library Cataloguing in Publication Data

World Health Organization. Regional Office for the Eastern Mediterranean
Community health workers: a strategy to ensure access to primary health care services / World Health Organization. Regional Office for the Eastern Mediterranean
p.
ISBN: 978-92-9022-037-4
ISBN: 978-92-9022-036-7 (online)
1. Community Health Workers - organization & administration 2. Community Health Workers - education 3. Community Health Services 4. Health Services Accessibility I. Title II. Regional Office for the Eastern Mediterranean

(NLM Classification: W 21.5)

CONTENTS

Acknowledgements

This report was prepared by Samar ElFeky, WHO Regional Office for the Eastern Mediterranean.

WHO acknowledges the contributions of: Said Habib Arwal, Ministry of Public Health (Afghanistan); Khawla Kawwa, Ministry of Health (Jordan); Mohammad Reza Rahbar, Ministry of Health and Medical Education (Islamic Republic of Iran); Maryam Sharifi, Ministry of Health and Medical Education (Islamic Republic of Iran); Osman Yassin, Ministry of Health (Oman); Amal Zaki, Ministry of Health and Population (Egypt); Magdy Bakr, WHO Egypt; Sharifullah Haqmal, WHO Afghanistan; Banan Kharabsheh, WHO Jordan; Ruth Mabry, WHO Oman; Farah Sabah, WHO Pakistan; Miranda Shami, WHO Jordan; and Shadroukh Sirous, WHO Islamic Republic of Iran.

Introduction

Primary health care is defined by the Alma-Ata Declaration as ‘‘the first level of contact of individuals, the family, and community with the national health system’’ and ‘‘the first element of a continuing health care process’’. The Alma-Ata Declaration identified community health workers (CHWs) as one of the cornerstones of comprehensive primary health care. The development of delivery of care based on a primary health care approach has shifted toward the deployment of various types of CHWs as a cadre who deliver low-cost primary health care services at the community and household level to protect and promote public health and link community members with primary health care facilities.

Among the major barriers to access and utilization of primary health care services in the low- and middle-income countries of the Eastern Mediterranean Region are weak or destroyed health infrastructure, physical inaccessibility, the lack of a defined package of services at the primary health care level, scattered populations, an insufficiently trained health workforce at the community level, poor performance of primary health care facilities, lack of after-hours access to providers, cultural and behavioural beliefs, the unavailability of credible and timely information, inadequate referral and support to primary health care, and insecurity. CHWs are capable of addressing many of these barriers, such as improving access to primary health care and continuum of care, linking health care systems with communities and complementing national health information systems. In addition, a well-designed CHW approach within the primary health system is an effective strategy for moving towards universal health coverage.

Low access to quality, people-centered, affordable and acceptable health care services has an adverse impact on moving towards universal health coverage. The CHW approach provides an opportunity to engage many local stakeholders in local health issues and to motivate universities and nongovernmental organizations to become partners in health care delivery. These partnerships can contribute to scaling-up training plans and coordination between CHWs and other community-level development platforms.

This report provides an overview of CHW programmes by introducing best practices and examining the success factors and challenges from both inside and outside the Eastern Mediterranean Region. The major elements of scaling-up CHW programmes are outlined based on information collected from countries of the Region that are implementing CHW programmes. The report is aimed at policy-makers seeking to improve the access of all highly-disadvantaged groups to primary health care services through CHW programmes.

History of CHW programmes *(1)*

CHW programmes have emerged as one of the most effective strategies to address human resource shortages in remote areas while improving access to, and quality of, primary health care. For decades, CHWs have been part of the health care delivery system in countries around the world. Many developing countries have succeeded in deploying CHW programmes in recognition of their potential role in identifying, referring and, in many cases, managing simple illnesses at the household level (see case studies in Annex 1).

Several nongovernmental organizations provide examples where innovation in the management of CHW programmes can support a sustainable system that is capable of being expanded without compromising functionality or effectiveness, and so allowing for greater ability to be scaled-up.

The Chinese "barefoot doctor" programme is the best known of the very early CHW programmes as it was the first system after the establishment of the People's Republic of China in 1949 to provide basic health care to the rural population. The programme contributed successfully to rapid reductions in premature mortality and preventable morbidity. The barefoot doctor model has been recognized as a paradigm for basic health care provision in the form of preventative measures, community-based interventions and health education in rural areas. China's barefoot doctors served as a model and inspiration for the famous Alma-Ata Declaration on primary health care delivery in 1978, the result of an international conference sponsored by WHO and UNICEF *(2)*.

When managed effectively, a CHW programme that is integrated into a well-functioning primary health care system can promote care at the household level and function as a crucial link between community members and the primary health care system, thereby providing a means for continuum of care across multiple points of care.

Efforts to improve access to primary health care have taken many forms since the Alma-Ata Declaration demonstrated a global consensus that primary health care improvements are required to achieve a minimum standard of quality of life worldwide.

Thailand was one of the countries that started to implement a CHW programme in the early 1950s. CHWs in Thailand include various types of community health aides under several titles such as community health officers, community health education workers, family health workers, lady health visitors and health extension package workers. They have a significant role in motivating the community for better health and providing basic health services to their own communities. Village health volunteers/communicators have been one of the main pillars of primary health care in Thailand over the last three decades. They are based on the concept of "community participation" and are considered to be an extremely valuable health resource *(3)*.

In Indonesia, there was health system restructuring in 1982, with a focus on district health development. Village health volunteers, selected and paid by local communities, became part of the health organization within each district. Their activities included family planning, health education, growth monitoring, nutrition support, immunization and treatment, particularly of diarrhoeal diseases. The village health volunteers assist health care providers in provision of health care services and ensure the target population receives timely health care services. Initial reports showed remarkable results and significant health status achievements: infant mortality dropped by 30% within seven years and immunization coverage improved many times over *(4).*

The Ministry of Health of Ghana introduced substantial numbers of community or village health workers in the late 1970s as part of a substantial review and reorganization of Ministry activities aimed at implementing primary health care strategies. The initiative was driven by the Ministry and integrated into the national health service structure. CHWs bring clinic services directly to households. CHWs monitor cases of malnutrition, malaria and diarrhoea in their catchment areas and provide pre- and

post-natal care, and family planning counselling. The Ministry of Health provides training, technical supervision and the necessary supplies *(5).*

In Niger, the CHW programme evolved from the work of volunteer health workers who, from the late 1960s, were working in the primarily agricultural Maradi region, along the Nigerian frontier, with a population of 730 000 people. Trained CHWs offer a minimum package of preventive and curative interventions at community health posts. The CHWs, trained by the Ministry of Health, are responsible for referring patients from the community to the health centres and hospitals. CHWs provide households and communities with life-saving information and are considered to be a low-cost intervention that leads to high-impact results in reducing morbidity and mortality. Since 1963 Niger has a rural extension service which promotes community development schemes characterized by voluntary participation *(6)*.

Advantages of including CHWs in the health workforce *(1)*

CHWs are a valuable workforce for any health system that aims to improve coverage, especially for rural and remote areas, as they are able to deliver culturally-competent services. They develop trusting, one-on-one relationships with patients/clients and providers, and contribute to the delivery of primary and preventive care. As a result, CHWs have the potential to facilitate improvements in health status and quality of life in rural communities. Training of CHWs increases access to, and utilization of, services by the target population as CHWs are familiar with the culture, beliefs and language of the local community, are always available at the community level and can gain the trust of the community in the importance of timely health services. Experiences from many countries of the world have shown that the CHW approach can substantially improve health indicators and contribute to moving towards universal health coverage. The presence of CHWs at the community level makes follow-up procedures easier, and with simple and short training CHWs are able to diagnose danger signs and refer cases in a timely and safe manner to higher levels of care. In addition, health care facilities can use CHWs for follow-up procedures with diagnosed cases.

The attitudes and interactions of health personnel at health facilities with CHWs have an immediate impact on critical aspects of CHW programme management, such as selection, continuing training and supervision. Unfortunately, many health personnel lack the background and orientation to provide a supportive environment for CHW programmes. They are socialized into the hierarchical framework of disease-oriented medical care systems and have a poorly developed concept of primary health care. Such paradigms cannot provide a supportive environment of partnerships and teamwork between different health workers, particularly if some categories are undermined in terms of their effectiveness and importance.

Box 1. Examples of CHW inclusion in the health workforce

- ✓ CHWs have been integrated into the Brazilian family health programme and community health committees have been institutionalized as part of municipal health services to sustain social participation.
- ✓ The national primary health care outreach programme in South Africa has achieved its expected outcomes because of the support provided by CHWs who operate effectively in linking the community with the health system *(7)*.

Cost-effectiveness of CHW programmes *(1)*

Services provided by CHWs are believed to be more appropriate to the health needs of populations than those provided by clinic-based services, and to be less expensive and to foster self-reliance and local participation. Furthermore, because CHWs are more accessible and acceptable to clients within their communities, they are expected to improve the overall coverage of services as well as increasing equity through increased service use by poor individuals and households *(8)*. CHW programmes are also expected to improve the cost-effectiveness of health care systems by reaching large numbers of underserved people with high-impact basic services at low cost *(8,9).* Added to this are the social benefits, including community mobilization, which often constitute the strength of CHW programmes.

A number of studies have examined the cost-effectiveness of specific CHW programmes. One of the first papers to evaluate the "value for money" of CHW programmes was published by Wang'ombe *(10)*. The study reports on a project in two locations in Kenya's Western Province. CHWs were trained for 12 weeks and deployed as providers of basic health care and promoters of selected health, sanitation and nutrition practices. A cost-benefit analysis was performed. The author concludes that the results were "…strongly in favour of decentralization of primary health care on similar lines in the rest of the country" *(10)*.

A number of studies have compared the cost-effectiveness of community-based tuberculosis (TB) care versus other strategies. One study illustrated that the cost to both health services and patient can be substantially reduced by using community-based directly observed treatment, short-course (DOTS) for TB in South Africa. It found that this strategy was more cost-effective than hospitalization or sanatorium care *(11)*. Similar findings have been reported from a number of other developing countries including Bangladesh *(12),* Kenya *(13)*, Malawi *(14),* Pakistan *(15)*, South Africa *(16)* and Uganda *(17)*.

For example, one paper compared the cost-effectiveness of a nongovernmental organization active in TB control in Bangladesh that used CHWs with the government's TB control programme that did not. The cost per patient cured was US$ 64 in the area covered by the nongovernmental organization that used the services of CHWs compared to US$ 96 in the area covered by the government's programme with no CHW intervention. The study suggests that the involvement of CHWs represents a more cost-effective use of resources in rural Bangladesh *(12)*.

Profiling CHWs

Who are CHWs? *(1)*

The umbrella term "community health worker" embraces a variety of community health aides selected, trained and working in the communities from which they come. A widely accepted definition was proposed by a WHO Study Group *(18)*: "Community health workers should be members of the communities where they work, should be selected by the communities, should be answerable to the communities needs and priorities, should be supported by the health system but not necessarily a part of the government, and have shorter training than professional health workforce". They have many names in different countries, such as *raeda* in Egypt, community health agents in Ethiopia, basic health workers in India, *kader* in Indonesia, *behvarz* in the Islamic Republic of Iran, *activista* in Mozambique, *brigadista* in Nicaragua, lady health workers in Pakistan and *barangay* in Philippines.

The question of who CHWs are in terms of gender, age, status, and so on, has many different answers within the literature that reflects the diversity of CHW programmes. However, there is agreement that CHWs must come from the communities they serve. More importantly, who and what CHWs are needs to respond to local societal and cultural norms and customs in order to ensure community acceptance and ownership, and thereby programme sustainability.

With regard to gender, influenced by wider societal practices and beliefs, in the majority of countries female CHWs dominate. Regarding age, in most CHW programmes, both inside and outside the Region, their age ranges between 20 and 45 years old.

The package of services to be delivered by CHWs should be identified based on the pattern of disease, the basic qualifications and job description, and as complementary to the services available at the upper level.

The role of CHWS *(19,20)*

The main concept of the CHW approach is the selecting and training of community members to provide elements of primary health care to a defined catchment population within their communities.

The role of CHWs differs within and across countries and programmes, and can be preventive, curative and/or developmental, but is neither a substitute for a weak health system nor an alternative for providing services to disadvantaged areas. The services they provide to clients can be in the form of awareness-building, preventive care, home visits, clinical services, follow-up procedures and timely referral of cases in need of advanced health care facilities. All must be tailored to meet the needs of communities. Generally, the CHW role includes:

- collecting information about their catchment population such as sex and age, and for planning to cover at-risk groups such as pregnant women, children under-5, the elderly, people with chronic diseases or disabilities, and so on
- helping individuals, families, groups and communities to develop their capacity to address health-related challenges
- helping health care and social service systems become culturally-relevant and responsive to their catchment population
- helping people to understand their health condition(s) and develop strategies and plans to improve their health and well-being
- building community understanding to support healthier behaviours and lifestyle choices
- delivering health information that is culturally-appropriate to the people they serve
- linking people to health care/social service resources and systems
- providing informal counselling, support and follow-up
- advocating for local health needs and their prioritization
- providing health services, such as monitoring blood pressure and providing first aid
- making home visits to chronically ill patients, pregnant women and nursing mothers, individuals at high risk of health problems and the elderly

- registration of vital events such as newborns and deaths (including verbal autopsies to determine cause of death), burden of disease such as acute malnutrition or malaria, and coverage levels of essential interventions such as immunizations, antenatal care and deliveries assisted by skilled health workers
- creating more effective linkages between vulnerable populations and the health care system to bridge gaps in access to care
- performing simple diagnostic measures, providing treatment of communicable and noncommunicable diseases at early stages and according to national protocols, and ensuring referrals of patients who cannot be treated at the community level
- conducting home visits to promote maternal and child health, nutrition and growth monitoring, and vaccination, and doing home assessments, offering one-on-one advice and making referrals where needed
- coordinating with the local community to ensure access of households to safe drinking water and improved sanitation through appropriate and effective technology and building intersectoral collaboration at the local level.

The success of CHW programmes depends on political commitment, the institutionalization of the programme and its integration as part of the health system.

With community ownership and support, CHWs can be men or women, depending on the local social and cultural needs, norms and availability.

Most of the countries that benefit from CHW services have identified certain criteria for the selection and training of CHWs, developed clear job descriptions, designed and introduced appropriate training courses with different duration (based on country capacities and needs), and established a supervision and monitoring system or mechanism.

Each CHW must have a well-defined catchment area that they are responsible for developing an information system about and for delivering the needed services based on the agreed tasks and job description. The catchment area can be specified based on the geographical area served by the nearest health facility, population density and number of households within the area, the available number of CHWs and the defined package of services. For example, in Afghanistan, each CHW is responsible for about 1000 to 1500 persons, while in Egypt, each *raeda* is responsible about 400–600 families, and in the Islamic Republic of Iran every *behvarz* is responsible about 500–1500 persons, while in Pakistan every lady health worker is responsible for about 1000–1200 persons.

A defined catchment area will facilitate clear workloads and expected activities from each CHW. The population will also be aware from where, when and how to receive the needed health care services. The longest distance between places of residence of CHWs with that of the defined catchment population should not be more than 30 minutes walking distance and the total catchment population should be manageable by the CHWs based on a defined job description.

The supplies and equipment, and essential medicine list, provided to CHWs should be in line with the package of services expected to be delivered to the catchment population. Promoting use of local and appropriate technology where repair and maintenance are cost-effective is highly recommended. For

example, CHWs in Afghanistan are the first line health care providers and the backbone of the primary health care system and are even working in parts of the country not reached by basic health services.

Box 2. Examples of the role of CHWs in countries

- ✓ CHWs in Afghanistan play a crucial and valuable role, especially in decreasing maternal mortality and increasing access to family planning services. CHW contributions are reflected in a national increase in the use of modern contraceptives in rural areas of the country, from 5% in 2003 to 16% in 2006. Afghan health officials and WHO observe a CHW Day to acknowledge the role and contribution made by around 20 000 CHWs.
- ✓ In Ethiopia, after collecting household information, CHWs use it to make a village/area health profile, and assign health cards to individuals in each home as part of a family folder for the home. These health cards are then kept at the health post and the CHWs update them when family members come to the health post. CHWs also visit every household in the village about every two months to follow-up with family members who may not come to the health posts. Even families that visit the health posts for care receive these home visits as part of regular follow-up.

Managing CHW programmes *(1)*

Recruitment and selection

CHWs should be chosen from the communities they will serve and communities should participate in their selection. Many countries have identified certain criteria for selection of CHWs in consultation with the community.

The selection criteria must be tailored and settled in consultation with the local community and based on the country context, overall health needs and priorities, health system structure, planned tasks and job description of the CHWs.

Involvement of the community in the selection of appropriate candidates to be trained as CHWs will help secure the community's trust and ownership of the programme. Community leaders will supervise, monitor and support the selected CHWs once they start functioning in the local area.

Based on the available information from some countries of the Region, the minimum age for CHWs is 18 and the maximum age is 45. Most CHWs in the Region are female, except in Afghanistan and the Islamic Republic of Iran where they train both male and female CHWs with defined task distribution between them: usually female CHWs provide mother and child care, nutrition, women's development and family planning services, while male CHWs are involved in immunization, water and sanitation, home visits and local coordination processes.

Initial and continuing training *(19)*

There are many models of training for CHWs, from short courses to multi-year certification programmes. The duration and contents of the training should take into account the required competencies for the roles and responsibilities of the CHW.

CHW training programmes should be based on their job description and tasks. The training should be mostly practical, with some simple theory. On-the-job training should be done based on local needs and the results of performance evaluation that should be conducted on a regular basis.

The CHWs should be trained on what they are expected to deliver. The training should be a combination of theoretical and practical components. The quality of training, the development of the curriculum in local languages and the proper selection and training of trainers are all key elements that need to be considered.

There are many curricula for training CHWs, including some national curricula adapted to locally-specific contexts (language, literacy level and culture) from international curricula. Standardized curricula within a country can improve CHW knowledge, skills and performance based on local needs and priorities. There should be core competencies for all CHWs, with additional training modules based on epidemiological variation within a country. It is crucial that CHW supervisors (managers, clinical staff) are included in the development of national and local training plans and programmes.

Based on information from some countries of the Region, it has been found that training differs depending on the job descriptions and the qualifications of CHWs. For example, in Egypt, the initial training takes two weeks followed by specific training for specific programmes, while it takes three months in Jordan, four to six months in Afghanistan, 15 months in Pakistan and two years in the Islamic Republic of Iran. These training courses are followed by refresher training courses and in-service training on a monthly, quarterly, biannual or annual basis.

The training is usually provided by the health staff from the local health facility who will supervise the CHWs after they have received special training. In the Islamic Republic of Iran, a school of *behvarzi* exists in each district that is responsible for the training, monitoring and supervising of CHWs before their graduation. The training costs differ from country to country and are based on the duration of the training, training materials, equipment, fees of the trainers, logistic expenses and so on. For example, as reported by countries of Region, the training cost is US$ 300 in Afghanistan (four to six months), US$ 900 in Egypt (15 days), US$ 2400 in Jordan (three months), US$ 2400 in the Islamic Republic of Iran (two years) and US$ 47 in Pakistan (three months).

Box 3. Example of a CHW training programme

- ✓ In Pakistan, the lady health workers receive 15 months of basic training at the first level care facility (basic health units and rural health centres) or *tehsil* headquarters hospital, by staff working there in two phases, using programme training manuals and curriculum. The first phase of basic training is of five days a week for three months. The second phase of training lasts for 12 months with three weeks of field work followed by one week of classroom training each month. The basic training of the lady health workers is complemented by a one day continuing education session each month and 15 days refresher training on various topics every year.

Supervision and support

The success of CHW programmes depends on regular and reliable support, monitoring and supervision *(21, 22).* Supervision is often identified as the vehicle through which the quality of health care services can be assured. Health care systems have a wide range of options in developing a locally-appropriate and sustainable supervision strategy at the primary level, but the following are key issues that must be considered: who supervises and how often, what elements will be covered in the supervisory tools and what is the mechanism for reporting, filling gaps and measuring the quality of care *(23)*.

Regular monitoring and supportive supervision is a key success factor for any kind of CHW intervention. CHWs' learning is developed when supervisors monitor their performance. Action should be taken by supervisors to address gaps identified during the monitoring and supervision process. Monitoring and supervision should be performed based on defined tools and always documented by supervisors at the CHW level. Whether the community is the main payer of the salaries of the CHWs or not, the community should be part of the main supervisory team of CHW performance.

Iranian *behvarzes* are supervised by their trainers while they are under training and working in the practical phase of their training course. Supervision is then handed over to the rural health centre once the *behvarz* graduates. In Pakistan, supervision is carried out by lady health worker supervisors based at the nearest rural health centre.

Small-scale projects are often successful because they manage to establish effective support and supervisory mechanisms for CHWs involving the community.

With decentralization of health services management occurring in many countries, full responsibility for the supervision of health facilities and CHWs has been shifted to district levels. The key issues here are identifying who supervises and how often, and determining the use of supervisory tools or job aids in measuring quality of care, coverage and community satisfaction *(23)*.

Box 4. Examples of CHW supervision

- ✓ CHWs in the Democratic Republic of the Congo perform their services under the supervision of the nurse in charge of the area's health centre and attend monthly meetings. They receive only a symbolic monetary award, but gain increased standing in the community.
- ✓ The quality of care provided by lady health workers in Pakistan is maintained through a well-established supervisory network from the community up to the federal level. The monitoring and supervisory cadres include lady health supervisors at a ratio of 1:20–25 lady health workers, field programme officers and management at district and provincial levels. The overall impact of the lady health worker programme in Pakistan has been shown to be generally positive in regular external evaluations.

Incentives

A range of questions fall under the topic of incentives:

- Should CHWs be paid or should they be volunteers?
- If they are not paid, what other forms of incentive should or could be employed?
- If they are paid, should payment be in cash or in kind?
- Should payment come from individual users, communities, nongovernmental organizations or from the government?

Many of these link directly to broader governance issues and must be determined according to local circumstances and available resources.

Volunteers versus paid workers

There is a lot of debate about whether CHWs should be volunteers or paid through community or government funds. Much of the literature tends to imply that using volunteers is the best approach for CHWs and that they should provide voluntary social services in rural areas and informal settlements *(24, 25)*. However, the reality is different, because CHWs are usually poor people, living in impoverished and disadvantaged communities, who require income and will be more responsive and committed to their given tasks if they receive salary/remuneration. However, the sustainability of payment as part of the health system infrastructure is an important issue that should be considered by health system planners.

Evidence shows that most programmes pay their CHWs either a salary or an allowance. Even nongovernmental organizations tend to find ways of financially rewarding their CHWs. Moreover, while there are programmes in Zambia in which CHWs work on a completely voluntary basis, attrition rates are high and the few enthusiastic and reliable volunteers become overloaded with tasks from other agencies and sectors. A WHO document concludes that there is little evidence that the mobilization of volunteers in CHWs programmes is an effective policy *(26)*.

Although the training and deployment of CHWs is not cheap or easy, it remains a good investment since the alternative is no care at all for poor populations living in disadvantaged areas.

Box 5. Examples of CHW incentives

- ✓ Payment of CHWs may differ from country to country. In some countries of the Region (Egypt, Islamic Republic of Iran, Jordan and Pakistan), they receive regular salary from the ministry of health, while in other countries (such as Afghanistan), they receive different kinds of incentive such as recognition in the local community and some reward from the local community for providing certain services.

Measuring and evaluating the impact of CHW programmes

Given the diversity of CHWs programmes, there is not a one-size-fits-all evaluation approach. However, in general, evaluation can be done by assessing:

- the achievement of programme objectives
- the potential for programme sustainability
- the impact of the programme on outcomes such as health care access and quality.

This can be done through simple data collection techniques and utilizing existing surveys and data tracking mechanisms. If a CHW programme focuses on health education, it may be important to record and track patient information pre- and post-intervention and the quality of the health education session. Evaluations may also be done through collecting feedback from community representatives, programme stakeholder and health care providers.

The following measures can be used to evaluate CHW performance:

- number of clients/patients/ families who receive health education
- improvements in knowledge about or awareness of health issues
- number of CHWs involved in community activities
- catchment population per CHW
- number of home visits made by CHWs in a certain period of time (for example, day/week/month)
- number of children receiving timely growth monitoring, vaccination and other services
- number of mothers receiving tetanus toxoid vaccination and antenatal care at least four times
- number of eligible couples receiving modern contraceptives/family planning counselling
- number of TB patients under treatment with DOTS
- number of households with access to safe water and improved sanitation
- number of referrals made by CHWs during a month
- number of people screened for malaria, TB, hypertension, diabetes, etc.
- improvement in health outcomes (expanded programme on immunization coverage, blood glucose level, blood pressure, deliveries assisted by skilled health personal, and so on)

- improvement in utilization of available health care services
- community satisfaction and facilitation of access to primary health care services with no cost
- cost savings (such as fewer emergency department visits).

Planning for sustainability

There are some critical issues to be considered that can be linked to the sustainability of CHW programmes, including the following.

- Incorporating the CHW approach as part of national and local health policies and plans can facilitate access to primary health care services, particularly in remote areas.
- Tight linkages with local primary health care systems can sustain the scaling-up of CHW programmes, particularly with strong supervision from primary health care facilities.
- Planning and designing CHW programmes must be evidence-based, community responsive and context specific.
- The basic costs associated with the core components of a CHW programme need to be determined.
- Coordinated planning is needed for deployment, training, monitoring and evaluation. CHW programmes that have incorporated an evaluation component into their activities will be able to convey the impact of their programmes. Programme evaluation may enable the programme to demonstrate the cost-effectiveness of utilizing CHWs, which can be used to demonstrate programme effectiveness to community partners – who may be willing to invest resources in programme sustainability.
- Health reform may offer new opportunities for sustaining CHW programmes.
- The attitudes and interactions of health personnel at the nearest health facility with CHWs have an immediate impact on critical aspects of CHW programme management and sustainability. Health personnel must have the appropriate background and orientation in order to provide a supportive environment for CHW programmes as a part of the health team. This should be addressed in the training of medical students *(27)*.

Box 6. Examples of strengthening CHW programme sustainability

- ✓ At the Institute of Health Sciences Research, Jimma University, in Ethiopia, doctors, nurses and other health workers were trained as teams in a community-oriented training programme. During the training period, teams lived in villages where they assessed various health and social problems through action-oriented research. Ultimately, staff trained in this way developed a new culture of working. As a bonus, even while they were learning, their assistance was supportive to the CHW programme *(28)*. Similar experiences have been reported from Zimbabwe *(27)*.

CHW programmes in the Eastern Mediterranean Region

Most of the countries of the Eastern Mediterranean Region have interventions that are in line with the concept of the CHW programme, but they have not all been systematized or documented. In order to be more effective in the institutionalization of CHWs as part of national health systems, more evidence-based information on the key principles and elements of CHW programmes has been collected from six countries of the Region that have a systematized CHW programme. This was done through a questionnaire (Annex 2). The information collected will help to build the evidence-base for future planning and the development of a road map for strengthening and scaling-up CHW programmes by national authorities with the support of WHO and other stakeholders.

The questionnaires were filled by the ministry of health authorities responsible for CHW programmes. The compiled information showed that Afghanistan, Egypt, Islamic Republic of Iran, Jordan and Pakistan have established CHW programmes with well-defined selection criteria, training curriculum, tasks and supervision for CHWs under different names such as *raedat reyfyat* in Egypt, *behvarz* in the Islamic Republic of Iran, female health workers in Jordan and lady health workers in Pakistan. Egypt and Jordan have only trained a limited number of CHWs in a limited number of locations. Although Oman has no CHW programme, there is an outreach team comprising doctors, nurses, dieticians, social workers and health educators for providing home visits to conduct health education, counselling sessions and training of care givers among family members.

The data collected from the six countries revealed that the training curricula focus mainly on:

- maternal and child health
- communicable diseases (except Afghanistan)
- noncommunicable diseases
- first aid/emergencies (except Egypt)
- treatment of simple diseases (except Egypt)
- vaccination
- health education
- communication
- health information system.

In addition, in Egypt there is also a focus on zoonotic diseases, healthy life styles and violence against women and children, while in the Islamic Republic of Iran there is also a focus on oral health, health of the elderly, nutrition, personal hygiene, natural disasters, interaction with other sectors, school health, health system research and quality improvement, environmental health, occupational health, family planning, physical activity and Islamic knowledge. In Oman, the training syllabus covers only elderly health care.

Table 1. summarizes the main elements of the CHW programmes in selected countries.

Table 1. Major elements of CHW programmes in six counties of the Eastern Mediterranean Region

Elements / Country	Afghanistan	Egypt	Jordan	Iran (Islamic Republic of)	Oman	Pakistan
Population coverage	Urban 5% Rural 55%	Urban 10% Rural 90%	Urban 17% Rural 83%	Urban Rural 100%	11% of total elderly population	Urban 30%–35 % Rural 60%–70 %
Existence of programme (years)	5–10	> 10	5–10	> 10	5–10	> 10
Target areas	Rural and urban	Rural and semi-urban	Rural areas in southern Jordan only	Rural areas	Rural and urban	Rural and semi-urban
Recruitment status	Volunteers	Ministry of Health and Population employment	Ministry of Health employment	Ministry of Health and Medical Education employment	Ministry of Health employment	Ministry of Health employment
Title/name	CHWs	*Raedat refiyat* (RR)	Female health workers	*Behvarz*	Elderly care programme team	Lady health workers
Gender	Males and females	Females	Females	Males and females	Males and females	Females
Age range (in years)	20–50	18–35	20–30	18–28 for male 18–26 for female	Not specific	18–45
Minimum qualification	Primary education	Secondary education	Secondary education	High school diploma and above	Diploma for nurses, MBBCh for doctors and university degree for social workers	Middle (preferably matriculate i.e. Grade 10)
Duration of training	4–6 months	15 days	3 months	24 months	Training courses on elderly care for 5 days for each course	12 months
Cost of the training (US$)	300	900	2400	2400	Not defined	47
Training of trainers	5 to 12 days by community-based health care (CBHC) central department,	10 days by Ministry of Health and Population programme officers	2 weeks for primary health care staff at Ministry of	150 hours by Health Network Development Centre, Ministry	5 days for primary health care staff in all governorates	12 months by medical officers, lady health visitors, medical technicians

Elements	Country	Afghanistan	Egypt	Jordan	Iran (Islamic Republic of)	Oman	Pakistan
		Ministry of Public Health		Health	of Health and Medical Education		
Package of provided services		1. Ante/post-natal care 2. Assistance in normal delivery 3. Birth spacing 4. Immunization 5. Growth monitoring 6. Prevention and control of diarrhoea and acute respiratory infection 7. Monitoring safety of water and sanitation 8. Providing essential medicine 9. Diagnosis and treatment of simple diseases 10. First aid and emergencies 11. Heath education and counselling	1. Ante/post-natal care 2. Birth spacing 3. Immunization 4. Growth monitoring 5. Prevention and control of diarrhoea and acute respiratory infection 6. Heath education and counselling	1. Ante/post-natal care 2. Birth spacing 3. Immunization 4. Growth monitoring 5. Prevention and control of diarrhoea and acute respiratory infection 6. Providing essential medicine 7. First aid and emergencies 8. Heath education and counselling	1. Ante/post-natal care 2. Assist in normal delivery 3. Birth spacing 4. Immunization 5. Growth monitoring 6. Prevention and control of diarrhoea and acute respiratory infection 7. Monitoring safety of water and sanitation 8. Providing essential medicine 9. Diagnosis and treatment of simple diseases 10. First aid and emergencies 11. Heath	Outreach team (doctors, nurses, dieticians, social workers and health educators) for providing home visits to conduct health education, counselling sessions and training of care givers among family members.	1. Ante/post-natal care 2. Birth spacing 3. Immunization 4. Growth monitoring 5. Prevention and control of diarrhoea and acute respiratory infection 6. Oral health 7. Elderly health 8. Monitoring safety of water and sanitation 9. Providing essential medicine 10. Diagnosis and treatment of simple diseases 11. Disaster risk reduction 12. First aid and emergencies 13. Heath education and counselling

Elements / Country	Afghanistan	Egypt	Jordan	Iran (Islamic Republic of)	Oman	Pakistan
				education and counselling		
In-service training	Monthly and yearly	Before any new activity	Twice per year	Monthly	Yearly	Monthly
Reporting mechanism	Census Basic demographic data Family folders data	Census (quarterly and yearly) Basic demographic data Family folders data	Census Basic demographic data Family folders data	Census Basic demographic data Family folders data	Census every three months Basic demographic data for elderly Health information reporting	Census Basic demographic data Family folders data
Monitoring and supervision	Monthly by staff from the nearest health facility and community health supervisors and CBHC provincial officers, Ministry of Public Health/CBHC central department team	Central level: CHW department at Ministry of Health and Population; Governorate/health directorate level: RR supervisor (quarterly); District: RR supervisor (monthly); d) Facility: Line supervisor for 5 health facilities (weekly), staff from nearest health facility (monthly) for district level	There is a direct supervisor for each area plus supervision provided by the directorate of women's health, family planning and maternal and child health directorate at Ministry of Health in addition to staff from nearest health facility, district health office, and private sector	Weekly by rural health centre, family practice team from district and staff from nearest health facility, district health office and undersecretary for health in relevant university of medical sciences	The national team coordinates with focal points (responsible primary health care doctor in each governorate) who coordinate with institutional coordinators (a nurse in each primary health care centre)	1–2 times/month by lady health supervisors in addition to staff from the nearest health facility and district health office
Programme evaluation	By Johan Hopkins University team in 2007	By Ministry of Health and Population, National Population	By Ministry of Health	By Ministry of Health and Medical	By WHO consultant	By a third party (Oxford Policy Management) in

Elements	Country	Afghanistan	Egypt	Jordan	Iran (Islamic Republic of)	Oman	Pakistan
			Council as third party and development partners in 2012		Education		2009

References

1. Lehmann U, Sanders D. Community health workers: what do we know about them? The state of the evidence on programmes, activities, costs and impacts on health outcomes of using community health workers. In: *Evidence and information for policy*. Geneva: Department of Human Resources for Health, World Health Organization; 2007.
2. Bien CH. The barefoot doctors: China's rural health care revolution, 1968–1981 [honors thesis]. Middletown, CT: Wesleyan University; 2008.
3. Chuengsatiansup, K. Health volunteers in the context of changes: assessing the roles and potentials of village health volunteer in Thailand. Paper read at Second Asia-Pacific Action Alliance on Human Resources for Health (AAAH) Conference, Beijing, China, 12–14 October 2007.
4. Yahya, R. Indonesia: implementation of the health-for-all strategy. In: Tarimo EAC, editor. Achieving health for all by the year 2000. Geneva: World Health Organization; 1990:133–150.
5. Morrow, H. A primary health care strategy for Ghana. In: Morley D, Rohde JE, Williams G, editors. Practising health for all. Oxford: Oxford University Press; 1983:272–299.
6. Fournier G, Djermakoye I. Village health teams in Niger (Maradi Department). In: Newell KW, editor. Health by the people. Geneva: World Health Organization; 1975:128–206.
7. Nxumalo N, Goudge J, Thomas L. Outreach services to improve access to health care in South Africa: lessons from three community health worker programmes. Glob Health Action. 2013;6:19283.
8. Berman A. Village health workers in Java, Indonesia: coverage and equity. Soc Sci Med. 1984;19(4):411–422.
9. Berman PA, Gwatkin DR, Burger SE. Community-based health workers: head start or false start towards health for all? Soc Sci Med. 1987;25(5):443–59.
10. Wang'ombe JK. Economic evaluation in primary health care: the case of Western Kenya community based health care project. Soc Sci Med. 1984;18(5):375–385.
11. Wilkinson D, Floyd K, Gilks CF. Costs and cost-effectiveness of alternative tuberculosis management strategies in South Africa – implications for policy. S Afr Med J. 1997;87(4):451–455.
12. Islam MA, Wakai S, Ishikawa N, Chowdhury AM, Vaughan JP. Cost-effectiveness of community health workers in tuberculosis control in Bangladesh. Bull World Health Organ. 2002;80(6):445–450.
13. Nganda B, Wang'ombe J, Floyd K, Kangangi J. Cost and cost-effectiveness of increased community and primary care facility involvement in tuberculosis care in Machakos District, Kenya. Int J Tuberc Lung Dis. 2003;7(9 Suppl. 1):S14–S20.
14. Floyd K, Skeva J, Nyirenda T, Gausi F, Salaniponi F. Cost and cost-effectiveness of increased community and primary care facility involvement in tuberculosis care in Lilongwe District, Malawi. Int J Tuberc Lung Dis. 2003;7(9 Suppl. 1):S29–S37.
15. Khan A, Walley JD, Witter SN, Imran A, Safdar N. Costs and cost-effectiveness of different DOT strategies for the treatment of tuberculosis in Pakistan. Directly Observed Treatment. Health Policy Plan. 2002;17(2):178–186.
16. Clarke M, Dick J, Bogg L. Cost-effectiveness analysis of an alternative tuberculosis management strategy for permanent farm dwellers in South Africa amidst health service contraction. Scand J Public Health. 2006;34(1):83–91.
17. Okello D, Floyd K, Adatu F, Odeke R, Gargioni G. Cost and cost-effectiveness of community-based care for tuberculosis patients in rural Uganda. Int J Tuberc Lung Dis. 2003;7(9 Suppl. 1):S72–S79.
18. Strengthening the performance of community health workers in primary health care. Report of a WHO Study Group. Geneva: World Health Organization; 1989 (WHO Technical Report Series, No. 780).

19. Ingram M, Reinschmidt KM, Schachter KA, Davidson CL, Sabo SJ, De Zapien JG, et al. Establishing a professional profile of community health workers: results from a national study of roles, activities and training. J Community Health. 2012;37(2):529–37.
20. Martinez J, Ro M, Villa NW, Powell W, Knickman JR. Transforming the delivery of care in the post–health reform era: what role will community health workers play? Am J Public Health. 2011;101(12):e1–5.
21. Ofosu-Amaah V. National experience in the use of community health workers: a review of current issues and problems. Geneva: World Health Organization; 1983.
22. Bhattacharyya K, Winch P, LeBan K, Tien M. Community health worker incentives and disincentives: how they affect motivation, retention and sustainability. Arlington, VA: Basic Support for Institutionalizing Child Survival Project (BASICS II)/USAID; 2001.
23. Stinson W, Malianga L, Marquez L, Madubuike C. Quality supervision. QA Brief. 1998;7(1):4–6.
24. Mander H. People's health in people's hands? A review of debates and experiences of community health in India. Delhi: CEDPA; 2005.
25. Walt G. CHW: are national programmes in crisis? Health Policy Plan. 1988;3(1):1–21.
26. Draft working document for the WHO study group on community health workers. Geneva: World Health Organization; 1987.
27. Waterston T, Sanders D. Teaching primary health care: some lessons from Zimbabwe. Med Educ. 1987;21(1):4–9.
28. Strengthening the performance of community health workers: interregional meeting of principal investigators, 12–16 November 1990, Geneva, Switzerland. Geneva: World Health Organization; 1990 (SHS/ DHS/91.1).
29. Hafeez A, Mohamud BK, Sheikh MR, Shah SA, Jooma R. Lady health workers programme in Pakistan: challenges, achievements and the way forward. J Pak Med Assoc. 2011;61(3):210–215.
30. Haq Z, Hafeez A. Knowledge and communication needs assessment of community health workers in a developing country: a qualitative study. Human Resources for Health. 2009;7:59.
31. Javanparast S, Baum F, Labonte R, Sanders D. Community health workers' perspectives on their contribution to rural health and well-being in Iran. Am J Public Health. 2011;101(12):2287–92.
32. Arwal S. Community based health care program in Afghanistan. Kabul: Ministry of Public Health; 2009.
33. Bella H. Sudanese part-time village health workers. IPPF Med Bull. 1980;14(1):2–4.
34. Cufino Svitone E, Garfield R, Vasconcelos MI, Araujo Craveiro V. Primary health care lessons from the northeast of Brazil: the Agentes de Saúde Program. Rev Panam Salud Publica. 2000;7(5):293–302.
35. Management of sick children by community health workers: intervention models and programme examples. Geneva: WHO/UNICEF; 2006.
36. Lobato L, Burlandy L. The context and process of health care reform in Brazil. In: Fleury S, Belmartino S, Baris E, editors. Reshaping health care in Latin America: a comparative analysis of health care reform in Argentina, Brazil, and Mexico. Ottawa: International Development Research Centre; 2000:79–102.
37. McGuire JW. Democracy, social policy, and mortality decline in Brazil. Paper presented at a seminar at the Harvard Center for Population and Development Studies, 10 October 2002.
38. Information gleaned from presentations at Third National Conference on Human Resources for Health in Brasilia, March 2006.
39. Chatterjee M. Health for too many: India's experiments with truth. In: Rohde J, Chatterjee M, Morley D, editors. Reaching health for all. New Delhi: Oxford University Press; 1993:343–377.
40. Bose A. The community health worker scheme: an Indian experiment. In: Morley D, Rohde J, Williams G, editors. Practising health for all. Oxford: Oxford University Press; 1983:38–48.
41. Kaithathara S. Experiences with community health and village health workers in rural India. In: Streefland P, Chabot J, editors. Implementing primary health care: experiences since Alma-Ata. Amsterdam: Royal Tropical Institute; 1990:121–128.

42. An external evaluative study of the state health resource centre (SHRC) and the mitanin programme: Final report. Bangalore: Society for Community Health Awareness, Research and Action (SOCHARA); 2005.
43. Nyamutera K. Health workers around the world: the Congo. British Journal of Healthcare Assistants. 2010;4(10):477–477.
44. Delacollette C, Van der Stuyft P, Molima, K. Using community health workers for malaria control: experience in Zaire. Bull World Health Organ. 1996;74(4):423–430.
45. Ahmed, SM. Taking healthcare where the community is: the story of the shasthya sebikas of BRAC in Bangladesh. BRAC University J. 2008;5(1):39–45.
46. Khan, H. et al. Training and retaining shasthyo shebika: reasons for turnover of community health workers in Bangladesh. Health Care Superv. 1998;17(1):37–47.

Annex 1. Case studies

From the Eastern Mediterranean Region

Pakistan's lady health worker programme *(29)*

In 1994, in response to the low utilization of health care services, the Government of Pakistan, with support from WHO, initiated a national programme for family planning and primary health care, commonly known as the lady health workers programme. The programme has been able to enhance community participation through raising awareness and changing attitudes regarding health and family planning. This is done through a comprehensive grass roots level effective system for the provision of primary health care. The lady health workers also act as a referral link to the nearest primary health care facility, basic health unit or rural health centre.

Each lady health worker serves a population of 1000 people in the community and provides her services in the catchment population through daily home visits to 5–7 households. The scope of work includes over 20 tasks covering all aspects of maternal, newborn and child care antenatal care including diarrhoea, respiratory tract infections and fever, managing anaemia, early initiation of breastfeeding and childhood feeding, immunization, distributing contraceptives and providing counselling to married women on reproductive health and family planning). Additional roles carried out by the lady health workers including antenatal care during home visits, promoting and monitoring the use of skilled birth attendants, and encouraging families and communities to access in a timely manner the available referral emergency obstetric and neonatal care services, polio eradication initiative, TB direct observed therapy, short course (DOTS), malaria control, health emergency response activities, and disease surveillance. The programme has a strong network of implementation units at the federal, provincial and district levels with a well-defined structure according to responsibilities at each level. However, after devolution, the federal programme implementation unit was abolished in June 2011.

The annual recurrent cost acquired for each worker averaged US$ 947 annually in 2011 (defunct PC 1 2010–2014). However, these estimates require further review and revision as the Government of Pakistan decided to regularize the services of 105 000 lady health workers from July 2011. Since devolution, all provinces except Balochistan have developed revised integrated PC1s which are currently undergoing the approval process.

Almost 60% of the population of Pakistan, mostly rural, is covered by the programme with more than 100 000 lady health workers nationwide. The health indicators in the areas served by lady health workers are significantly better than the national average *(30)*. The lady health workers are recruited through a well-defined process according to defined selection criteria: being a local resident, aged between 18–45 years, with at least eight years of schooling, preferably married and being acceptable to the community. Recruitment is followed by 15 months of basic training at a first level care facility (basic health unit and rural health centre) or *tehsil* headquarters hospital, by staff working there, in two phases, using programme training manuals and curriculum. The first phase is of five days a week for three months. The second phase of training lasts for 12 months with three weeks of field work followed by one week of classroom training each month. The basic training of the lady health workers is complemented by one day of continuing education each month and 15 days refresher training on various topics every year.

Lady health workers are now considered an integral part of Pakistan's primary health care system. They are responsible for maintaining comprehensive records for all patients under their charge by updating the family register at the health house to reflect the medical histories and health conditions of each member. Moreover, they make monthly reports on indicators of maternal and child health, family planning and basic curative care. This meticulous record keeping allows for the lady health workers to keep track of individuals in order to proactively provide services.

Quality of care by lady health workers is maintained through a well-established supervisory network from the community up to the federal level. The monitoring and supervisory cadres include lady health supervisors at a ratio of 1:20–25 lady health workers, field programme officers and management at the district and provincial level. The overall impact of the lady health workers programme has been largely positive as demonstrated by regular external evaluations. The last evaluation, undertaken in 2007–2009 by an international firm (Oxford Policy Management) using nationally representative household surveys, found that the lady health worker programme has improved key health indicators, including vaccination rates, use of antenatal services, oral rehydration solution knowledge, use of modern family-planning methods and skilled attendance at delivery. Most recently, a pilot programme involving lady health workers in newborn care achieved a 15% reduction in the neonatal mortality rate. There is significant political will and financial support from the Government for the programme.

Challenges

- Frequent turnover of management staff
- Deficiencies in the disbursement of funds and supplies
- Limited integration with basic health units and other health-related programmes in some areas
- Lack of system support
- Low quality of care provided by lady health workers in some areas.

CHW perspectives on their contribution to rural health and well-being in the Islamic Republic of Iran *(31)*

Iranian CHWs, called *behvarzes* in the Farsi language, are local health workers with specialized training in the health needs of the rural population. The programme is an example of comprehensive primary health care, in that *behvarzes* provide basic health services but also work with community members and other sectors to address the social determinants of health. *Behvarzes* are selected from the rural areas where they live and must commit to reside in their area for at least four years after training. A *behvarz* must have a high school certificate and be approved by the rural council. They are interviewed and must pass a theory test. The two-year *behvarz* training period, which includes theory and practical classes as well as clinical placement in rural areas, covers a broad range of topics from health care services to communication skills and social determinants of health.

Behvarzes are permanent employees of, the Iranian health system, which pays them. They work from village "health houses", which are health delivery facilities located in rural areas. Each health house is designed to cover a target population of approximately 1500. According to the most recent statistics, in 2007 there were about 17 000 health houses in the Islamic Republic of Iran, with almost 31 000 male and female *behvarzes* working in these facilities, which cover most of the country's 65 000 villages.

Initially the *behvarz* programme focused on infectious diseases and maternal and child health, but changing disease profiles have expanded the range of their responsibilities to include the following.

- Child health care: vaccination, growth monitoring, integrated management of childhood illness, breastfeeding promotion and education, and supplementary feeding.
- Maternal health care: prenatal, natal and postnatal care, health education and delivery, and family planning.
- Communicable disease management: detection, management, follow-up and referral of cases of diarrhoeal disease and acute respiratory disease in children and TB, malaria, hepatitis and AIDS in all age groups.

- Noncommunicable disease management: detection, management, follow-up and referral of cases of diabetes, hypertension, mental disorders, goiters, accidents and injuries, asthma, thalassaemia and anaemia.
- Care of the elderly: promotion of healthy eating and physical activity.
- Oral health care: dental screening of children, pregnant women and the elderly and referral to dentists or dental assistants in rural health centres.
- Care of young people: provision of health education, promotion of healthy eating and prevention of addiction.
- Health care in schools: regular visits to schools and physical examinations of students on an annual basis.
- Environmental health/Food safety: regular supervision of food production, storage and distribution; monitoring of sanitation and safe water; collaboration with other sectors in environmental health projects; and home visits.
- Occupational health: farmers' health, health education and work safety.
- Simple symptomatic treatment and first aid.
- Provision (as applicable) of painkillers, antibiotics and supplements.
- Annual population census.
- Updates of rural household profiles.
- Completion of reports/forms: filling in forms, writing reports, collecting data.
- Meeting attendance: participation in in-service training sessions, *behvarz* councils and so on.

Challenges

- Workloads that affect ability to provide high-quality health services
- Lack of a support system
- Poor supervisory mechanisms
- Integration of new programmes within the Iranian primary health care system and the inclusion of additional forms and paperwork
- Lack of mechanisms for job promotion.

CHWs in the frontline of health care in Afghanistan *(32)*

Afghanistan consists of more than 40 000 villages, many of which are in remote areas. The country faces many challenges related to health care delivery besides geographical barriers, such as a reduced the health workforce due to the conflicts inside the country and a strong preference for female health care providers for women clients. There is therefore a need to use CHWs who are volunteers, both men and women (65% female), from the community trained to deliver health services. They are incentivized for various services, such as attending monthly review meetings (US$ 2), reporting a suspected TB case (US$ 1) and completing TB treatment (US$ 3). They also distribute heath care products, which they receive free and then sell at a 25% mark-up over the low base realignment and closure wholesale cost.

In Afghanistan's villages, CHWs are the first line health care providers and the backbone of the primary health care system. They even work in parts of the country that are not reached by basic health services. More than 22 000 volunteers deliver community-level health education, counselling and services out of village health posts in private homes throughout the country. On average, 800 000 families in the country seek basic preventative information and care from CHWs every month. Each CHW is responsible for delivering basic health services to 100–150 households (containing 1000 to 1500 inhabitants in total). They visit 5–10 homes a day for 15–30 minutes each. Community-based health care programmes actively encourage communities and families to adopt healthy lifestyles and behaviours, while providing access to high quality and socially-acceptable preventative medicine and life-saving services.

Because CHWs are selected from the community and are known and trusted by most of the villagers, their role in service delivery is crucial, especially in decreasing maternal mortality and increasing access to family planning services. CHW contributions are reflected in a national increase in the use of modern contraceptives in rural areas from 5% in 2003 to 16% in 2006. Afghan health officials and the WHO observe Community Health Workers' Day to acknowledge the role and contribution made by around 20 000 CHWs. This day is a local adaptation of the International Volunteers Day observed by the United Nations.

CHWs perform the following services on their house-to-house visits:

- health and nutrition education
- treatment of common ailments
- non-clinical family planning methods distribution
- identification of suspected TB patients
- implementation of DOTS
- distribution of oral rehydration supplies and iodized salt
- mobilizing children for immunizations (the expanded programme on immunization)
- education about health and hygiene
- provision of acute respiratory infection and diarrhoea medicine
- referring complicated diseases to other medical professionals
- distribution of personal hygiene products, such as tooth paste, sanitary towels and so on.

CHWs are trained for six months according to standards set by the Ministry of Public Health and are supervised by trained CHW supervisors. During the training, they learn about common health problems, first aid, raising health awareness in the community and making referrals to the nearest health centre. They also receive in-service training and monthly refresher training at a fixed facility near their home.

Midwifery programme in Sudan *(33)*

The Sudanese village midwife can be defined as an illiterate (or sometimes literate) woman, usually a mother, community chosen and trained in a district midwifery school for about nine months, after which she receives a certificate, is registered and becomes responsible for antenatal, intra-partum and postnatal care of the mothers

and children in her village. She is a part-time worker, not salaried and is supervised by the community. The difference between the village midwife and the traditional birth attendant, as defined by WHO, is that the village midwife receives formal training from the beginning and ends by being registered and being legally recognized. The activities and standard of performance of the village midwife are of a high standard. The community employs the midwife and fees are paid on an optional basis, as midwives who demand fees are generally looked upon with disapproval. The midwives are not only trained to conduct deliveries at home, but also to be "missionaries in the homes of people in the cause of cleanliness and hygiene" and to spread health awareness among mothers and thus promote the health of the next generation. Overall, the midwifery training programme shows that utilization of part-time health workers can be a valid and feasible concept.

From other regions

CHW programme in Brazil *(20)*

The CHW programme in Brazil started in the mid-1980s in the north-eastern state of Ceará *(34)*, but was integrated into the national family health programme in 1994 *(35,36,37)*. They are trained for three months and assigned to make monthly visits to 50–250 households to provide prenatal care, vaccinations and check-ups, as well as to promote breastfeeding and oral rehydration. By 1992, 7300 community health agents had been hired, along with 235 half-time nurse supervisors. These health workers served 65% of Ceará's population at a cost of less than US $8 000 000 per year, or about US$ 1.50 for each person served *(37)*. The programme led to a 32% drop in infant mortality within five years and a substantial increase in exclusive breastfeeding *(34)*. By 1994, the national government adopted the Ceará programme and integrated it into the newly developed family health programme (Programa Saúde da Família).

The family health programme is the main government initiative to improve primary health care in Brazil. The programme provides a broad range of primary health care services delivered by a team composed of one physician, one nurse, a nurse assistant, and (usually) four or more CHWs. In some places, the team also includes dental and social work professionals. Each team is assigned a geographical area and is responsible for enrolling and monitoring the health status of the population living in this area, providing primary care services and making referrals to other levels of care as required. Each team is responsible for an average of 3450, and a maximum of 4500, people. Physicians and nurses typically deliver services at health facilities placed within the community, while CHWs provide health promotion and education services during household visits.

As of 2004, the programme covered about 66 million people, nearly 40% of the entire population. By early 2006, 60% of the population was looked after by 25 000 health teams. In areas covered by family health teams, hospitalization has dropped from 52 to 38 per 10 000 in the past three years *(38)*. Brazil has fully integrated CHWs into primary health care services as paid members of the family health teams.

Challenges

- Local ownership has been, and continues to be, challenging.
- Centralization: municipalities are not responsible for delivery of services at the primary level and must ensure the existence of community health committees.

CHW programme in India *(20)*

India has a long and rich history of small and large scale CHW programmes. A large national CHW programme was established in the late 1970s that aimed to provide one CHW for every 1000 population in order "to provide adequate health care to rural people and to educate them in matters of preventive and promotive health care" *(39,40)*.

However, the programme ran into problems virtually from the start: resistance from the medical profession, demands for payment and vacillating government policies with regard to funding meant that the scheme collapsed in most states within a few years. Furthermore, it would appear that the programme was not well owned by communities and there was role confusion between CHWs and multipurpose health workers. CHWs were trained for a very limited scope of curative tasks, to the exclusion of any preventive or promotive work, leading to limited trust among themselves and the communities they served *(39, 40)*. The government considered CHWs as volunteers who were appointed by the communities they served.

On a smaller scale, a project called MOTT (mobile orientation and training team) set up CHW projects in a number of villages in the Indian state of Orissa. Community participation was central to the programme in the form of participation in deciding and planning for local health care programmes. Also, a small committee of seven to ten people, women and men, was formed to help the health workers in their day-to-day problems *(41).*

Another large-scale programme called the *Mitanin* programme was initiated by the government in the Indian state of Chhattisgarh in 2002. The programme is seen to be following in the long tradition of Indian CHW programmes and was preceded by intensive studies of these previous experiences *(42)* and was evaluated by the Society for Community Health Awareness, Research and Action (SOCHARA).They have a *mitanin* (trained CHW) for all the villages in the state. *Mitanin* are women, selected from their communities, who receive altogether 20 days of training and who work closely with primary health staff.

CHWs in the Democratic Republic of the Congo *(43)*

The potential for using CHWs to administer treatment of malaria was evaluated in the Katana health zone in the Democratic Republic of the Congo *(44)*. In each of the 12 villages of the intervention area, a CHW, selected by the village, was trained for two weeks in the use of a simple fever management procedure. After training, the CHWs started their activities. Since they were also local farmers, they were, in principle, always accessible to the villagers, who had been motivated through health education to consult the CHW for any fever episodes.

The CHWs performed their services under the supervision of the nurse in charge of the area's health centre and attended monthly meetings. They received only a symbolic monetary award, as well as increased standing in the community. Nevertheless, no CHW dropped out of the programme.

Malaria morbidity and mortality trends were monitored over two years in the project area and compared to other areas where malaria treatment was available at the health centre only. Malaria morbidity declined 50% in the project area but remained stable in the control area. Health care behaviours changed in the intervention area as well.

CHWs in Bangladesh: the Bangladesh Rural Advancement Committee *(45)*

The Bangladesh Rural Advancement Committee (BRAC) provides a wide variety of health, financial and other social services to the community. Health services are provided by CHWs called *shasthya shebikas*, who are members of the BRAC village organizations that consist of women from the poorest communities and which are aimed at

improving their socioeconomic conditions. At the beginning of the programme, five women form a group and about 10 such groups constituted a village organization in each community. These village organization members suggest names of prospective *shasthya shebikas* during the village organization meetings. Based on these recommendations, the final selection of the *shasthya shebikas* is done at the BRAC regional office.

Selection of *shasthya shebikas* is based on the criterion that they are female, socially-acceptable, aged 25 to 35 years, married, preferably educated, not living near a local health care facility or big bazaar, and their youngest child is aged above five years. They are not paid a salary but they retain a small profit from the sale of drugs prescribed for common illnesses *(46)*. After recruitment, they receive a four-week residential training in general health knowledge and care, as well as additional training for programmes such as on DOTS. Each of the *shasthya shebikas*, not living near a local health care facility or big bazaar, is responsible for around 250 households, and usually visits 15 households daily.

However, some *shasthya shebikas* who implement intensive programmes (such as a focus on TB) are only given 150 households. They are expected to spend around two hours per day for household visits, six days a week. Tasks included: disseminating health and nutrition messages, identifying women who are pregnant or people who may have TB or malaria, directly providing daily treatment for TB patients, providing treatment for common illnesses, selling health commodities produced by BRAC and referring patients to local health centres. They also participate in national programmes, such as vaccination campaigns. The *shasthya shebikas* are monitored by *shasthya kormis*, who in turn reported to programme officers who work under medical doctors. S*hasthya kormis* and programme officers, unlike *shasthya shebikas*, are salaried BRAC employees. S*hasthya kormis* have more schooling (> 10 years) and review 10 s*hasthya shebikas* during field visits three days per week. All *shasthya shebikas* of a given region are brought once a month into the BRAC field office for a day of refresher training and to replenish their inventories.

Challenges

The *shasthya shebikas* programme experienced an annual dropout rate of 10%–15% in 1998 *(46)*. A majority of the dropouts seem to occur due to dissatisfaction with the inadequate financial return against the time and labour invested. Other causes might include time constraints of household chores, disapproval of husband and other family members, criticism from neighbours on religious grounds and (in some places) patient unwillingness to pay for services from a lay person rather than medical staff.

Annex 2. Mapping outreach services and home health care in the countries of the Eastern Mediterranean Region

Name of the country: **Date:** Click here to enter a date.

Name of the person/s filled the form: Click here to enter text. **Designation:** Click here to enter text.

A. General information

1. Is there any outreach[1] health service programme in your country? ☐ Yes ☐ No

2. If yes; how do the outreach team/ personnel reach the community?
   - ☐ Home visits
   - ☐ Mobile teams
   - ☐ Mobile clinics
   - ☐ Others (*please specify)*Click here to enter text.

3. Who provide the services?
   - ☐ Nurses
   - ☐ Doctors
   - ☐ Vaccinator
   - ☐ Social workers
   - ☐ Community health workers (CHWs)
   - ☐ Midwives
   - ☐ Volunteers
   - ☐ Others *(please specify)* Click here to enter text.

4. What are the kinds of services provided?
   - ☐ Women's health (antenatal, FP, postnatal care)
   - ☐ Immunization
   - ☐ Malaria
   - ☐ TB
   - ☐ Multi-purpose
   - ☐ Others (*please specify)* Click here to enter text.

5. The outreach services are functional in:
   - ☐ Rural areas
   - ☐ Urban areas
   - ☐ Both

6. Is there any CHW programme in the country? ☐ Yes ☐ No

7. If, yes, are the CHWS :
   - ☐ Female
   - ☐ Male
   - ☐ Both

8. What do you call the CHWs in your country? Click here to enter text.

[1] Outreach services: delivery of primary health care services at the doorsteps of households by a native community health worker/team of trained health personnel assigned to deliver single or multiple interventions to the defined catchment population on regular basis.

9. What is the percentage of population covered by CHWs?
   Rural
   Urban

   Total

10. For how long CHWs programme has been running in your country?
    ☐ < 5 years
    ☐ 5–10 years
    ☐ > 10 years

11. Are CHWs paid by the government on a fixed salary? ☐ Yes ☐ No

12. If no, are there any incentives? (*Please specify*) ☐ Yes ☐ No

13. Do the CHWs have defined catchment population/area? ☐ Yes ☐ No

14. If yes, what is the average catchment population? Click here to enter text.

B. Selection

1. Is the selection of CHWs based on defined criteria? ☐ Yes ☐ No

2. If yes, what is the minimum qualification?
   ☐ Primary
   ☐ Secondary
   ☐ Above

3. What is the minimum and maximum age to start training? Click here to enter text.

4. Is there a role for the community in selection? ☐ Yes ☐ No

C. Training

1. Is there any training school for CHWs? ☐ Yes ☐ No

2. What is the estimated cost of training per CHW in US$?
   a. Who calculated?
   b. When? Click here to enter a date.

3. The training cost is covered by whom?
   ☐ Government
   ☐ Community
   ☐ Other (*please specify)* Click here to enter text.

4. Duration of training in months Click here to enter text.

5. Is there any training course for the trainers? ☐ Yes ☐ No

6. If yes, for how long? Click here to enter text.
7. Who trains the trainers? Click here to enter text.
8. What is the training methodology?
   ☐ Theory
   ☐ Practical

9. What is the main syllabus of training?
- ☐ Both
- ☐ Maternal and child health
- ☐ Communicable diseases
- ☐ Noncommunicable diseases
- ☐ First aid/emergencies
- ☐ Treatment of simple diseases
- ☐ Vaccination
- ☐ Health education
- ☐ Communication
- ☐ Health information system
- ☐ Other (please specify) Click here to enter text.

10. Is the training curriculum published in the local language? ☐ Yes ☐ No

11. Are there any regular in-service/refresher training courses? ☐ Yes ☐ No

12. If yes, how often?

D. Services that CHWs are supposed to deliver

- ☐ Antenatal and post-natal care
- ☐ Assisting in normal delivery
- ☐ Birth spacing
- ☐ Immunization
- ☐ Growth monitoring
- ☐ Prevention and control of diarrhoea
- ☐ Prevention and control of acute respiratory infections
- ☐ Monitoring safety of water and sanitation
- ☐ Providing essential medicines
- ☐ Diagnosis and treatment of simple diseases
- ☐ First aid and emergencies
- ☐ Heath education and counselling
- ☐ Other (please specify) Click here to enter text.

E. Data collection, registration and reporting by CHWs

1. Does a census take place on a regular basis (annually) ☐ Yes ☐ No
2. Is basic demographic data[2] recorded? ☐ Yes ☐ No
3. Are family folders available? ☐ Yes ☐ No
4. Is a health information reporting tool available? ☐ Yes ☐ No

[2] Population coverage in age and sex, number of births, deaths, migration, employment and education

F. Monitoring and supervision

1. The CHWs are supervised by:
   - ☐ Staff from the nearest health facility
   - ☐ District health office
   - ☐ School of CHWs
   - ☐ Others (*please specify*)

2. How often does supervision take place?
   - ☐ Once/month
   - ☐ Once/quarter
   - ☐ Other (*please specify*) Click here to enter text.

3. Are the outcomes of supervision documented and reported to a higher level? ☐ Yes ☐ No

G. Job promotion opportunities

1. Are CHWs able to continue their study? ☐ Yes ☐ No

2. Are there any rules and regulations on job promotion? ☐ Yes ☐ No

H. Programme evaluation

1. Has any evaluation taken place? ☐ Yes ☐ No

2. If yes, by whom?
   - ☐ Ministry of health
   - ☐ Third party
   - ☐ Other (*please specify*) Click here to enter text.

3. What was the last date of evaluation? Click here to enter a date.

4. Are any reports on CHW assessment/evaluation available and published?[3] ☐ Yes ☐ No

[3] Please attach any report if available