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**Primary Health Care:**

**A Redefinition, History, Trends, Controversies and Challenges**

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**3 September 2013**

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# Introduction

 Primary health care in the context of global health, and from the standpoint of the most disadvantaged populations in low-income populations around the world, represents the undisputed long-term means to improve population health, yet it has been one the most neglected topics on the global health agenda. There are many reasons for this, which we will explore in this paper, but the current renewed interest in primary health can be attributed to several converging trends.

 First, while significant progress in reducing maternal and child mortality has been made across all regions of the world in the past decade, progress in improving the health and nutritional status of the poorest segments of many low-income countries continues to lag behind that of the rest of the world, and very few of the 74 countries with 97% of the world’s maternal and child deaths are on target to achieve the Millennium Development Goals for maternal and child health.[1](#_ENREF_1) (The best single indicator we have of the quality and coverage of primary health care services in a low-income country is the mortality rate of children younger than 5 years of age, expressed in deaths per 1,000 births.) Second, the population coverage of most basic and essential services that fall within the realm of primary health care among low-income populations remains surprisingly low (50% or less in most cases).[[1]](#footnote-1) Basic health-promoting behaviors such as exclusive breastfeeding and hand washing, which we know can be effectively promoted through community-based primary health care programs, are still not the norm. Third, the limits of the decades-long emphasis on specific disease-control programs and selective top-down programs are being increasingly recognized. The lack of funding for and emphasis on health systems strengthening and, in particular, the lack of emphasis on strengthening of primary health care programs and the community health service delivery component of primary health care, are becoming recognized. Fourthly, community participation, community mobilization, and community empowerment are now part of the domain of primary health care and are recognized as essential for improving the health of impoverished populations, increasing the coverage of basic and essential services, and adopting healthy behaviors. Fifthly, with the emergence of chronic diseases as the major global disease burden of the future and the need for persons with chronic diseases to have access to health services, the need for a functioning primary health care system is becoming even more obvious. Sixth, climate change is likely to increase the frequency of extreme events such as droughts, floods, storms and patterns of disease and infections that require community surveillance and actions.

The desire – and right – to live a long, healthy and productive life is one of the most fundamental of human hopes and aspirations, and one of the most important functions that societies strive to fulfill. Without the full development of primary health care, Health for All cannot be achieved.

# A working definition of primary health care

I propose here a definition of primary health care that builds on the historical tradition of primary health care but at the same time pushes the borders of the definition in three directions – (1) a stronger role for community-based delivery of services and community mobilization/participation/ empowerment, (2) a stronger role for disease prevention with links to vertical programs, and (3) a stronger role for certain curative services that many today would not consider as part of primary health care.

Primary health care consists of those services that people seek and that providers (individual and organizational) deliver that protect health, treat basic and uncomplicated illness, disease and injuries – especially those that are public health priorities in terms of disease burden that can be alleviated through cost-effective and affordable interventions and programs. These services include those that can be provided in communities outside of facilities by community-based workers as well as services provided at facilities by frontline health workers (including auxiliary nurses, graduate nurses, and physicians) without advance specialized training and without expensive diagnostic and laboratory support.[[2]](#footnote-2) The presence of a basic laboratory, other diagnostic equipment including basic x-ray and ultrasound capability, and an operating room is appropriate for a primary health care center along with the staff and support required to utilize them.

Disease prevention at the local level, promotion of healthy behaviors, and timely utilization of priority health services all require community participation to succeed and fall within the domain of primary health care. Primary health care includes the provision of health-related services provided to persons in their homes, communities, and at ambulatory health facilities by primary health care practitioners. Primary health care is increasingly provided by health teams. The concept of primary health care should include first-line, lower-level inpatient care that can be provided at a health center, including basic and essential surgical services such as caesarean sections.

Primary health care is composed of three types of activities: disease-oriented primary health care, services-oriented primary health care, and community-oriented primary health care. Disease-oriented primary health care consists of local efforts to control specific diseases which constitute a significant disease burden in the population and for which disease-control interventions exist. These activities often have strong technical and funding support from the central government but are in fact mostly carried out in the community as part of the primary health care system. Services-oriented primary health care consists of efforts to extend basic personal health care services to the entire population. Community-oriented primary health care consists of efforts to work in partnership with communities to improve their health. These domains are not mutually exclusive and overlap in many instances. Each of these three types of primary health care is equally important, and together they function like the three legs of a stool on which the “seat” of primary health care rests. If one leg is poorly developed, the primary health care system suffers. In reality, disease-oriented primary health care has been the strongest leg of this stool by far, with services-oriented primary health care receiving less attention and community-oriented primary health care receiving far less attention than the other two legs.

In its conceptual and functional sense, primary health care is not tied to any specific type of health facility or to any type of health care provider. Mothers are primary health care providers in their homes for their children – probably the most important of all primary health care providers in impoverished populations., while grandmothers, mothers-in-laws, husbands and other relatives may have significant influence over healthcare decisions. Households prevent and treat more illnesses than the formal health system does. In addition to household members, primary health care is provided by community health workers (CHWs), auxiliaries, nurses, and physicians, traditional healers, drug sellers, and informal or non-formally trained practitioners.

In its narrowest traditional sense, primary health care is simply ambulatory health services that are provided by frontline health workers, both formal and informal. Thus, in the narrow traditional sense, primary health care is what I am calling services-oriented primary health care. But this concept of primary health care fails to include disease-oriented primary health care and community-oriented primary health care.

An attempt in 1978 to more broadly define primary health care was the following:

[E]ssential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.[2](#_ENREF_2)

This definition is from the Declaration of Alma-Ata, which emerged from the 1978 International Conference on Primary Health Care. The conference was the largest and most representative global health conference that had been held up to that time, with representatives of 134 governments and 67 international organizations.[3](#_ENREF_3) It is, then, a definition that had broad legitimacy when issued and has consistently been affirmed since as the “gold standard” for primary health care. It includes the three types of primary health care I have specified. The conference also called for the achievement of Health for All through primary health care by the year 2000 – a goal not yet met but which will remain with us to achieve for at least most of the 21st century.

Primary health care responds to patient and community-defined needs for illness care and also proactively addresses epidemiological priorities in the community, and therefore is engaged in the process of improving the health status of the community. Epidemiological priorities are the most frequent, serious, readily preventable or treatable conditions in the community. Since epidemiological priorities vary from one locality to another, they are best determined from locally acquired surveillance data.[[3]](#footnote-3) Addressing epidemiological priorities also involves addressing the basic underlying physical and social determinants of ill health – access to safe water, sanitation, good nutrition, adequate housing, and basic education. Addressing biological causes of disease often require addressing phychological, social, economic, and political conditions to have sustainable outcomes.

Households and communities are resources, not just targets, for implementing primary health care. Because of the scarcity and expense of physical health facilities in low-income countries and the higher-level professional personnel who staff them, much of primary health care needs to be provided in homes and communities by community-based staff who are properly trained and supervised in implementing interventions and carrying out procedures that have been scientifically validated for provision by lower-level health workers, including illiterate CHWs in populations with high levels of illiteracy. Health teams led by physicians and nurses are necessary to train and support CHWs, and a strong system of logistical support for supplies, medicines and commodities is also required.

There is no general global standard of what constitutes a primary health care center in low-income settings. At present, many of these health centers have inpatient beds and provide inpatient care but do not commonly – at least at this point in time – provide the kinds of basic surgical services called for as part of primary health care.

Primary health care is that portion of health systems that has the greatest potential to improve population health. As such, it should be the foundation of health systems, particularly in resource-constrained settings. Strengthening the provision of primary health care services should be the first health priority of governments.

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| **Box 1. Proposed Components of Primary Health Care for Disadvantaged Populations in** **Low-Income Countries[[4]](#footnote-4)*** Disease prevention (education about prevailing preventable health problems and methods of preventing and controlling them; preventive services such as immunizations against major infectious diseases and provision of clean water and sanitation).
* Prevention, detection and treatment of HIV/AIDS, tuberculosis and malaria.
* Health promotion (education about behaviors and health care utilization that promote good health, including hygiene, clean water, and sanitation; assurance of good nutrition; immunizations, healthy timing and spacing of pregnancies, and warning signs of serious illness for which medical care should be sought).
* Addressing other important determinants of ill health (illiteracy and lack of education, lack of an adequate food supply and adequate housing).
* Basic and essential services for women, mothers and children.[[5]](#footnote-5)
* Appropriate treatment of common diseases and injuries, including provision of essential drugs, chronic disease management, and mental illness care.
* Basic and essential surgical care (this includes “first-line” surgical care[[6]](#footnote-6) in addition to burn, wound, and fracture management; cesarean section and surgical procedures for family planning such as tubal ligation and vasectomy).
* Assistance in the rehabilitation of people with long-term disabilities.
* Engaging the community in understanding and addressing their health problems and the determinants of their problems through community-based workers and participatory women’s groups., peer-support groups, and community governance structures.
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# Historical considerations

 Primary health care as a component of modern medical care, both in high-income as well as in low-income countries, has a rich and often not fully appreciated history, which at this point of time is important to recall as we consider how primary health care might be best organized to serve the unmet health needs of the most disadvantaged populations in low-income countries.

**Origin of the term primary health care and organization of primary health care in developed countries**

 The term primary health care is generally ascribed to the Dawson Report, which was presented to Parliament in Great Britain in 1920.[6](#_ENREF_6) The report, Chaired by Lord Dawson of Penn, was concerned with the “Future Provision of Medical and Allied Services.” The report arose from a recognition that the organization of medicine at that time was insufficient and that “it fails to bring the advantages of medical knowledge adequately within reach of the people.” Its general principle was that medical services should be “distributed according to the needs of the community.” The report also recognized that, while medical care had been previously provided primarily in the home, increasingly, services would need to be provided in facilities with laboratory and radiology services.[[7]](#footnote-7) It also recognized that preventive and curative medicine “cannot be separated on any sound principle, and any scheme of medical services must be brought together in close co-ordination.” Interestingly enough, the report does not actually use the term “primary health care” but does introduce the term Primary Health Center (described further below).

## Early approaches to provision of primary health care in developing countries

In the early part of the 20th century, medical services for disadvantaged populations in many low-income countries were pioneered mostly by Christian medical missionaries. These services were provided primarily in facilities, particularly hospitals. Mission hospitals accounted for 50-80% of hospital beds in many developing countries. Local government health services were poorly developed.

Francophone and other European colonies not under British rule gave emphasis to specific priority diseases (*Grandes Endémies*) such as sleeping sickness, elephantiasis, and leprosy. Mobile units provided preventive and curative care for these conditions. They also provided curative care to large numbers of people who came to mass gatherings rather than providing services at static facilities. Anglophone countries and colonial health services in Africa and India were beginning to be involved in disease-control efforts (such as for hookworm, malaria and yellow fever). In China, early hospitals were mainly established by medical missions, and a national public health system began in the 1920s in response to the emergence of an epidemic of pneumonic plague.[[8]](#footnote-8)

 Thus, we can see that from the beginning of the 20th century, both disease-specific (selective) approaches to improving health as well as more comprehensive facility-based approaches to providing health services were emerging. In developing countries in the early part of the 20th century, more comprehensive approaches to reaching the entire population beyond facilities had not emerged until the 1930s with the development of the Ding Xian project 100 miles south of Beijing.

This project was developed by C. C. Chen, an experienced Yale-educated literacy expert who had developed methods for mass education among the rural poor, and Dr. John B. Grant, who was the first Professor of Public Health at the Peking Union Medical College under an arrangement with the Rockefeller Foundation.[8](#_ENREF_8) There, in the absence of any formally trained health workers and facilities, “farmer scholars” were trained to administer simple treatments at home using 16 essential and safe drugs, to give talks and demonstrations on health and hygiene, to maintain clean water supplies, to vaccinate for smallpox and other infections, and to record births and deaths. These “farmer scholars” were the world’s first example of what we know today as CHWs, and this program served as the prototype for the “Barefoot Doctor” program. This program emerged in the 1950s at a time when China had one of the highest deaths rates in the world (a crude death rate of 25 per 1,000 population and an infant mortality rate of 200 per 1,000 live births).[9](#_ENREF_9) More than one million Barefoot Doctors received three months of training in traditional Chinese medicine as well as Western medicine.[9](#_ENREF_9) They were not formally doctors, though, and their work would be described today as community-based primary health care since a range of basic curative, promotive and preventive services were being provided outside of health facilities.

In the early 1940s, the foundations for primary health care in India were laid, with a notable influence of the Dawson Report from England 20 years earlier. The Health Survey and Development Committee, most widely known as the Bhore Committee, was established in 1943 to review the existing health conditions of India and to make recommendations for the future of health services in the country. It was chaired by Sir [Joseph Bhore](http://www.communityhealth.in/~commun26/wiki/index.php?title=Joseph_Bhore&action=edit&redlink=1) and included some of the international public health luminaries of the day, including Dr. Grant. After working in China in the 1930s, he had become the Director of the All India Institute of Hygiene and Public Health in Calcutta. The Committee met regularly for two years and submitted its report in 1946. The report called for the initial development of primary health centers that would each serve 40,000 people and have for their staff two medical officers, four [public health nurses](http://www.communityhealth.in/~commun26/wiki/index.php?title=Public_health_nurse&action=edit&redlink=1), one nurse, four midwives, four trained [dais](http://www.communityhealth.in/~commun26/wiki/index.php?title=Dai&action=edit&redlink=1), two [sanitary inspectors](http://www.communityhealth.in/~commun26/wiki/index.php?title=Sanitary_inspector&action=edit&redlink=1), two [health assistants](http://www.communityhealth.in/~commun26/wiki/index.php?title=Health_assistant&action=edit&redlink=1), one [pharmacist](http://www.communityhealth.in/~commun26/wiki/index.php?title=Pharmacist&action=edit&redlink=1), and 15 other lower-level workers. The plan called for the later development of “primary health units” with hospitals of 75 beds and other services for each 10,000 to 20,000 population.[10](#_ENREF_10)

It was, however, the Chinese barefoot doctor experience that resonated throughout the developing world and provided an inspiration and encouragement to a number of nascent community-oriented programs – particularly in Latin Americas – where modern health services had not reach populations in need. In addition, innovative approaches to addressing health needs in developing countries with few formally trained health professionals and severely constrained financial resources were beginning to accumulate. It was becoming apparent that Western approaches to medical care and public health that had been developed in Europe and the United States were not going to be available in many developing countries for a long, long time and some serious re-thinking was needed regarding how to address the unmet health needs of people in developing countries.

At the same time, an influential group of international health leaders had become concerned that the work of medical missions in developing countries was also missing the boat through the missions’ focus on hospital care. They began discussions in 1963 and carried out field work that demonstrated that the hospital-based curative services established by medical mission programs had a limited impact on the health of the populations served by their programs and that at least half of hospital admissions were for preventable conditions. In fact, one report found that the health of people who lived close to a mission hospital was no better than the health of people who lived far away.[11](#_ENREF_11) Ethical issues were emerging about the lack of attention to people who did not have access to hospitals or who needed preventive and curative services not readily available at these facilities.

Thus, the stage was set at the Christian Medical Commission (CMC), established in 1968 in Geneva as a semi-autonomous body of the World Council of Churches, to begin to explore the concept of primary health care adapted to the needs of developing countries. Among the distinguished people participating in these discussions were Dr. William Foege (one of today’s giants of global health), Dr. John Bryant (former Dean of the School of Public Health at Columbia University and an intellectual architect of the global primary health care movement) and Dr. Carl Taylor (to be discussed further below). In fact, it was in this venue that the term “primary health care” began to be used to refer to practical approaches for working with communities in low-income settings to address priority problems.[12](#_ENREF_12), [13](#_ENREF_13)

 This led to high-level discussions between staff at the CMC and staff at the World Health Organization (WHO) and to serious thinking at WHO about how to address the growing gap between the Western approach to medical care with its highly curative, facility-based orientation and the practical possibilities for addressing the needs of poor people in developing countries. The dialogue was encouraged by the WHO Executive Director at that time, Dr. Halfdan Mahler, who had spent 10 years in India working with WHO on tuberculosis control and was intimately familiar with medical mission work there.[13](#_ENREF_13)

 One of the outcomes of this dialogue was an influential volume edited by Kenneth Newell, then Director of the Division of Strengthening of Health Services at WHO, entitled *Health by the People*, which highlighted the progress achieved around the world through engaging the community in partnership in addressing health needs.[14](#_ENREF_14) This volume provided the intellectual underpinnings of the International Conference on Primary Health Care in 1978, sponsored by WHO and the United Nations Children’s Fund (UNICEF) together, where the concept of primary health care of relevance to developing countries was fully developed and embraced.

 During this same time, the highly influential book “Where There is No Doctor” was published in 1970 by Hesperian Foundation (now Hesperian Health Guides), which became the most widely used public health guide in the world, now translated into 90 languages. This guide helped village health workers and other frontline workers understand what to do for medical emergencies and common illnesses and when to seek help. Soon after came other guides such as “Helping Health Workers Learn” providing health education methods, aids and ideas to develop participatory learning skills that methodologies for village level health instructors.

## Primary health care as defined in the Declaration of Alma-Ata

The International Conference on Primary Health Care, held in 1978 in Alma-Ata, USSR (now Almaty, Kazakhstan) was at that time, as mentioned previously, the largest conference ever held on international health and development. The Declaration of Alma-Ata, approved at that conference, is one of the seminal documents in global health.[15](#_ENREF_15) The Declaration defines primary health care in the following way:

Primary health care is essential[[9]](#footnote-9) health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country’s health system, of which it is a central function and main focus, and of the overall social and economic development of the community. It is the first contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.

The components of primary health care as defined in the Declaration of Alma-Ata were the following:

* “Promotive, preventive, curative and rehabilitative services” that address the main health problems of the community
* Education about “prevailing health problems and the methods of preventing and controlling them”
* Promotion of food supply and proper nutrition
* Adequate supply of safe water and basic sanitation
* Maternal and child health, including family planning
* Immunization against major infectious diseases
* Prevention and control of locally endemic diseases
* Appropriate treatment of common diseases and injuries
* Provision of essential drugs

The three “pillars” of primary health care as defined at Alma-Ata are commonly referred to as equity, community participation and inter-sectoral development.

**Walsh and Warren and selective primary health care**

Only one year following the Alma-Ata conference, Julia Walsh and Kenneth Warren, in their seminal 1979 article in the *New England Journal of Medicine*, promoted selective primary health care as an “interim strategy for disease control in developing countries.”[16](#_ENREF_16) Although they do not give a formal definition of primary health care or of selective primary health care in their article, it is apparent that they are referring to the control of priority endemic diseases using cost-effective interventions. They state that the goal of Alma-Ata is “above reproach, yet its very scope makes it unattainable because of the cost and numbers of trained personnel required” [p. 967]. They state that primary health care systems are in reality only concerned with providing health workers and clinics to treat illnesses within the local population, and they argue that selective primary health care is “potentially the most cost-effective type of medical intervention” [p. 972]. The concepts of their article have guided, and continue to guide, much thinking and global action for health in developing countries.

**GOBI, Selective Primary Health Care, and the First Child Survival Revolution**

In the early 1980s, James P. Grant had become Executive Director of UNICEF. He was the son of Dr. John B. Grant and had grown up in China (and was fluent in Mandarin) as well as in India. He was not a physician, but rather had graduated from Harvard Law School and had spent his initial career working in international development. Two years after assuming his position, he heard a young pediatrician, Dr. Jon Rohde, then working in Haiti, give a presentation entitled “Why the Other Half Dies” on the potential of selected interventions, most notably immunizations and oral rehydration solution, to reduce child mortality in poor countries.[17](#_ENREF_17) John Grant hired Jon Rohde as his Special Assistant and also as the UNICEF Representative in India, positions he held for more than a decade. Under John Grant’s dynamic global leadership, with strong technical support from John Rohde and many others, UNICEF led the way to what was then referred to as the Child Survival Revolution[[10]](#footnote-10), with the saving of millions of lives through this approach.[17](#_ENREF_17) One of the outcomes of this emphasis was WHO’s and UNICEF’s Expanded Program on Immunizations, which had also been fuelled by enthusiasm surrounding the eradication of smallpox through immunization in 1978. With the continued recognition of the importance of good nutrition (and the demonstration of the health benefits of exclusive breastfeeding during the first six months of life), the concept of GOBI was established during the mid-1980s: “G” stood for growth monitoring, “O” for oral rehydration for diarrhea, “B” for breastfeeding, and “I” for immunizations.[[11]](#footnote-11) (Vitamin A was often included with immunizations since they could be readily administered together and vitamin A, like immunizations, did not have to be administered except at multi-monthly intervals.)

**Selective Primary Health Care and Family Planning**

In the 1970s and 1980s, there was focused attention of the perils of rapid population growth and the need to give priority to family planning programs over other programs for health. This led to the “verticalization” of family planning programs. Ministries of health in many countries were forced by external donors to divide their programs into two “wings,” a health wing and a family planning wing, so that co-mingling of donor family planning funds and their programs could not be “diluted” by funds and programs for health. Part of the underlying philosophy was that family planning was a higher priority than other programs since investments in health would only worsen the population explosion by creating more mouths to feed and more population to reproduce.[[12]](#footnote-12) Selective funding by external donors for family planning as well as for GOBI paved the way for selective funding for HIV/AIDS, malaria and tuberculosis, which were targeted for special funding because the immediate threat these diseases posed to population health and to the implementation of comprehensive primary health care programming.

## Individuals and organizations that have influenced the evolution of primary health care

Individuals

 I have already mentioned a few of the champions of primary health care during the 20th century. It is important to note the extraordinary influence of the father-son pair, Dr. John B. Grant and James P. Grant.[[13]](#footnote-13) Many refer to John B. Grant as the father of primary health care in its more comprehensive form of preventive and curative services for impoverished populations because of his contributions to the Deng Xian project in the 1930s, the first primary health care project in a developing country using current concepts of primary health care. As mentioned earlier, illiterate community-based volunteers (“farmer scholars”) were trained to provide health education, immunizations, and treatment of common diseases. And, of course, John Grant was an important influence of the development of primary health care in India through his leadership of the All India Institute of Public Health and his participation in the Bhore Committee. James P. Grant is considered by many to be the most outstanding Executive Director to have served at UNICEF, and he was a forceful champion of selective primary health care for child survival.[17](#_ENREF_17), [20](#_ENREF_20) The newly established school of public health at BRAC University in Bangladesh (oriented to community-based primary health care) is named for him.

Dr. Halfdan Mahler, the Danish physician who served an extraordinary three terms as Director General of the World Health Organization, is widely considered to have been WHO’s most effective Director General. Mahler was the champion of the Alma-Ata concept of primary health care, with its emphasis on integration of services, equity and community participation. The philosophical, as well as the practical programmatic, differences between the selective approach as championed by Jim Grant, and the more comprehensive primary approach as championed by Halfdan Mahler were apparent and a source of on-going tension, as described further below.

Dr. Carl Taylor, who founded the Department of International Health at the Johns Hopkins School of Public Health in 1968 and has been called the “acknowledged leader of primary health care over the second half of the 20th century,”[21](#_ENREF_21) was a close friend of John Grant, Halfdan Mahler, and Jim Grant. He was also, at Halfdan Mahler’s request, a leader of the 1978 Alma-Ata Conference and one of the authors of the Declaration of Alma-Ata. Carl Taylor fully understood and appreciated the tension between comprehensive and selective primary care. He liked to tell about long train rides he took in China with Jim Grant when he was the first UNICEF Representative in China (after his retirement as Chair at Hopkins). They would debate into the wee hours of the morning the pros and cons of comprehensive and selective approaches, and he took great pains to remind Jim Grant that, since he had known Jim Grant’s father quite well, that John Grant would have come down strongly on the side favoring the comprehensive approach.[22](#_ENREF_22)

Carl Taylor was a foundational figure in primary health care, having started his career as a medical missionary in north India in the late 1940s, teaching at the Harvard School of Public Health while developing pioneering field studies in primary health care in the 1950s, and in the 1960s founding the Department of International Health at Hopkins (and, in fact, the academic discipline of international health) and leading one of the pioneer primary health care operations research projects in the 20th century, the Narangwal Project (described further below). The Narangwal Project and Carl’s mentorship together influenced a generation of leaders of primary health care – most notably Rajanikant and Mabelle Arole (see below), Miriam Were of Kenya, and Rani and Abhay Bang (see below). Among others inspired and influenced by Carl Taylor’s vision of primary health care include Nils Daulaire (now Assistant Secretary for Global Affairs at the U. S. Department of Health and Human Services), Rudolph Knippenberg (now Chief Health Advisor at UNICEF), and Mary Taylor (Senior Program Officer at the Gates Foundation).

 Dr. Jon Rohde is another foundational figure in the global primary health care movement, positioned as he was to serve as Global Advisor for Health and Nutrition to Jim Grant and also as UNICEF Representative in India from 1982 to 1995. It was his oral presentation and paper that inspired Jim Grant to pursue the selective approach to child survival (mentioned previously), and he championed child survival through broader approaches to primary health care as well over the past half-century. He is the author of many articles and books on topics related to child survival and Health for All.

 Dr. Rajanikant and Dr. Mabelle Arole were a husband-wife team who, after learning about the Narangwal Project as students at Johns Hopkins, where they were mentored by Carl Taylor, went off to an isolated area of central India and established a pioneering comprehensive primary health care program that, in my opinion, was the most influential force for the vision of primary health care embodied in the Declaration of Alma-Ata. They established the first community health worker program in India, and led the way with practical approaches to community and women’s empowerment and to addressing the social determinants of health. Their program, the Jamkhed Comprehensive Rural Health Project, is one of the best full expressions of primary health care as defined at Alma-Ata and is a model of what primary health care should be for impoverished populations in the 21st century, with activities that qualify for the working definition of primary health care established for this paper, including surgical care and inpatient beds at their health center.[23-25](#_ENREF_23) Carl Taylor continued to visit Jamkhed periodically and took great pride in the work established there and in the influence the program had nationally and internationally. Rajanikant Arole achieved national prominence in health affairs in India and served as the NGO representative to the National Rural Mission at its establishment and was influential in the policies for the creation of ASHA Workers, which now number 800,000 throughout India. Mabelle Arole became a Regional Advisor for UNICEF for South Asia.

 Dr. Abhay and Dr. Rani Bang are a husband-wife team who, like the Aroles, came to Johns Hopkins to study and were influence by Carl Taylor and the Narangwal Project to establish a pioneering primary health care program in Gadchiroli, in central India as well. Their program has been a leading field site for community-based research on health and on the development and testing of community-based approaches to improve maternal and child health, most notably community case management of childhood pneumonia and home-based neonatal care.[26-28](#_ENREF_26)

 Dr. David Sanders is one of the intellectual architects of the current global primary health care movement. He started out as a physician working in Zimbabwe with the relief organization Oxfam and a faculty member at the University of Zimbabwe, where he helped establish the national Community Health Worker program in the 1980s. He moved to South Africa in 1992, working initially with the African National Congress on health policy development and in 1993 as Professor and Founding Director of the newly established Public Health Program (and now School of Public Health) at the University of Western Cape. He has had a long association with the People’s Health Movement, serving as a member of its Global Steering Council. He is a frequent voice at national and international health meetings speaking for primary health care and advocating for a stronger commitment to the principles of primary health care as defined at Alma-Ata. He has also been a prominent spokesperson for, as well as an activist engaged in, the wider political struggle for improving health and health care for disadvantaged populations and for addressing the broader social determinants of health and the political framework required to achieve that. He is the co-author of one of the classic books in global health, *Questioning the Solution: The Politics of Primary Health Care and Child Survival*.[29](#_ENREF_29)

Organizations

The Jamkhed Comprehensive Primary Health Care Project was founded in 1970 by the physician team Rajanikant and Mabelle Arole, as mentioned above. It has focused its work on a comprehensive approach to primary health care, including multi-sectoral actions, women’s and community empowerment, and community-based services provided by Community Health Workers. It has served as one of the world’s foremost training sites in primary health care, with more than 28,000 people at all levels from throughout India and more than 2,500 people from around the world coming to Jamkhed for short courses during which villagers do much of the teaching.[25](#_ENREF_25)

 The Society for Education, Action and Research in Community Health (SEARCH) was founded physicians by Abhay and Rani Bang in 1983. It is one of the world’s foremost field research sites on community-based primary health care. Its rigorous small-scale studies of community-based management of childhood pneumonia and home-based neonatal care have changed the global landscape of primary health care.[28](#_ENREF_28) In addition, their program is the world’s foremost example of the census-based, impact-oriented (CBIO) approach, which is the most promising means (in my view) for productively engaging the natural and potentially productive tension between vertical and comprehensive approaches to primary health care.[30](#_ENREF_30)

 BRAC (established in 1972 as the Bangladesh Rural Advancement Committee) is, in my view, the world’s foremost example at scale of the principles of primary health care defined at Alma-Ata. Operating almost exclusively outside of health facilities at the grassroots level through a multi-disciplinary approach with women’s savings and action groups (called Voluntary Organizations) as the key agents of change, BRAC works in all fields of development, including health, and has become one of the world’s leaders in community-based primary health care. I had the special privilege of nominating BRAC for the Gates Award in Global Health, which they won in 2003.

 BRAC is now the largest NGO in the world, having learned how to successfully take its programs to scale while at the same time creating mechanisms by which these programs can be largely self-sustained with locally-generated income. BRAC is now a global force for poverty alleviation, with programs in 11 countries in Africa and Asia and Haiti. Its programs reach 135 million people. Its Community Health Worker program in Bangladesh has 100,000 Shasthya Shebikas, making it one of the largest CHW programs in the world. BRAC has been a global leader in both selective and comprehensive approaches to primary health care, making it an interesting case study from the standpoint of examining the tensions between them. Shasthya Shebikas provide comprehensive community-based services while linking effectively to vertical disease-control programs for immunizations, family planning, nutrition, tuberculosis, and many others.[31-33](#_ENREF_31) It now has what I consider to be the world’s foremost primary health care program for mothers and children in the urban slums of developing programs, developed through a grant from the Gates Foundation – the Manoshi Project, which also embodies CBIO principles.

The People’s Health Movement **is a global network** bringing together grassroots health activists, civil society organizations and academic institutions from around the world, particularly from low- and middle-income countries.[34](#_ENREF_34) It has a presence in around 70 countries. Its framework for action is its People’s Charter for Health, which endorses the Declaration of Alma-At and affirms health as a social, economic and political issue but above all as a fundamental human right. In 2005, when I attended the People’s Health Assembly in Cuenca, Ecuador, Dr. Halfdan Mahler symbolically passed the “Olympic flame” of the spirit of Alma-Ata to the People’s Health Movement – in part an expression of frustration that WHO had not done more to nurture this flame. The People’s Health Movement has provided an “Alternative World Health Report” from time to time (in 2006, 2008 and 2011) called Global Health Watch, which has been influential in highlighting in particular the social and political dimensions underlying the health problems of disadvantaged people in low- and middle-income countries.

 The US Agency for International Development’s Child Survival and Health Grants Program and the CORE Group have together provided a leadership role in forging community-based programming for maternal and child health and for advancing the child survival agenda. The Child Survival and Health Grants Program (CSHGP) funds U.S.-based NGOs to implement child survival grants. This program was initiated in 1986 following Congress’s historic earmark for child survival funding and was initially headed by Jim Grant’s son, John Grant. The program has proved catalytic for leading NGOs working in global maternal and child health. The process of requiring baseline and household coverage surveys of key indicators, preparation of a Detailed Implementation Plan (based on the results of a baseline household survey), and mid-term and final evaluations conducted by independent consultants requiring approval by USAID has provided NGOs with a new approach to the professionalization of its programming. This, together with the technical support for interventions available through USAID, led to a transformation of programming for many NGOs. And this approach has been shared with and adopted by local NGOs throughout the world who have collaborated on these child survival projects. The project evaluations accumulated by USAID through this program over the past three decades constitute the most extensive library of child survival programming in the world.

After a decade of experience with these programs, NGOs had learned the value of sharing experiences, knowledge and ideas about how to best improve child survival programming, which had been possible from the beginning through annual conferences for grant recipients.

What began in this simple spirit of openness quickly gained momentum as participants realized significant savings in time, thought and resources—all made possible by collaborating. The group realized that this “community of practice” model was also fertile ground for the creation of new knowledge and ideas as well.[35](#_ENREF_35)

This association of NGOs, CORE Group, committed to “technical excellence in integrated, community-based global health programming,”[35](#_ENREF_35) is now a global force for community-based primary health care through its technical resources (which are used widely around the world by programs implementing community-based interventions for maternal and child health), through its networking among program managers, and through its sharing of relevant programming experiences in community-based primary health care.

## National actors who have influenced primary health care

Brazil is emerging as a global model for primary health care for low-income countries. As a low-income country itself 50 years ago, Brazil gradually built a primary health program that has been effective in making services available to its population and in achieving equity and pro-active preventive services through outreach services provided by home visits to every household by community health workers (Community Health Agents) who work as members of Family Health Teams based at health centers.[36-38](#_ENREF_36) Brazil has had one of the most rapid declines in under-5 child mortality in the world and has achieved one of the most equitable distributions of health service coverage and health status among low- and middle-income countries. Its community health worker program is now the model for South Africa’s new CHW program, and this influence will likely spread throughout southern Africa. As an example of its commitment to equity and primary health care, Brazil’s government was one of the first to ensure free universal access to treatment for HIV/AIDS with anti-retroviral medication.

Thailand ranks first among low-income countries[[14]](#footnote-14) in terms of progress in reducing its mortality among children younger than 5 years of age.[39](#_ENREF_39) It achieved all of the Millennium Development Goals in the early 2000s. This extraordinary success was achieved during a time of rapid economic development, so expanding funding for health services was available. All interventions were fully integrated into a primary health care network and were implemented through district health systems, with each of the 10-12 health centers in a health district serving 5,000 people. Nurses and public health workers are the backbone of the rural health system and provide community- based services, including home visits, with a strong emphasis on health promotion and prevention.[40](#_ENREF_40)

Nepal is an example of a very poor country that has made extraordinary progress in reducing under-5 child mortality without significant economic development. Nepal has been a global leader in the development of community-based primary health care services through its cadres of CHWs, most notably Female Community Health Volunteers (FCHVs). This progress, made in spite of Nepal’s difficult terrain and political instability, is noteworthy.[41](#_ENREF_41), [42](#_ENREF_42)

Bangladesh is another example of a country that has achieved one of the most rapid declines in under-5 mortality without significant economic development. In Bangladesh’s case, as in Nepal’s, this success can be attributed to the development of strong community-based primary health care programs that have made possible rapid progress in immunization coverage, use of oral rehydration therapy, and family planning coverage, among other interventions.[31](#_ENREF_31), [43](#_ENREF_43) Bangladesh has also been a global leader in addressing the social determinants of health – most notably improving the educational status of women.

Among the countries of Africa who are strengthening their primary health care services and also demonstrating progress in accelerating declines in under-5 child mortality, Rwanda, Eritrea and Ethiopia are beginning to stand out.

**Progress with more comprehensive approaches to community-focused primary health care during the past three decades**

In spite of the flourishing of selective primary health care in the 1980s and the rapid loss of enthusiasm and funding for comprehensive primary health care as envisioned at Alma-Ata, important new approaches did emerge which have gradually gained traction as evidence of their effectiveness has emerged.

Community-Oriented Primary Health Care (COPC)

 COPC emerged in the 1950s in South Africa as an approach to engage health centers and their staff in addressing the health needs of the community rather than simply attending to patients who come to the facility for care. Through COPC the community plays a key role in prioritizing health problems and making management decisions, and it encourages medical practitioners to engage with community health problems. It is an attempt to link medical practice with public health. It is defined as a “continuous process by which primary care is provided to a defined community on the basis of its assessed health needs through the planned integration of public health practice with the delivery of primary care services”[44](#_ENREF_44) [p. 1750]. COPC has served as the model for the community health center movement in the United States in which local community-based organizations, often with government support, establish primary health care programs for underserved populations, with the community having control over decisions of the organization’s board of directors. COPC guided the development of the Tanzanian Essential Health Interventions Program (1997-2004), which has influenced the development of primary health care in the country since.[45](#_ENREF_45)

The Emergence of Community-based Primary Health Care and Community Health Workers

Beginning with the case studies in the WHO book *Health by the People,* there has been a gradually accelerating accumulation of evidence and experience demonstrating that services provided in the community outside of health facilities, either alone or in coordination with facility-based care, can be effective in improving health. Perhaps the pioneering field research study of this was the Narangwal Project (1967-1973) in rural north India, a four-cell experimental design which tested various combinations of program interventions on maternal and child health using community-based workers and engaging in a collaborative partnership with the community.[46](#_ENREF_46), [47](#_ENREF_47) This was one of the first (among a select group of only 10 projects constituting the world’s evidence at that time, reported by Gwatkin, Wray and Wilcox in 1980[48](#_ENREF_48), showing that child mortality and nutrition can be improved through primary health care interventions if they have a strong outreach component that reaches a high proportion of the target population.

The Narangwal Project either directly or indirectly spawned other seminal field projects and research activities that have demonstrated the power of community-based primary health care. One of the first of these was the Jamkhed Comprehensive Rural Health Project, established in 1970, one of the projects described in WHO’s *Health by the People.* Jamkhed used community participatory approaches, including illiterate village health workers, to make dramatic health gains in a short period of time, including a decline in the infant mortality rate from 176 deaths per 1,000 live births to 20.[23](#_ENREF_23) A later influence was on the Society for Education, Action and Research in Community Health (SEARCH), established in 1985, where some of the first studies demonstrating the effectiveness of using illiterate community health workers to diagnosis and treat childhood pneumonia and provide home-based neonatal care were carried out.[26](#_ENREF_26), [27](#_ENREF_27), [49](#_ENREF_49)

 Community-based work in Haiti at the Hospital Albert Schweitzer[50](#_ENREF_50) and in Bolivia through the Andean Rural Health Project (now Curamericas Global)[51](#_ENREF_51), [52](#_ENREF_52) in the 1970s and 1980s led to the emergence of the census-based, impact-oriented (CBIO) approach to primary health care,[30](#_ENREF_30) which attempts to find a “middle-way” to responding to the broad health needs within a population and addressing epidemiological priorities with measurable results.[53](#_ENREF_53) These approaches gave prominence to mapping and identifying homes and inhabitants in a defined program area, home visitation, surveillance and registration of vital events, and provision of health education and health services in the home or nearby. CBIO provided a foundation for the emergence of the Care Group model, an approach to community-based primary health care in which a low-level health promoter meets every 2-4 weeks with groups of women volunteers who then share an educational message with 10 or so households for which they are responsible. This approach, utilized now in some 30 child survival projects around the world, has shown marked expansion of coverage of key child survival interventions, reductions in under-5 mortality, and improvements in child undernutrition.[54-56](#_ENREF_54)

A somewhat similar approach has emerged as well. Referred to as women’s groups practicing participatory learning and action, it involves a four-stage empowerment process to learn and take action for improving maternal and neonatal health. This approach has now been tested in a series of randomized-controlled trials and a recent meta-analysis of these studies, published in 2013, demonstrating important reductions in maternal and neonatal mortality.[57](#_ENREF_57) These and other important projects, programs and studies that demonstrate the health benefits of working with communities to respond to community needs and to achieve important gains in population health have now demonstrated that community-based approaches are a fundamental part of effective health programming in resource-constrained settings.[58](#_ENREF_58), [59](#_ENREF_59) Community-based approaches also have the added benefit of bringing in a stronger role for community accountability and making programs more responsive to community needs.

There has been over the past three decades a strong experience with implementing community-based child survival projects led by NGOs working in collaboration with ministries of health but working alongside them rather than through them. This has produced a rich experience of community-based approaches that have produced dramatic improvements in coverage of key child survival interventions. Unfortunately, even though these projects often undergo rigorous evaluations, only a few of these have been published in the peer-reviewed literature.[51](#_ENREF_51), [52](#_ENREF_52), [54](#_ENREF_54), [56](#_ENREF_56), [60](#_ENREF_60)

The World Health Organization produced in 2004 an extensive review of the importance of family and community practices for improving child health.[61](#_ENREF_61) An updated review of the effectiveness of community-based approaches for improving child health has been produced as well.[62-64](#_ENREF_62)

 The Declaration of Alma-Ata called for services to be provided “as close as possible to where people live and work” and “for services to be provided by health teams composed of physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed.” This gave impetus for the development of national-level CHW programs in a number of countries across Africa and South Asia. Unfortunately, for multiple reasons including poor selection of CHW candidates, inadequate training and supervision, along with a decline in public sector funding during the 1980s, many of these programs failed and this led to a loss of interest in CHW programs more generally.

However, with the growing scientific evidence of the capacity of CHWs to reduce under-five mortality through interventions such as home-based neonatal care[65](#_ENREF_65) and community case management of pneumonia, diarrhea and malaria[66](#_ENREF_66), and with the growing realization that countries such as Brazil, Bangladesh and Nepal that are making strong progress in reducing child mortality have strong CHW programs, there has emerged a groundswell of interest in CHWs and of scaling up national CHW programs in a number of countries. These include, for instance, India, Ethiopia, Rwanda, and South Africa. A high-level push is now underway for deploying 1 million CHWs in rural Africa, one for every 650 rural inhabitants.[67](#_ENREF_67)

## The growing recognition that facility-based care alone will not accelerate progress in achieving health gains

 One of the important themes to emerge during the first decade in the 21st century was the limitation of health facilities by themselves to improve the health of impoverished populations where resources are scarce. The Integrated Management of Childhood Illness was a major effort of WHO and UNICEF in the late 1990s and early 2000s to develop a scientific basis for health workers at peripheral facilities to diagnose and treat childhood illness.[68](#_ENREF_68) This was an attempt to integrate child health programs and was a response, in part, to the “verticalized” programs of external donors for the control of acute childhood respiratory diseases and diarrheal diseases. It was also an attempt to bring in nutritional counselling and recognition and treatment of childhood undernutrition. Although it was obvious to those who worked in field settings that facility-based programs were not going to be effective without a strong community-based component since in the great majority of settings the utilization of services at facilities would never achieve high levels of population coverage of key child survival interventions[[15]](#footnote-15), the underlying philosophy at WHO seemed to be that if the quality of services for treatment of childhood illness could be improved, then families would seek out care at facilities for their sick children and this would favourably impact under-5 mortality rates.

 This hypothesis was put to a rigorous test in a 12-country study led and funded by WHO and UNICEF in the late 1990s and early 2000s. As this effort was moving forward, the NGO child survival community had experiences success with community-based approaches in child survival programming, resulting in what today is referred to as C-IMCI, or community-based IMCI.[70](#_ENREF_70)

The findings from the evaluation of the IMCI Program (which cost $10 million) were finally published in 2005 and demonstrated no impact on under-5 mortality, though the quality of care provided at facilities did improve and the cost per illness treated was less.[71](#_ENREF_71), [72](#_ENREF_72) The community-based component of IMCI was never well implemented during the study, and enormous obstacles were encountered in the study in training health care providers and supplying them with the needed medicines.

 This and the lack of evidence for the effectiveness of strengthening facility-based care in improving population health further reinforces the importance of community-based approaches in improving population health. As further research on these issues have progressed, the refusal of parents to take sick children to health facilities has become increasingly apparent and thus, even in situations in which previously the parents of very sick children were advised to go to a health facility rather than receive treatment from a CHW, one recent randomized trial[73](#_ENREF_73) has demonstrated that outcomes are better when these children are treated by CHWs in the community.[[16]](#footnote-16)

## The selective versus comprehensive primary health care debate

 The debates of the last three decades between those who favor selective vertical approaches to primary health care with those who favor comprehensive horizontal approaches have been bitter, with those who give priority to impact and cost-effectiveness favoring the former and those who give priority to community participation and responding to the interests and needs of communities favoring the latter.[3](#_ENREF_3), [74](#_ENREF_74), [75](#_ENREF_75) But, of course, both approaches are essential, though unfortunately most donor and high-level technical support has gone to selective vertical approaches.

In an address in 2009, Dr. Margaret Chan, Director General of the World Health Organization, stated in an address that:

I think we can now let a long-standing and divisive debate die down. This is the debate that pits single-disease initiatives against the agenda for strengthening health systems…. As I have stated since taking office, the two approaches are not mutually exclusive. They are not in conflict. They do not represent a set of either-or options. It is the opposite. They can and should be mutually reinforcing. We need both.[76](#_ENREF_76)

Trying to find ways of building on the best of both approaches (through “diagonal” approaches, for instance) has been an important theme in the literature over this time.[22](#_ENREF_22), [53](#_ENREF_53), [77](#_ENREF_77), [78](#_ENREF_78) The definition of primary health care as used in this paper and the approaches to organizing primary health care services advocated here are consistent with this long-term effort to bring at least some harmony and resolution to this debate.

# Variations in the organization of primary health care services

 There is no standardized organization of primary health care anywhere in the world. Each set of primary health care services is unique to the local national context. A few of the many variations in the organization of primary health care services in low-income countries follows.

## Engaging existing non-formal providers

 There has been a surprising inability of primary health care programs to incorporate traditional practitioners into their programs and a lack of encouragement for them to incorporate modern concepts of health and illness into their practices. This is an area of great potential for strengthening the quantity and quality of primary health care services in resource-constrained settings. Similarly, informally trained modern practitioners, who sell modern medicines and provide medical advice for treatment of acute illness and chronic ailments, are ubiquitous in most low-income settings, and there is little that government health programs or NGOs are doing to engage them in a productive fashion to improve the quality of primary health care services. Drug sellers are now common distributors of certain products that have important health benefits, from condoms and birth control pills to oral rehydration packets to chlorine drops for water purification. One recent study from Bangladesh, for instance, reported that “village doctors” (informal healthcare providers and/or drug vendors practicing allopathic medicine) were the dominant providers of illness care: of 44% of villagers who suffered an illness in the previous 14 days, 47% sought treatment, and 65% of these sough care from a “village doctor.”[79](#_ENREF_79)

 The regulation of the practice of medicine has been an important government function in all developed countries, but in most low-income settings, there have been minimal efforts by government to regulate traditional and informal medical practitioners. One of the important realities of primary health care as well as hospital care in low-income settings is that families very often go into enormous debt to pay for health care services, especially for family members who are gravely ill. Unfortunately, often-times the sick patient receives care that has no scientific benefit and has a great cost to the family. These catastrophic expenses are the most common reason why families in low-income settings fall into severe poverty.[80](#_ENREF_80)

## Relationships with private (for-profit) providers

 As countries develop economically, the number of formally trained primary health care providers increases markedly as does the demand for their services. How to make their services as effective as possible is an important question, since consumers are willing to pay for their services.

## NGOs as serious national providers

 Over the past half-century, NGOs have played an increasingly important role in the provision of primary health care services in low-income settings. Their growth can be attributed to many factors, including (1) the inability of government health services to provide all the needed services at an acceptable level of quality and the (2) interest of local, national, and international civil society in making primary health care services available to those who need them. As these NGOs have grown, they have also increased their technical capabilities and operate at larger and larger scale. Although most NGOs have been dependent on external funding from individual and organizational donors, increasingly NGOs have developed the capability of generating their own income and therefore being able to grow independent of external donor support. The two most prominent NGOs of this type are BRAC, described previously, and the Aravind Eye Care System.[81](#_ENREF_81), [82](#_ENREF_82) BRAC generates 80% of its operating expenses from internally generated revenues and is now one of the world’s largest NGOs and one of the leading providers of primary health care services in Bangladesh. The Aravind Eye System operates on internally generated revenues and is now the largest provider of eye care services in the world. It provides world-class eye services for poor people in India who have no capacity to pay for their care. Aravind is able to do this because it also provides care to people who can pay and uses the profits from these services to fund programs for those who cannot pay.

## Variations in types of CHWs and in CHW programs

The term Community Health Worker is currently used to cover a wide variety of types of cadres working in many different kinds of programs. It can therefore be a source of confusion. Auxiliary Health Workers are, in some settings considered to be CHWs. These are paid, generally full-time workers with pre-service training usually of at least 18-24 months, who may or may not be recruited from the localities where they serve. In most settings, however, such workers are not considered CHWs.[[17]](#footnote-17) The next grade down is what could be referred to as Health Extension Workers, who are also usually paid, full-time employees but normally have less than a year of initial training (in some cases just a few weeks) and are generally recruited from the localities where they work. In some cases, compensation is mixed, with a fixed monthly amount plus incentives related to specific activities (e.g., in India’s ASHA program).

On the spectrum from more- to less-formalized/professionalized CHWs, below the Health Extension Worker we have what can be referred to as Community Health Volunteers-Regular, who have a role that can involve not only health promotion but also some limited elements of service delivery and who normally work at least several hours a week – generally not on a salaried basis – but who may receive some material incentives. Then, there is a lower-level worker that can be referred to as Community Health Volunteers-Intermittent, whose duties normally involve only health promotion or community mobilization and who, in any given week, may not be involved in any such activity. A technical task force sponsored by the Earth Institute in collaboration with the United Nations is proposing 1 million “professionalized” generalist full-time salaried CHWs with one year of training for Africa so that there will be one for every 650 rural inhabitants.[83](#_ENREF_83)

There are very many CHW programs, of many kinds. At one end of the spectrum we have national CHW programs or cadres, under ministries of health. These are generally paid, full-time workers who often may have up to one year or more of training. But there are also examples of programs with CHWs who are volunteers who work on an on-going basis every week for a few hours or who work intermittently. Nepal’s Females Community Health Volunteers are a good example of regular volunteers and CHWs in large Community-Directed Interventions (CDI) programs throughout Africa are a good example of volunteer CHWs who work intermittently. All of these programs are typically tied closely to peripheral public sector health services (i.e., supported and supervised from government health centers or health posts). But there are certainly many exceptions – such as national programs which make use of CHWs without having strong links with a particular health facility. The BRAC Shasthya Shebika CHW program is an example of this.

The Lady Health Worker Program in Pakistan was launched in 1992 and has gradually scaled up to serve 70% of the rural population with around 100,000 workers at present.[84](#_ENREF_84) Uganda introduced its Village Health Team strategy in 2003.[84](#_ENREF_84) In 2004, Ethiopia began to train Health Extension Workers, who now number more than 30,000.[84](#_ENREF_84) India initiated a Rural Health Mission in 2005 that involves support for over 800,000 workers called ASHA (Accredited Social Health Activists) Workers.[84](#_ENREF_84) Over the past decade, as evidence has continued to accrue on the effectiveness of interventions delivered by community-based workers, enthusiasm has grown for a stronger investment in CHW programs as a strategy for accelerating progress to reach the MDGs for primary health care.

In Africa, the lack of progress in many countries fuelled interest among government leaders and donors in either establishing new cadres of CHWs or, as in the case of South Africa, in reactivating a dormant CHW program which had been previously abandoned. Thus, Ethiopia established its Health Extension Worker Program in 2004. Similar initiatives began in Malawi and Kenya at around the same time.

There are many NGOs and community-based organizations (CBOs) that have their own, usually much smaller, CHW programs that are not formally linked with public sector programs. There are also many examples of CHW cadres that are formally recognized by government but have strong links with NGOs.

In addition to varieties in institutional character across CHW programs, programs differ markedly by technical content. On the one hand, we have programs with CHWs who are generalists – responsible for a wide range of primary health care services (e.g., acute illness care, maternal and child health, immunizations, family planning, and environmental health). But there are also many examples of programs with cadres of CHWs working for specific vertical programs (e.g., HIV/AIDS, malaria, or tuberculosis). In many settings, there are several different types of CHWs working in the same community.

# The movement for universal health care coverage: implications for primary health care

 Universal health care coverage is a growing global movement called for initially by the World Health Assembly in 2005. As defined by World Health Assembly Resolution 58.33 (2005):

Universal coverage is defined as access to key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access. The principle of financial-risk protection ensures that the cost of care does not put people at risk of financial catastrophe. A related objective of health-financing policy is equity in financing: households contribute to the health system on the basis of ability to pay. Universal coverage is consistent with WHO’s concepts of health for all and primary health care.[85](#_ENREF_85)

The connection of the concept of universal coverage to primary health care with the Declaration of Alma-Ata and the goal of Health for All is obvious from the above quotation, which comprises the first words of the World Health Assembly resolution.

This movement is, in principle, “a fairer, more efficient financing that pools risk and encourages prepayment to share health-care costs equitably across the population[86](#_ENREF_86) [p. 2162]. As Frenk and de Ferranti observe:

Universal health coverage sits at the intersection of social and economic policy. Introduction of reforms that promote universal coverage is not only the right thing to do on ethical grounds; it is also the smart thing to do to achieve economic prosperity. The paradox of health care is that it is one of the most powerful ways of fighting poverty, yet can itself become an impoverishing factor for families when societies do not ensure effective coverage with financial protection for all[87](#_ENREF_87) [p. 863-4].

 The movement to achieve universal health coverage has been called the “third global health transition,” following the demographic transition (when low mortality and fertility rates replace high mortality and fertility rates) and the epidemiologic transition (when non-communicable diseases and conditions replace infectious diseases and maternal/neonatal conditions).[88](#_ENREF_88) This is partly derived from the obvious fact that the demand for high-quality health care services and the quest for good health is universal, and considering health care as a public good will make it possible to ensure universal access to basic and essential primary health care services. The movement for universal coverage is deeply embedded in Article 25 of the Universal Declaration of Human Rights, which proclaims that everyone has the right to a standard of living adequate for health, including medical care, and the right to security in the event of sickness or disability.[89](#_ENREF_89) It is also deeply embedded in the Constitution of the World Health Organization, which states that “The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.”[90](#_ENREF_90)

 The movement for universal health coverage has the potential for providing more funds for primary health care services, improving the fairness of funding a collective public good, and reducing the potential for unjust economic setbacks as a result of expenditures for health care, particularly among the very poor.

# Current controversies and challenges facing primary health care

 As is readily apparent from the history presented previously, primary health care has had an abundance of controversies and challenges. Many of these persist, and new ones are emerging. Here I address just a few.

## To what extent can a core package of PHC functions or activities be identified?

The working definition of primary health care provided at the outset provides a full expression of what services need to be provided to disadvantaged populations of low-income countries. Out of this full set of services, what portion might be identified as a core set of priority services to be provided? Efforts to do this have usually used cost-effectiveness criteria for population health benefits, but this approach ignores the obvious fact that people have always needed, and will always need, curative medical services for ailments, whether or not they have significance for mortality or serious disability. Urinary infections, arthritis, and wrist fractures, to mention only a few examples, even if they have a low likelihood of causing death or long-term serious disability, will produce a desire for treatment from some kind of primary health care provider because of the symptoms they produce. So, a core set of PHC services needs to include curative care along with services that have demonstrable benefit for reduce the risk of death, particularly for mothers and children.

How might one go about defining such a core package? A logical way to go about this is through the application of the principles of what are now called the census-based, impact-oriented approach.[30](#_ENREF_30) This involves a health program developing a partnership with a population, using local surveillance carried out by routine home visits to define epidemiological priorities (the most frequent, serious, readily preventable or treatable conditions in the population) and to help the communities in the population identify what their health priorities are (and almost always in low-income settings the community’s health priorities revolve around improving curative care services). Then, with the available resources (financial, infrastructure, and human), develop a plan that addresses program priorities, which are a combination of epidemiological and community-defined priorities. Thus, the actual content of the services would vary from place to place and over time, depending on the local situation.

But even within this framework, is there still an essential set of services that should comprise the core of primary health care? Table 1 is an attempt to define this. Even within this set of core services, prioritization would have to occur in most settings, at least for the near term. Strategies for working with communities to define local priorities based on locally available resources and local health needs, and strategies for working in partnership with communities to make these services universally accessible—through shared financing, community mobilization, utilization of CHWs and participatory women’s groups – are still poorly developed in most low-income settings. Further development of these strategies and assessing their effectiveness in typical field settings represents one of the great frontiers in primary health care for the 21st century.

| **Table 1. A proposed set of core primary health care services for disadvantaged communities in low-income countries** |
| --- |
| **Core preventive primary health care services** |
| Immunizations promoted by WHO |
| Micronutrient supplementation |
| Antenatal care |
| Detection of hypertension in adults |
| Screening for HIV, tuberculosis, syphilis |
| Distribution of insecticide-treated bed nets in malaria-endemic areas and intermittent preventive treatment of malaria in pregnant women and children |
| Promotion of good dental health |
| **Core promotive primary health care services** |
| Promotion of good nutrition (exclusive breastfeeding during the first 6 months of life, appropriate complementary feeding after 6 months of age, and so forth) |
| Promotion of hand washing, access to clean water and sanitation |
| Promotion of healthy household behaviors for good maternal, newborn and child health, in addition to promotion of good nutrition (promotion of importance of healthy timing and spacing of pregnancies, household cleanliness, warning signs of pregnancy and serious childhood illness for which care should be sought) |
| Promotion of smoking cessation, weight reduction for those who are obese, and physical activity for those who are sedentary  |
| **Core “curative”[[18]](#footnote-18) primary health care services** |
| Diagnosis and treatment of common ailments and conditions (e.g., eye and skin infections, acute respiratory infection, and diarrhea) and pain management |
| Management of serious newborn and childhood illness |
| Management of serious mental illness |
| Initial management of obstetrical complications (removal of retained placenta; management of pre-eclampsia; and initial management of eclampsia, obstructed labor, post-partum hemorrhage, and puerperal sepsis) |
| Provision of first-line family planning services (oral birth control pills, condoms, injectable contraceptives, contraceptive implants) |
| Recognition of and referral of life-threatening conditions |
| Continued treatment and management of conditions of patients referred down from higher-level facilities for on-going follow-up care |
| **Core rehabilitative services** |
| Physical therapy for those recovering from injury |
| Assistance to those in the community with disabilities and to their families (such as blindness, deafness, limb loss, mental retardation, addiction, victims of violence / abuse, and congenital deformities) |

## Breadth of services

The working definition of primary health care proposed at the outset provides a beginning point to consider the entire breadth of services that will eventually be required in order to achieve Health for All through primary health care. As countries grow economically with more resources to support health services, the breadth of services which can be financed will obviously increase. One of the potentials of universal health care (insurance) coverage is to bring financing for the poorest members of society from those who are better off. Another potential of universal health care (insurance) coverage is to more evenly spread health care expenditures for the healthy and the sick so the costs of sickness care no not rest solely on those while they are sick.

## The neglected demand side solutions to strengthening primary health care

 The lack of a consumer orientation to the provision of health services in low-income countries, especially those services provided by ministries of health, has led to, in many settings, a lack of compassionate care and marked dissatisfaction in and distrust of health systems, particularly among the poorest inhabitants of low-income countries. In large health care organizations, and particularly those operated by ministries of health, there is too often a lack of local accountability, leading to absent staff, frequent staff turnovers, lack of supplies and equipment, and so on.

The concept of community participation in primary health care is strongly enunciated in the Declaration of Alma-Ata, with its call for the following:

The people have the right and duty to participate individually and collectively in the planning and implementation of their health care.

Primary health care is essential health care … made universally accessible to individuals and family in the community through their full participation at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.

Primary health care … requires and promotes maximum community and individual self-reliance and participation in the planning, organization, operation and control of primary health care, … and to this end develops through appropriate education the ability of communities to participate.

Primary health care … relies … on health workers … suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community.[15](#_ENREF_15)

In our proposed working definition of primary health care, we include community-oriented primary health care as one of the three “pillars” (or legs of a stool) of primary health care, and this involves working in partnership with communities to help them improve their health.

## Roles of more- and less-qualified personnel

 The working definition of primary health care proposed here calls for the inclusion of the full spectrum of primary health care providers, from mothers in the home to community health workers, auxiliary workers, nurses, and physicians. In resource-constrained settings and even in resource-rich settings such as the United States, the team approach to provision of health services leads to the best quality of services and to the most cost-efficient use of available resources. (Even in the United States, the use of CHWs in growing rapidly.) The global experience now is vast in the suitability and advisability of delegating to lesser-trained staff many tasks and responsibilities that were once the sole purview of physicians. The World Health Organization recently convened a task force to recommend which tasks for maternal, neonatal and child health could be safely and appropriately delegated to lower-level staff, including CHWs.[91](#_ENREF_91) Although not without controversy still, the weight of the evidence continues to strongly support the full engagement of carefully selected lower-level workers to carry out many well-defined tasks and responsibilities as long as these persons are carefully trained and well-supervised.

## Remuneration and other incentives for frontline workers

 The remuneration of frontline health workers is a current source of controversy, particularly with respect to whether or not it is appropriate for health programs to engage CHWs on a voluntary, non-salaried basis. Although the amounts of money paid to frontline workers are modest, the vast numbers of these workers means that the implications of these policies are substantial, especially when the funding comes from a central government source. On the one hand, there is the charge that engaging CHWs without remuneration is unjust exploitation, while on the other hand there is the reality that communities have people who are eager to serve their neighbors on a voluntary basis. If funding scarcity were not a problem, then payment would of course be desirable. However, there are examples of CHW programs that made initial commitments to pay their workers but then could not maintain that commitment, leading to a crumbling of the program.**[[19]](#footnote-19)** If the creation of an expectation for a salary is established and then the program cannot sustain that expectation over time, the program is worse off than if it had originally started with volunteer CHWs who had no expectation of a salary.

In NGO child survival programs, there are many examples of volunteer CHWs who receive no formal salary but who receive some kind of “incentives,” in the form of special recognition from the community, release from certain community responsibilities, special privileges in accessing health services, and so forth. The most balanced approach to this issue is to not expect from volunteers more than a modest amount of work (e.g., no more than 4-5 hours per week) and, if on-going financial remuneration is to be provided, to be confident that this support can be maintained on a sustainable basis.

## Supply-side and demand-side financing

 The inclusion of user fees for basic and essential services among severely impoverished populations has been controversial and seen by some as unjust and inequitable. Empirical evidence suggests that it is a serious disincentive to utilization of these services among the very poor and is one of the rationales for universal health care. A consensus is emerging that the most important primary health care services such as antenatal care, delivery care, and treatment of serious childhood illness should be free, just as immunizations generally are in low-income settings.

The introduction of insurance schemes among the very poor has been mostly unsuccessful, since the very poor are not willing to pay for something that is not an immediate, pressing priority. However, in certain parts of Africa, *mutuelles* (local insurance schemes) seem to be working. In Rwanda, for instance, 92% of the population now participates in this program.[92](#_ENREF_92) Countries that have achieved universal health coverage have followed these three trajectories: (1) a political process whereby public programs expand access to care, improve equity, and pool risks, (2) a development process whereby as national socioeconomic development occurs there are increased funds available for health spending, and (3) a risk-aversion process whereby the share of health spending that is pooled increases and the share of out-of-pocket expenses decreases.[93](#_ENREF_93)

In virtually all countries with well-developed primary health care systems, universal (or near universal) coverage has been achieved through a mix of funding from the private and public sectors and through a growing proportion of health expenditures arising from pooled sources (either tax revenues or insurance payments) and a reduction in the proportion of expenditures made out-of-pocket. This is because such approaches uniformly have produced better equity, efficiency, and sustainability of health expenditures.[93](#_ENREF_93)

## Other financing issues and controversies

 One of the most troubling and unfortunately pervasive problems surrounding the financing of health services in low-income countries is the need for patients and their families to pay “unofficial” fees (otherwise commonly known as bribes) in order to obtain the services they need. A related serious and common problem is for physicians who work only part of the day for a government health center to “steal” patients from the government system to his or her private practice in the afternoon if the patient has the potential for paying the physician personally for the treatment needed. How to deal with these issues requires a level of administrative capability that is too often lacking. These issues permeate hospital care as well as primary health care services. Even immunization services may require unofficial payments, and unofficial payments can enable those who can pay to “jump the queue” and move ahead of others in line in order to receive services more quickly.[94](#_ENREF_94)

 A second issue that permeates the financing of primary health care services – and will be a growing issue in universal health care programs – is who is a “qualified” provider. That is, who should be reimbursed by the health insurance scheme for providing a certain primary health care service? Related to this question is whether the service provided meets an acceptable standard of care. Also, of great importance to service providers, is whether or not the provider can charge the patient for an additional amount above what they insurance will pay for. All of these issues have been negotiated in developed countries for decades, but the regulatory function of governments in low-income countries will need to grow over time. How governments and private providers can avoid the sad dilemma found in the United States in which providers are paid on a fee-for-service basis (thereby rewarding more and more services without attention to improvements in population health) and how services could be provided more efficiently without sacrificing quality will be major dilemmas for low-income countries moving forward. The problem in many settings will not be a lack of funds but how to best use these funds to improve population health. These issues of course go beyond primary health care and permeate the entire health system, including hospital services.

## Impact of global trends on the evolution of primary health care for the disadvantaged in low-income countries

Anticipating the specific influences of global forces and trends on primary health care is, of course, impossible. We can be sure that more and more of the disadvantaged in low-income countries will be living in slums in urban area. We can be sure that technological advances will bring new diagnostic and laboratory tests within the reach of low-cost primary health care programs, and mHealth will make it easier for people to communicate with their health care provider and for different members of the health team to communicate among themselves, with great potential from improving the quality of care. As the population ages, chronic disease will increasingly dominate the disease burden. AIDS will have become a chronic disease, and primary health care will be heavily concerned with care of the elderly. Climate change will put new stresses on community resources including water and changing disease epidemiology. Early childhood stimulation and development will need to be mainstreamed given new data showing its impact on brain architecture. Socioeconomic development will lead to higher living standards and higher educational levels, and this will affect the demand for and consumption of primary health care services. No doubt the trend for women’s empowerment will continue, and this will also affect the demand for and consumption of primary health care services.

# Towards a rebirth and revision of primary health care

In recent articles and writings related to primary health care, there is a persistent theme: the concept of primary health care as articulated at Alma-Ata is valid and needs to be maintained. But at the same time there is a broadly held view that we are now at a time for a renewal and revitalization of primary health care and perhaps even a re-definition of primary health care for the 21st century, leading to a full-fledged fulfilment of the ideas that emerged at Alma-Ata.

In recognition of the 25th anniversary of the Alma-Ata conference in 2003, the Pan American Health Organization convened a series of events and dialogues culminating in a 2007 position paper on renewing primary health care in the Americas.[95](#_ENREF_95) Their report states that there is “a growing recognition that PHC is an approach to strengthen society’s ability to reduce inequities in health; and a growing consensus that PHC represents a powerful approach to addressing the causes of poor health and inequality”[95](#_ENREF_95) [p. 2]. In celebration of the 30th anniversary of the Declaration of Alma-Ata, *The Lancet* published a series of papers entitled “Alma-Ata: Rebirth and Revision.” The lead editorial by The Lancet team stated that “The Alma-Ata Declaration revolutionized the world’s interpretation of health. Its message was that inadequate and unequal health care was unacceptable: economically, socially, and politically.”[96](#_ENREF_96) Margaret Chan, Director General of WHO, in her lead editorial to the series, remarked: “With an emphasis on local ownership, primary health care honoured the resilience and ingenuity of the human spirit and made space for solutions created by communities, owned by them, and sustained by them.”[97](#_ENREF_97) One of the articles in the series expressed the same idea this way:

The very idea of health for all energised workers and fueled new efforts in many countries to improve service coverage, especially for previously underserved communities. The inherent focus on equity, the necessity of reaching the unreached and involving them not only in the benefits of health care, but more importantly, in the decisions and actions that collectively make health, was at once novel and revolutionary. Thus, the precepts of social justice became an integral part of health planning[98](#_ENREF_98) [p. 919].

Now is the time for a renaissance in primary health care to better serve the disadvantaged in low-income settings. Primary health care is the means for achieving the highest attainable standard of health for all people, and now is the time for a renewed focus on the principles outlined at Alma-Ata. Health for All – the elimination of disparities in health status – was not achieved by the year 2000 and may not be achieved by the year 2100, but it will eventually be achieved. The full implementation of primary health care as proposed here for the disadvantaged in low-income countries will help to achieve this collective human aspiration sooner rather than later.

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1. An exception is the coverage of immunizations and vitamin A supplementation, which has benefitted from intense and well-coordinated donor funding, policy advocacy, and on-the-ground monitoring. [↑](#footnote-ref-1)
2. This definition implies that low-cost diagnostic and laboratory support would be available at a health center. Given the fact that technology is evolving rapidly, some of this support available today would have been considered advanced 20 years ago, and what is considered advanced today may be low-cost and usable in primary health care centers in 20 years into the future. Furthermore, what is considered to be “low-cost” at any given point in time will vary from one setting to another. [↑](#footnote-ref-2)
3. Admittedly, this is not readily accomplished, but epidemographic surveillance has long been proposed[4](#_ENREF_4) and is feasible to incorporate into primary health care systems that utilize community-based workers to visit all households on a regular basis. And, in fact, it provides an opportunity for linking civil registration of vital events with primary health care services and thus improving registration of births and deaths in low-income countries, a recognized global priority.[5](#_ENREF_5) [↑](#footnote-ref-3)
4. Some, but not all of these were mentioned specifically in the Declaration of Alma-Ata [↑](#footnote-ref-4)
5. This includes: detection and treatment of reproductive tract infections; screening and providing initial treatment for breast and cervical cancer; education about prevention of and need to obtain care for complications of pregnancy and childbirth, proper care of the newborn and young children, and warning signs of newborn and childhood illness for which attention from properly trained health care providers should be sought; provision of safe and hygienic delivery and treatment of common obstetrical complications, including infection, retained products of conception or retained placenta, management of obstructed labor, prevention and treatment of post-partum hemorrhage, treatment of pre-eclampsia and eclampsia, and management of abnormal fetal presentation/prolonged labor; provision of family planning services; prevention, detection and treatment of pre-term birth, breathing complications of newborns immediately after birth, and neonatal infection; prevention, detection and treatment of childhood undernutrition, pneumonia, and diarrhea. Management of obstetrical complications requires the capacity for giving parenteral medications and blood transfusions and performing evacuation of uterus and cesarean section. [↑](#footnote-ref-5)
6. This includes repair of uncomplicated hernias, initial surgical management of the acute surgical abdomen (appendectomy, management of intestinal perforation or uncomplicated intestinal obstruction, and so forth), circumcision, and cataract surgery. Some of these procedures can be performed under local anesthesia in “camp” settings to which large numbers of patients come to specially formed teams to provide these services. Examples include tubal ligation, vasectomy, circumcision, cataract surgery, and hernia surgery. [↑](#footnote-ref-6)
7. It is interesting to note that the original use of the term was primary health care center, not primary health care services as a way, perhaps, to stress the need for facility-based care in addition to the dominant home-based care which had been the previous norm. At present, we seem to need to stress the importance of outreach because the emphasis is often too facility-based. [↑](#footnote-ref-7)
8. The UNICEF 2008 State of World’s Children has a very good discussion of the development and evolution of primary health care (pp. 27-43).[7](#_ENREF_7) [↑](#footnote-ref-8)
9. The term here, “essential,” is obviously open to interpretation, but I think was intended to mean basic services that should be available to everyone, given the socioeconomic circumstances of the community and the country. [↑](#footnote-ref-9)
10. This is often referred to now as the “First Child Survival Revolution” in anticipation of another major push to improve child survival. [↑](#footnote-ref-10)
11. Two Fs were added for food supplements and family planning and then a later F was added for female education. [↑](#footnote-ref-11)
12. This concept is now not generally accepted. Carl Taylor’s child survival hypothesis, that women will not have fewer children until they know that the ones they have are going to survive, is now the prevailing view.[18](#_ENREF_18) A lively discussion of these issues has been presented recently by Connelly.[19](#_ENREF_19) [↑](#footnote-ref-12)
13. Of interest for our purposes here is that James P. Grant’s son, John Grant served as the first director of the USAID child survival grants program for US-based NGOs in the mid-1980s. [↑](#footnote-ref-13)
14. Excluding countries with a Gross National Income of greater than US$ 5,000 per person. [↑](#footnote-ref-14)
15. It was been widely known and demonstrated since the 1960s that the rate of utilization of health facilities increases exponentially with one’s distance from the facility[69](#_ENREF_69) [p.2:6]. [↑](#footnote-ref-15)
16. The explanation for this is several fold: (1) the additional time lost in obtaining care at a facility leads to a lower chance of success, even with high-quality of care, and (2) the improved quality of care (presumably) obtained at a facility does not provide that much additional benefit over the quality of care provided by a properly trained and supported CHW. [↑](#footnote-ref-16)
17. In the 1960s and early 1970s, this term was used more broadly than how we are using it here, and it included health-facility-based support staff, as well as what we are describing as Health Extension Workers. [↑](#footnote-ref-17)
18. Putting “curative” in parentheses serves to highlight the fact that not all conditions will be curable – whether it is HIV infection, hypertension, some forms of mental illness, and so forth. [↑](#footnote-ref-18)
19. This happened in Nepal in the early 1980s, and later these workers, who had become inactive, were recruited back as Female Community Health Volunteers. [↑](#footnote-ref-19)