

# 74963 The Health Extension Program in Ethiopia

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Human Development N

## **UNICO Studies Series 10** The Health Extension Program in Ethiopia<sup>1</sup>

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#### The World Bank's Universal Health Coverage Studies Series (UNICO)

All people aspire to receive quality, affordable health care. In recent years, this aspiration has spurred calls for universal health coverage (UHC) and has given birth to a global UHC movement. In 2005, this movement led the World Health Assembly to call on governments to "develop their health systems, so that all people have access to services and do not suffer financial hardship paying for them." In December 2012, the movement prompted the United Nations General Assembly to call on governments to "urgently and significantly scale-up efforts to accelerate the transition towards universal access to affordable and quality healthcare services." Today, some 30 middle-income countries are implementing programs that aim to advance the transition to UHC, and many other low- and middle-income countries are considering launching similar programs.

The World Bank supports the efforts of countries to share prosperity by transitioning toward UHC with the objectives of improving health outcomes, reducing the financial risks associated with ill health, and increasing equity. The Bank recognizes that there are many paths toward UHC and does not endorse a particular path or set of organizational or financial arrangements to reach it. Regardless of the path chosen, successful implementation requires that many instruments and institutions be in place. While different paths can be taken to expand coverage, all paths involve implementation challenges. With that in mind, the World Bank launched the Universal Health Coverage Studies Series (UNICO Study Series) to develop knowledge and operational tools designed to help countries tackle these implementation challenges in ways that are fiscally sustainable and that enhance equity and efficiency. The UNICO Studies Series consists of technical papers and country case studies that analyze different issues related to the challenges of UHC policy implementation.

The case studies in the series are based on the use of a standardized protocol to analyze the *nuts and bolts* of programs that have expanded coverage from the bottom up—programs that have started with the poor and vulnerable rather than those initiated in a trickle-down fashion. The protocol consists of nine modules with over 300 questions that are designed to elicit a detailed understanding of how countries are implementing five sets of policies to accomplish the following: (a) manage the benefits package, (b) manage processes to include the poor and vulnerable, (c) nudge efficiency reforms to the provision of care, (d) address new challenges in primary care, and (e) tweak financing mechanisms to align the incentives of different stakeholders in the health sector. To date, the *nuts and bolts* protocol has been used for two purposes: to create a database comparing programs implemented in different countries, and to produce case studies of programs in 24 developing countries and one high-income "comparator," the state of Massachusetts in the United States. The protocol and case studies are being published as part of the UNICO Studies Series, and a comparative analysis will be available in 2013.

We trust that the protocol, case studies, and technical papers will provide UHC implementers with an expanded toolbox, make a contribution to discussions about UHC implementation, and that they will inform the UHC movement as it continues to expand worldwide.

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#### Abbreviations

CHWs	Community Health Workers
GDP	gross domestic product
HEP	Health Extension Program
HEWs	Health Extension Workers
HSDP IV	Health Sector Development Program
MDGs	Millennium Development Goals
NGO	nongovernmental organization
NHA	National Health Accounts
SWAp	Sector Wide Approach
THE	total health expenditure

#### **Executive Summary**

Ethiopia has made substantial progress in improving health outcomes during the last decade and is on track to achieve some of the health Millennium Development Goals. Innovative strategies to improve household behaviors and coverage of basic health care services contributed to Ethiopia's achievements, and the Health Extension Program (HEP) remains the core of such innovations and provides a model for countries struggling to improve health outcomes in a resource-constrained setting.

Introduced in 2003, initially in agrarian communities and subsequently tailored and scaled up into the pastoral and urban communities, the HEP was developed by the Government of Ethiopia to be the main vehicle for achieving universal coverage of primary health care. The HEP is fully integrated into the broader health system and is part and parcel of the Primary Health Care Unit structure. The program delivers 16 clearly defined packages of preventive, promotive, and basic curative services. All services delivered under the program are free and available to everyone.

The Health Extension Workers (HEWs) are the key players in the program. They are all female, 10th grade high school graduates, recruited from the community with the active participation of the community. They are trained for one full year and then deployed back into the community to promote health and provide services at the village level. Two HEWs are paired to serve 3,000 to 5,000 people and serve at a health post. Much of their time is devoted to home visits and outreach. Over 35,000 HEWs are recruited, trained, and deployed to the villages. Over 15,000 health posts have been constructed and equipped with the active participation and contribution of the community.

Since its rollout, the HEP has shown substantial outcomes in areas related to disease prevention, family health, hygiene, and environmental sanitation. The HEP has been central to the strengthening of the community health system, including providing standards and manuals and regular evaluation of the program. Although it is difficult to attribute improvements in health care directly to the rollout of the HEP, between 2005 and 2011, under-five mortality decreased from 123 per 1,000 live births to 88 per 1,000 live births; the contraceptive prevalence rate increased from 15 percent to 29 percent; stunting in under-five children declined from 52 percent to 44 percent; the prevalence of anemia among women decreased from 27 percent to 17 percent; the total fertility rate decreased from 5.4 to 4.8; and use of insecticide-treated nets increased from 1.3 percent to 42 percent.

Despite considerable achievements in the last eight years, the HEP faces a number of challenges. These include improving the quality of services provided under the program; enhancing skills and performance of the HEWs, particularly in the area of maternal health; and sustaining the program with an appropriate carrier structure for the HEWs.

#### 1. Introduction

#### Context

With an area of 1.1 million square kilometers and a 2012 projected population of 84.3 million (CSA 2012a), Ethiopia is the second-most-populous country in Sub-Saharan Africa. Eighty-three percent of the population resides in rural areas of the country. The economy has been growing at twice the rate of the Africa region; between 2004 and 2011, annual gross domestic product (GDP) growth averaged 10.6 percent per year compared to 5.2 percent in Sub-Saharan Africa (World Bank 2012). Despite impressive economic growth, with a per capita GDP of US\$392, Ethiopia remains one of the poorest nations in the world. The sectoral strategies, particularly the Health Extension Program, are developed with full recognition of the macro resource constraints.

Since August 1995, Ethiopia has been structured into nine regional states and two city administration councils under a constitutional federal system. In addition to receiving federal subsidies, the regions are mandated to generate local revenue. Decentralization from the regional to the woreda (district) level was initiated in 2002 except in the emerging regions,<sup>2</sup> in which decentralization started in 2004. Woredas are the basic decentralized administrative unit and each has an administrative council composed of elected members. The country is highly heterogeneous, with large socioeconomic differences across regional states and across urban and rural areas, and there is a well-elaborated intergovernmental fiscal transfer formula in Ethiopia (World Bank 2010).

The health sector has shown remarkable progress in a number of health, nutrition, and population indicators. The 2011 Demographic and Health Survey (CSA and ICF International 2012) revealed a 28 percent reduction in under-five mortality from 123 to 88 per 1,000 live births; the number of children under six months who are exclusively breastfed increased from 31.6 to 52 percent; the number of under-five children who are stunted decreased from 51.3 to 44.4 percent; and the contraceptive prevalence rate (any modern method) among currently married women increased from 13.9 to 27.3 percent between 2005 and 2011. National fever prevalence among under-five children under one year of age from 21.8 percent in 2007 to 14.9 percent in 2011 (Ethiopian Health and Nutrition Research Institute and Partners 2012). Despite this important progress, challenges remain, particularly in the maternal mortality and reproductive health services (table 1). The maternal mortality ratio did not significantly change between 2005 and 2011 and remains over 600 per 100,000 live births. Despite an increase in the number of deliveries attended by skilled providers—from 5.7 to 10 percent—the number remains very low.

<sup>&</sup>lt;sup>2</sup> Afar, Benishangul-Gumuz, Gambella, and Somalia regions.

Health Outcome/Output	2005	2011	Change
Under-five mortality rate	123	88	-28%
Infant mortality rate	77	59	-23%
Stunting in under-five children	51	44	-14%
Prevalence of anemia among women	27	17	-37%
Total fertility rate	5.4	4.8	-11%
Contraceptive prevalence rate	15	27.5	+83%

Table 1 Progress in	n Kev Health	<b>Indicators</b> . Eth	iopia. 2005 and 2011
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Source: CSA and ICF International 2012.

The Health Extension Program (HEP), a flagship program of the Government of Ethiopia, was launched by the Federal Ministry of Health in 2003 with the goal of improving health outcomes in Ethiopia by targeting households and communities. The program was originally launched in 2003 in the country's four big agrarian regions<sup>3</sup> and has made important contributions to Ethiopia's achievements in the area of health. The HEP, which has been expanded to the remaining regions in the country, started tailoring the program to the particular requirements of the pastoral and agropastoral communities in 2006, and to urban areas in 2010.

The HEP delivers a package of basic and essential promotive, preventive, and curative health services targeting households in a community, based on the principles of primary health care to improve families' health status with the active participation of both households and the community (FMOH 2007). The focus of the program is on improving household behaviors and providing basic health services that have high impact and are cost-effective, such as improving sanitation and personal hygiene, childhood vaccinations, family planning, prevention and treatment of malaria, and treatment of diarrhea and pneumonia (introduced recently) in underfive children. The HEP became a core component of the broader health system—one fully integrated into the primary health care unit—and is one of the strategies adopted with the goal of achieving universal primary health care coverage of the rural population by 2009.

#### Objectives

This case study describes and assesses the contributions made by the HEP to improving the health outcomes targeting households and communities. The program rests on an accelerated expansion of basic health infrastructure and local human resources with required skills to scaleup delivery of high-impact interventions focusing on improving the supply of and enhancing demand for a well-defined package of essential promotive, preventive, and curative health services. The objectives of the case study are to provide a detailed description of (a) the context for the introduction of the program; (b) the scope of the service package delivered under the program; and (c) the institutional arrangements and the links with the rest of the health system. The case study also summarizes and discusses the evidence of the program's achievements and the challenges to achieving universal primary health care coverage. The study also discusses the importance of political will and commitment in introducing such large-scale innovations in improving service delivery and mobilizing the community in a resource-constrained setting.

<sup>&</sup>lt;sup>3</sup> Amahra; Oromia; Southern Nations, Nationality and Peoples; and Tigray regions.

#### 2. General Health System Overview and Health Financing

#### **General Health System**

To achieve the goals of the health policy, issued in 1993, the government has formulated a 20year health sector development strategy, which is being implemented through a series of fiveyear programs. Implementation of the first Health Sector Development Program (HSDP I) was launched in 1996/97. Subsequent health sector development programs are aligned to international commitments such as the Millennium Development Goals (MDGs) and the government's macroeconomic development frameworks, that is, the Sustainable Development and Poverty Reduction Program (2002/03–2004/05), the Plan for Accelerated and Sustained Development to End Poverty (2005/06–2009/10), and the Growth and Transformation Plan (2010/11–2014/15). The fourth Health Sector Development Program (HSDP IV) has entered its third year of implementation. The HSDP IV aims to reduce morbidity, mortality, and disability, and to improve the health status of the Ethiopian people.

The health sector has focused on achieving universal coverage with quality health services by addressing the following strategic objectives (FMOH 2012b): (a) community ownership; (b) access to health services; (c) quality of health services; (d) public health emergency preparedness and response; (e) pharmaceutical supply and services; (f) evidence-based decision making, harmonization, and alignment; (g) the regulatory system; (h) the health infrastructure; (i) human capital and leadership; and (j) resource mobilization and utilization. The HEP is fully integrated into the HSDP IV and serves as the main vehicle to achieve many of the stated strategic objectives.

HSDP IV has introduced a three-tier<sup>4</sup> health service system (FMOH 2010). The **primary care level** comprises three service delivery points with a defined referral system—health post, health center, and primary hospital. The size of the catchment population varies between urban and rural areas. *A health post*, staffed with two HEWs, serves 3,000 to 5,000 people. A *health center* is designed to serve 60,000 to 100,000 people. It provides both preventive and curative services and serves as a referral center and practical training institution for HEWs. A *primary hospital* provides inpatient and ambulatory services. In addition to what a health center can provide, a primary hospital provides emergency surgical services, including caesarean sections, and access to blood transfusion services. It also serves as a referral center for health centers in its catchment areas, and is a practical training center for nurses and other paramedical health professionals. The **secondary care level** comprises general hospitals. A general hospital. It also serves as a training center for Health Officers, nurses, and emergency surgeons, as well as other categories of health workers. The **tertiary care level** comprises specialized hospitals and serves as a referral from general hospitals (figure 1).

<sup>&</sup>lt;sup>4</sup> Introduced following the Business Process Re-engineering exercise. In the earlier HSDPs, service delivery was organized into a four-tier system: a primary health care unit, (a network of a health centers and five health posts), district hospitals, regional hospital, and specialized referral hospitals).



#### Figure 1 Ethiopia's Three-tier System

The government is the major provider of health services in Ethiopia. According to the national welfare monitoring survey (CSA 2012b), two-thirds of all patients have visited government facilities compared to 27 percent who visit private for-profit and nongovernmental organization (NGO) providers. The main reason for the choice of provider is access, as measured by closeness to the facility. Four out of five visited the health facility because either it is closer to home or they have no other choice of facility. The role of private health clinics and medical services is growing in importance, particularly in urban areas. In addition, about 200 NGO health clinics and eight NGO hospitals are operating throughout the country, particularly in rural areas.

In line with the devolution of power to the lower levels, decision making for public service delivery has shifted from the central to the regional and woreda governments. However, through the HSDP Sector Wide Approach (SWAp) mechanism, the health sector ensures effective coordination and harmonization of policies and provision of services including support from development partners. The HSDP harmonization and alignment manual (FMOH 2007b), the compact signed in 2008 between the Government of Ethiopia and most of the development partners active in the health sector, and the joint financing arrangement, frame the alignment and harmonization efforts toward the principles of "one plan, one budget and one report," the SWAp mechanism. Since 2008, a pooled fund—the MDG performance fund—has been in place. In addition to other activities, the MDG fund finances equipment, commodities, and supplies for the HEP, and the capacity building of the HEWs through integrated refresher training.

#### **Health Financing**

Health expenditure in Ethiopia has steadily increased over time. Four rounds of National Health Accounts (NHA) show a continued increase in total health expenditure (THE) over the years. Per capita spending on health increased from US\$5.6 to US\$16.09 between 1999/00 and 2007/08 (figure 2). Spending on health as a proportion of GDP has remained relatively flat at around 5 percent during the same period. As detailed in the fourth round of NHA for 2007/08, the three major financing sources for health in Ethiopia are (a) external assistance, at 39 percent; (b) out-of-pocket expenditure, at 37 percent; and (c) the government budget, at 21 percent. Both public and private financing has increased over the years (FMOH and Abt Associates 2010).



Figure 2 Trends in Health Expenditure by Source of Finance

Source: Second, third and fourth round National Health Accounts.

Public spending increased faster than private spending, mostly due to a sharp increase in donor funding. Between 1999/00 and 2007/08, public spending on health more than tripled from a per capita amount of US\$2.80 to US\$9.70. External financing per capita increased even faster—over sixfold—from US\$0.90 to US\$6.30 per capita. Domestic public spending increased by 80 percent from US\$1.90 to US\$3.40 per capita.

Private spending on health increased significantly during the period. Between 1999/00 and 2007/08, private spending more than doubled from US\$2.80 to US\$6.40. Out-of-pocket spending remains a major source of finance accounting for a third of the THE, and increased from US\$2.0 per capita in 1999/00 to US\$4.90 in 2007/08.

The overall mix between public and private financing has shifted from an equal share in 1999/00 to a higher share from the public sector (60 percent) in 2007/08.

All private sector financing agents (households, private employers, nonprofit institutions, and others) together managed 44 percent of THE in 2007/08. The Ministry of Health (central, regional, and woreda level) managed 42 percent. The rest of the world (external donors and international NGOs) is also a key financing agent, managing 14 percent.

Providers of public health programs are the major recipients of health resources, accounting for 27 percent, followed by public primary health care units, which receive 21 percent, and government hospitals, which receive 13 percent. General administration consumed 9 percent of spending.

Despite the considerable increase, THE in Ethiopia remains low compared to other countries in Sub-Saharan Africa. Per capita spending of US\$16.09 in 2007/08 was half the average of the low-income Sub-Saharan Africa countries, at US\$32 (figure 3). This reflects three things: (a) that despite rapid growth in the last five years, the overall resource base remains low in Ethiopia (at a per capita GDP of US\$392); (b) that although over the last 10 years, the government allocation to health increased from 4 percent to 8 percent, it is still lower than the Sub-Saharan Africa

country average; and (c) Ethiopia receives a relatively much lower level of external aid than other Sub-Saharan Africa countries.





Ethiopia is a *federal state* consisting of nine regions and two city administrations. The subnational structure has four levels—regions, zones, woredas, and kebeles. Fiscal decentralization has deepened over the last decade, but the subnational institutions still rely on block grants for about three-quarters of their expenditures. The block grant for services transfers funds from the federal and regional level to the woreda level for service delivery. External resources flow through multiple channels, including the Federal Ministry of Health; in-kind support to regions, woredas, and health facilities; and in some cases, direct implementation by partners (figure 4). (Also see the Annex for a chart of the flow of funds from various source, financing agents, and providers to functions based on the results from the fourth round NHA.)

Source: WHS 2010.



Figure 4 Flow of Funds in the Health Sector

There is great variation in the level of per capita health expenditure across regions, as shown in figure 5. Each region's per capita health expenditure has increased over the five-year period covered by the figure, and the variation across regions is evident. For instance, in 2009/2010, among all regions, per capita government health expenditure in Harari (Birr 133.1, US\$10.30) was almost five times that of Amhara (Birr 27.1, US\$2.10). This, however, could be because of the small size of the population in Harari and the high unit cost of service provision. The variation also seems to narrow over the five years.



**Figure 5 Trends in Regional Government Health Expenditure** 

Source: MOFED, Government Accounts.

The Government of Ethiopia also introduced fee waiver and exemption systems for services at health centers and hospitals aimed at protecting the poorest of the poor against the financial burden of user fees. The **fee waiver** screening and identification of eligible beneficiaries is conducted through community participation. The selected beneficiaries are given a certificate entitling them to free health care services. The woreda administration allocates an annual budget for covering the cost, enters into agreements with health facilities, and reimburses health facilities for services rendered. The experience varies across regions, and a 2011 review of the health sector reform recommended further improvement in "the targeting and identification of the right beneficiaries" (Purvis, Alebachew, and Feleke 2011).

The list of **exempted services** includes family planning, deliveries, pre- and postnatal care, tuberculosis, leprosy, childhood vaccination, voluntary counseling and testing for HIV, antiretroviral treatment, and prevention of mother-to-child transmission of HIV. All public health facilities are expected to post lists of exempted services in the waiting area. However, most of the exempted services are financed through external funding. Although these services are expected to be provided free of charge, there are reported divergences between policy and practice, especially when it comes to deliveries. Some of the exempted services, particularly deliveries and safe motherhood at the health facility level, have no substantial external funding. As a result, facilities charge fees for some of the exempted services. According to a national baseline assessment for emergency obstetric and newborn care (FMOH, UNICEF, UNFPA, WHO, and AMDD 2010), 17 percent of health centers and 77 percent of hospitals charged mothers for normal deliveries. There is an ongoing dialogue about revisiting the financing and list of exempted services.

A Community Based Health Insurance initiative is also being studied in 13 woredas, and there are plans for national scale-up along with the social insurance program for formal sector employers. However, some critical challenges remain.

#### 3. Brief Description of Public Health, Primary Care, and Key Supply-side Efforts

While the burden of disease in Ethiopia has not been systematically measured in recent years at the national level, the results of a study of the burden of disease in a rural area of Ethiopia showed that communicable, maternal, perinatal, and nutritional problems contributed to 72 percent of the total Disability Adjusted Life Years lost, noncommunicable diseases contributed to 24 percent, and injuries contributed 4 percent (Abdulahi, Mariam, and Kebede 2001).

Despite the substantial improvement in recent years, access to and utilization of primary health services remains limited. According to the 2011 welfare monitoring survey (CSA 2012b), 64.7 percent of households are within less than 5 kilometers of the nearest health post, 40.1 percent are within 5 kilometers of a health center, and 14.2 percent are within 5 kilometers of a hospital. Urban-rural disparity in the distribution of health facilities is significant. In urban areas, health service providers, that is, health posts, health centers, and hospitals, are available within less than 5 kilometers for about 88.2 percent, 87.7 percent, and 49.4 percent of the households, respectively.

In the last decade, the country has made a concerted effort to address the supply-side constraints in expanding primary health care coverage. The HEP is one of the strategies aimed at removing the supply-side constraints for increased primary care coverage, with the construction of 15,668 health posts, training and deploying over 35,000 Health Extension Workers. During HSDP III (2005/06–2009/10), there were aggressive across-the-board capital investments to expand coverage of health services in general and primary health care in particular.

The accelerated expansion of primary health care launched in 2005 focused on both physical availability and accessibility of essential health services to reduce the distance between primary health care facilities and health care users. The total investment cost of this expansion over five years was estimated at about US\$1.2 billion (US\$322.01 for construction and equipping of 12,249 new health posts; US\$224.84 for construction and equipping of 563 new health centers; and US\$671.52 for upgrading and equipping 2,167 health stations to health center level). Of this, the share of capital investment cost is 73 percent and the share of recurrent cost is 27 percent (FMOH 2005). As presented in table 2, the number of public health facilities expanded substantially by the end of HSDP III, achieving the infrastructure expansion projected in 2005. And as documented in the 2010 HEP evaluation study (CNHDE 2012a), the majority (82.3 percent) of kebeles<sup>5</sup> have health post infrastructure specifically built for the provision of HEP (table 2).

	2001/02	2004/05	2009/10	2011/12
Health Posts	76	2,899	14,416	15,668
Health Centers	412	519	2,689	2,999
Hospitals (all types) <sup>a</sup>	87	126	195	195

**Table 2 Expansion of Health Infrastructure** 

*Note:* a. Includes six specialized hospitals.

A major challenge for HSDP IV is to ensure that the functionality of health infrastructure that has been rapidly expanded during the last five years and the quality of health services provided from the health post to the referral levels keep pace with this expansion in access. Utilization of health center services remains relatively low at 0.29 visits per capita in 2012 (FMOH 2012a), in part attributed to the quality of services and affordability. HSDP IV plans a big push to improve quality, including ensuring standards of speed of delivery, harmonization at the point of service through the integration of vertical programs, effectiveness of the services and patient safety, ethical and professional service delivery, and availability of the required inputs (human resources, finance, pharmaceuticals, and so forth).

To tackle the shortage of a skilled midlevel health workforce, the government has invested heavily in expanding medical schools and enrolling large numbers of students in the preservice training program. To bridge the health workforce gap at the primary health care level, Ethiopia has introduced a new cadre of health workers, called Health Officers, who are trained to provide many of the basic public health and clinical services at the primary care level. There has been remarkable achievement in increasing the number of Health Officers (over 3,000) and Health Extension Workers (over 35,000).

<sup>&</sup>lt;sup>5</sup> A kebele is part of a woreda (district) and is the smallest administrative unit of Ethiopia.

To improve the availability of essential medicines and medical supplies, a revolving drug fund has been established and logistics and supply chain management has been overhauled (FMOH 2012a). A new entity—the Pharmaceutical Fund and Supply Agency—was established in 2007 to improve efficiency in the procurement of health sector commodities and strengthen distribution. A commodity tracking and stock management study, conducted in 2011, reported a major improvement in the stock-out of essential commodities in primary health facilities.

#### 4. HEP Institutional Architecture and its Interaction with the Rest of the Health System

The Health Extension Program, launched in 2003 in the four big agrarian regions,<sup>6</sup> was expanded to the remaining regions in subsequent years. The program has been tailored to the particular requirements of pastoral and agropastoral communities and, more recently, to urban communities. The overall goal of the HEP is to create a healthy society and reduce rates of maternal and child morbidity and mortality. The objectives include (a) improving access to and equity of preventive essential health interventions at the village and household levels in line with the decentralization process to ensure health care coverage to the rural areas; (b) ensuring ownership and participation by increasing health awareness, knowledge, and skills among community members; (c) promoting gender equality in accessing health services; (d) improving the utilization of peripheral health services by bridging the gap between the communities and health facilities through Health Extension Workers; (e) reducing maternal and child mortality; and (f) promoting a healthy life style.

The HEP has rapidly expanded access to primary health care services, especially for rural communities of Ethiopia, within a short time. The key motivations for the introduction of the HEP are:

- Low coverage for health interventions known to have high impact. For example, in 2005, only 1.3 percent of under-five children slept under insecticide-treated nets, 32 percent of children exclusively breastfed, 37 percent of children with diarrhea were given oral rehydration therapy, 17 percent of children with a fever or cough were brought to a health facility, immunization coverage remained low, and only 6 percent of mothers were assisted by a skilled health worker during delivery (CSA and ICF International 2012).
- *Low access to essential health services*, particularly for the rural poor, and an overall shortage of health workers.
- A critical shortage of mid- and high-level health workers. Although Ethiopia has one of the highest numbers of health workers in Sub-Saharan Africa, its large population leaves it with a very low health-worker-to-population ratio. The Federal Ministry of Health reported 65,554 health workers—public, private, and NGO—which translates into a total density of 0.84 per 1,000 people (Feysa et al. 2012).
- *Weak institutional synergies* that limited the expansion of primary health care services.

The HEP, initiated and led by the government, is designed on the basis of experiences and challenges in the earlier community health workers initiatives, such as traditional birth attendants and other voluntary workers. In addition, there has been intensive South-South cooperation and

<sup>&</sup>lt;sup>6</sup> Amahra; Oromia; Southern Nations, Nationality and Peoples; and Tigray regions.

experience sharing with Kerala State, India. Moreover, the government expressed its strong political will about and commitment to the program by covering the cost of the design of the program and curriculum development; the training of HEWs; and a significant part of the salary of the HEWs, ensuring that they remain civil servants with defined career development. External support was sought for the construction of the health posts; supplying equipment, commodities, and supplies; and for capacity building.

The program became operational in 2004. It aimed to recruit, train, and deploy two female health extension workers to a health post that serves a population of 3,000 to 5,000 people. The program has a defined package of basic and essential promotive, preventive, and curative health services targeting households in a community, based on the principle of primary health care to improve the families' health status with their full participation. These services include high-impact and cost-effective interventions such as childhood vaccinations, family planning, prevention and treatment of malaria, and treatment of diarrhea and pneumonia (introduced recently) in under-five children. The HEP became a core component of the broader health system, and it is one of the core strategies adopted by Ethiopia to achieve universal primary health care coverage of the rural population by 2009, in the overall context of limited resources.

#### Selection of Health Extension Workers (HEWs)

The HEWs remain the key drivers of the program. HEWs are recruited based on nationally agreed criteria that include residence in the village, knowledge of the local language, graduation from 10th grade, and willingness to remain in the village and serve the community. Selection is done by a committee comprising members nominated by the local community and representatives from the woreda (district) health office, the wordea capacity building office, and the woreda education office.

#### **Training of Health Extension Workers**

All selected HEWs go through a year-long training, which includes practical training in health centers. The training is provided in the technical vocational education centers with the close collaboration of the Ministry of Education. Upon graduation, the HEWs are assigned to the village from which they came to provide HEP health services. HEWs work closely with voluntary Community Health Workers.<sup>7</sup> The village council and the health center support the HEWs. Recently, training in providing community-based care, such as treatment of sick children and the conduct of clean and safe deliveries, also started.

#### **Supportive Supervision**

A supervisory team consisting of members from different disciplines was established at the federal, regional, and woreda levels to guide and support HEWs in effectively performing their duties. The teams are involved in all aspects of program management including planning, implementation, and monitoring and evaluation. Members of the team are trained in skills needed for supportive supervision (facilitation, interpersonal communication, problem solving,

 $<sup>^{7}</sup>$  In the 2012 revised HEP guidelines, these volunteers are organized as Health Development teams in one-to-five networks.

and analytical skills), oriented to various tools and methods (such as peer review and performance assessment tools), and provided with opportunities to frequently upgrade their technical skills. The supervisors are trained in a specially designed curriculum. At each level, the supervisory team prepares its own annual plan, checklists, and detailed schedule for each supervisory visit.

#### Service Delivery by the Health Extension Program (HEP)

The HEWs were initially expected to spend more than 75 percent of their time on community outreach, visiting households, especially those with mothers and children. However, the 2012 revised HEP guidelines (FMOH 2012b) require the HEWs to distribute their time equally between the community and household level and the health post level to ensure that the health post is open for services throughout the week. Thus, while one of the HEWs is out in the community, the other will be able to provide services at the health post. For the household visits, priority will be given to households with (a) pregnant women, mothers who recently delivered, and infants; and (b) persons with chronic health problems. The goal is a satisfactory result in implementing the health extension packages.

The HEWs identify and train "model families" that have been involved in other development work or that have acceptance and credibility by the community, and that are early adopters of desirable health practices. Model families, as role models, help diffuse health messages leading to the adoption of the desired practices and behaviors by the community. The HEWs provide 60 hours of training to such households on selected HEP packages and follow the household's practices before graduation and certification of the household as a model family.

The HEWs use multiple implementation strategies at different levels in delivering services (FMOH 2012b). These include:

- *Household level:* Provide basic health care services including family planning, pre- and postnatal care, and immunization services; follow-up, prioritizing households with low performance in implementing the package and support them in all the health extension packages that are relevant to them; providing health education; and support and encourage model households to maintain their progress
- *Community level:* Communicate health messages disseminated by involving the community from the planning stage through evaluation. HEWs use community social networks (Idir, Ekub, and others), associations (women's, youth, and farmer's associations), religious institutions, and government structures (for example agricultural development stations). Organize, follow up, and provide supportive supervision and evaluation of the one to five networks and development teams; and conduct biweekly meetings to evaluate the performance of the development teams.
- *Schools and youth centers:* Engage schools and youth centers to deliver health education and services at youth centers; make schools models of HEP implementation and educate students; and organize or use existing school clubs to train students on important health issues.
- *Health posts:* HEWs provide integrated community case management for childhood illnesses; maintain cold chains for vaccines; provide vaccination services, family

planning services, and pre- and postnatal care; identify children and pregnant or breastfeeding mothers with nutritional deficiencies and provide nutritional counseling; conduct monthly discussions for pregnant women; provide first-aid service; treat malaria according to results of blood tests using rapid diagnostic tests; counseling on and testing for HIV<sup>8</sup>; conduct community-based tuberculosis prevention and control services; treat trachoma cases and provide advice on prevention; provide treatment for scabies; refer clients and patients to health centers for services above the level of the health post; organize demonstration sites at health post to carry out health education; register daily activities; organize files; compile information and submit reports regularly; and prepare, update, and post health and health-related information throughout graphs and charts in a visible place in the health post.

#### Roles and Responsibilities for the HEP at Different Levels of Government

The Ministry of Health and various levels of government are involved in the design, implementation, and supervision of the HEP.

- *The Federal Ministry of Health* is responsible for the overall program concept, standards, and implementation guidelines. It determines the career structure for HEWs and mobilizes national and international resources, and provides communication tools and materials and procures medical equipment and supplies. The Federal Ministry of Health also sets up the health management information system.
- *The Regional Health Bureaus/Zonal Health Departments* provide technical and administrative support to Woreda Health Offices; adapt implementation guidelines to local conditions; adapt communication tools and materials into local languages and distributes them to woredas; obtain reports from Woreda Health Offices and provide information to the Ministry of Health. They mobilize regional resources, establish referral systems between health posts and health centers, and strengthen the health management information system.
- *The Woreda Health Office* provides technical, administrative, and financial support to the HEP. It allocates budgets and supplies to health centers and health posts and adapts communication materials. The Woreda Health Office provides supportive supervision of HEWs and the overall management of health centers and health posts. It also plans and provides in-service training to HEWs and Woreda Health Office staff and obtains reports from health posts and health centers and provides information to Regional Health Bureaus or Zonal Health Departments.
- *Health Extension Workers* manage operations of health posts; conduct home visits and outreach services to promote preventive actions; provide referral services to health centers, and follow up on referrals. They also identify, train, and collaborate with voluntary Community Health Workers and provide reports to Woreda Health Offices.

<sup>&</sup>lt;sup>8</sup> This service will be carried out by HEWs that have completed Level IV training.

#### 5. Targeting, Identification, and Enrolment of Beneficiaries

The HEP is designed to take services closer to the people, particularly in rural and underserved communities. HEP services are provided free of charge and are available to everyone. Upon assignment, HEWs conduct a baseline survey of the village, using a standardized tool. They map households and the population by age category. They also prioritize health problems of the village, set targets with respect to the 16 packages of services, and draft a plan of action for the year. The draft plan of action is then submitted to the village council for approval. The plans are also disseminated to the district and regional councils and health offices.

#### 6. Special Topics Related to the Management of Public HEP Funds

Since HEP services are provided free of charge, HEWs do not manage funds. Salaries for HEWs are paid through the woredas. Commodities and supplies for health posts are delivered mainly through the regular logistics system of supplies to the health centers managed by the Pharmaceuticals Funds and Supply Agency. Some commodities such as contraceptives, vaccines, and insecticide-treated nets are also financed through the MDG Performance Fund (a pooled fund managed by the Federal Ministry of Health using government procedures). In some instances, these commodities may be centrally procured and delivered directly to the health post by the Federal Ministry of Health.

#### 7. Management of the HEP Benefits Package

The package of services delivered through the HEP consists of 16 health interventions organized under four major categories: disease prevention and control, maternal and child health, hygiene and environmental sanitation, and health education (table 3). These services are provided free of charge. The government covers most of the salary and recurrent costs. The contributions of development partners are used to supply HEP with equipment, commodities, and supplies, and continued capacity building of the HEWs.

Disease Prevention and Control	Hygiene and Environmental Sanitation
HIV/AIDS and other sexually transmitted infections     prevention and control     There because the second se	<ul><li>Excreta disposal</li><li>Solid and liquid waste disposal</li></ul>
<ul> <li>I uberculosis prevention and control</li> <li>Malaria prevention and control</li> </ul>	<ul> <li>Water supply and safety measures</li> <li>Food hygiene and safety measures</li> </ul>
<ul><li>First-aid emergency measures</li><li>Family health</li></ul>	<ul><li>Healthy home environment</li><li>Personal hygiene</li></ul>
Maternal and Child Health	Rodent control
<ul><li>Family planning</li><li>Immunization</li></ul>	Health Education and Communication
<ul><li>Nutrition</li><li>Adolescent reproductive health</li></ul>	

#### Table 3 Package of HEP Interventions

#### 8. The HEP Information Environment

Information systems that facilitate the collection, analysis, use, and dissemination of data significantly improve the support provided to the HEP, as well as the quality and relevance of the HEP to beneficiary communities. Accordingly, the Federal Ministry of Health designed a robust, simplified, and standardized health management information system contextualized to the Ethiopian setting (Bilal et al. 2011). Family folders were developed based on the 16 packages of health interventions, and health extension workers and HEP supervisors were trained on their application and use. Each household is expected to have a family folder that records the status of its members (for family planning, prenatal care, expanded program of immunization, and so forth) and the household in general (ownership and use of a latrine, clean water supply and use, waste disposal, and so forth) in terms of completing the desired changes indicated in the HEP.

The HEWs collect information using standardized reporting formats and pass it on to the kebele Council and Woreda Health Office for review and action. At the kebele level, the kebele Committee, HEP, and voluntary Community Health Workers meet weekly and provide a report to the kebele cabinet on program implementation. During town hall meetings the community identifies weaknesses and strengths and provides ideas for improvement.

#### **HEP Indicators**

Key HEP indicators include:

- Access to and utilization of preventive and promotive health services, referrals to health centers, adequately staffed and well-maintained health posts, participation in basic health and demographic data collection, and provision of financial support for health posts.
- Immunization, breastfeeding, use of oral rehydration salts, adolescent parenthood, prenatal care, assisted delivery, contraceptive use, and tetanus toxoid immunization.
- Use of insecticide-treated nets, antimalarial drugs, HIV and sexually transmitted infections, tuberculosis follow-up, and first-aid and self-care.
- Facilities for liquid and solid waste disposal, safe drinking water, healthy home environment, and sanitation and hygiene.

#### 9. Discussion of Themes Specific to this Country

The following three themes stand out in the design and implementation of the HEP:

• *Strong direction and leadership provided by the government* at the highest political level. There has been political will and commitment at all levels of government, from design to implementation of the program. The government covers most of the recurring costs of the program through its annual budget. The government leadership and commitment has enabled the program to be scaled up to the national level in very short time. There is strong ownership by the community, and the program management is integrated into the decentralized structures of the country. The management and support of the HEP is aligned with the overall government decentralized policy. Thus, the woredas are primarily responsible for the implementation, supervision, and management of the HEP.

- Unique design features of the program, which include a combination of supply- and demand-side approaches and ensuring that only local residents willing to serve the community are selected as HEWs, who remain the backbone for the program. Ensuring that all HEWs are civil servants with a career path, and learning from past experiences of community health initiatives within Ethiopia and in other countries. Finally, emphasis on improving household behaviors using model families and objective criteria for a household to graduate and support five more households.
- *Country-relevant strategies to remove supply-side constraints* on expanding primary health care services rapidly. The HEP has, to a large extent, succeeded in addressing the following supply-side constraints in a relatively short time: (a) over 35,000 HEWs have been recruited, trained, and deployed to rural Ethiopia in about three years from the start of the program; (b) over 15,000 health posts have been constructed and equipped with the active participation and contribution of the community; and (c) there has been an improvement in the availability of essential commodities and supplies at the health post. To complement the budget allocation with contributions of partners, the Federal Ministry of Health established a pooled fund (MDG Fund). A result of continued dialogue over the years, the MDG Fund materialized following the signing of the International Health Partnership (IHP+) country compact. The Fund is managed by the Federal Ministry of Health in accordance with the Joint Financing Arrangement that is signed by many of the partners working in the health sector. Among other things, the Fund is used to support the HEP, particularly to procure commodities and supplies.

Since its rollout in 2004, the HEP has shown substantial outcomes in areas related to disease prevention, family health, hygiene, and environmental sanitation. The HEP has been central to community health system strengthening, including providing standards and manuals and regular evaluation of the program. It has also been key in the provision of in-service training focused on identified skills gaps, and supportive supervision.

The program has also aided development of community information systems. The HEP evaluation, conducted in 2010 (CNHDE 2012), validates significant program achievements. In addition, there is increasing and converging evidence that the HSDP strategy of predominantly targeting efforts at the community level through the HEP has moved Ethiopia onto an improved trend path for child mortality (Admassiea, Abebawa, and Woldemichael 2009; CNHDE 2008; CSA and ICF 2012; Medhanyie et al. 2012). Some of the results include:

• *Family planning:* Between 2005 and 2011, use of modern family planning methods among married women has more than doubled, increasing from 10.9 percent to 23.4 percent (CSA and ICF International 2012) (figure 6). This high uptake in family planning is due to the contribution of the HEWs and the availability of contraceptives through the HEP. The HEP evaluation (CNHDE 2012) also reported a comparable figure, that is, 28.7 percent of married women currently use modern contraceptive methods. The current use of any contraceptive method among married women was higher among model-family households (44.3 percent).





- Access to safe or improved water supply: There has been a rapid increase—from 35 percent in 2005 to 54 percent in 2011—in the percentage of households in Ethiopia that use some type of improved source of drinking water (CSA and ICF International 2012). However, the 2010 HEP evaluation reported a much higher figure—about 62 percent—of people reported to have access to safe or improved water supply sources, with high coverage in Dire Dawa (89 percent) and Tigray (77 percent), and low coverage in Harari (29 percent) and Afar (42 percent) regions (CNHDE 2012).
- *Treatment of diarrhea:* Comparable data from the 2000 and 2005 Ethiopia Demographic and Health Surveys show an increase in mothers' health-seeking behavior for children with diarrhea over the last decade. The percentage of children with diarrhea who were taken to a health provider increased steadily from 13 percent in 2000 to 22 percent in 2005 and to 32 percent in 2011 (CSA and ICF International 2012).

Though difficult to directly attribute, largely as a result of the rollout of the HEP program, gains have been seen in access to community-level preventive and basic curative services over the last five years. Data from the 2011 Demographic and Health Survey (CSA and ICF International 2012) indicate the following improvements in health indicators between 2005 and 2011: underfive mortality declined from 123 per 1,000 live births to 88 per 1,000 live births; the contraceptive prevalence rate increased from 15 percent to 29 percent; stunting in children under five decreased from 52 percent to 44 percent; the prevalence of anemia among women decreased from 27 percent to 17 percent; the total fertility rate decreased from 5.4 to 4.8; skilled birth delivery increased from 5 percent to 10 percent; and the use of insecticide-treated nets increased from 1.3 percent to 42 percent.

#### 10. Pending Agenda

For increased and sustained HEP results, a number of pending agenda items or challenges will need to be addressed.

• *Improving quality of services:* The program was rolled out in a relatively short time and has been scaled up initially in all rural Ethiopian villages. The expansion in infrastructure networks is, however, not matched with the necessary quality requirements. For instance,

the HEWs have not received sufficient practical training and lack skills in assisted delivery. Maternal mortality is an area that Ethiopia lags in the health MDGs. How best to use the HEWs in tackling this important MDG agenda will remain an important area for policy discussion. In addition, the evaluation of the HEP (CNHDE 2012) has revealed stock-outs of essential commodities at the health post level. This will negatively influence service utilization and perceived quality of care.

- *Enhancing HEW skills and performance:* HEWs are found to be weak in health facility deliveries, skilled birth attendance, and on-time referral through early identification of danger signs. In a recent study (Medhanyie et al. 2012), more than half—54 percent—of HEWs had poor knowledge about the contents of prenatal care counseling, and the majority—88 percent—had poor knowledge about danger symptoms, danger signs, and complications in pregnancy. Hence, there is an urgent need to design appropriate strategies to improve the performance of HEWs by enhancing their knowledge and competencies, while creating appropriate work conditions.
- *Sustaining HEWs:* The government has done a tremendous job in recruiting and deploying the HEWs and in replacing those who leave the program. However, sustaining the current practice of replacement and training can be a challenge. There is an ongoing dialogue on the career development path of HEWs.



#### Annex 1 Financial Flow Chart, 2007/2008

\* includes funds managed by other central government

#### **Annex 2 Spider Web**

## I. Outcomes comparisons: Ethiopia and Low Income Countries



Note on interpretation: In this plot 'higher' is 'worse' - since these indicators are positive measures of mortality / morbidity. Life expectancy is converted to be an inverse measure.

The values on the radar plot have been standardized with respect to the average low income country value.

The table below summarizes outcome comparisons with the average low income country (LIC).

< -50% [-25%;-50%] [-25%;+25%] [+25%;+50%] > 50%

Country Data	Ethiopia	LIC	% Diff.	
GNI pc (2000 USD)	123.8	258.2	-52.1%	
IMR	67.8	69.7	-2.8%	
U5MR	105.9	107.9	-1.8%	
Stunting	50.7	41.0	23.7%	
MMR	350.0	410.0	-14.6%	
Adult Mortality	304.3	296.6	2.6%	
100-Life Expectancy	41.3	41.2	0.3%	
Neonatal Mortality	35.0	33-5	4.5%	
CD mortality	66.0	67.0	-1.5%	

IMR: Infant mortality rate (2010). U5MR: Under-5 mortality rate (2010). Stunting: prevalence of low height-for-age among children under 5 (2010). MMR: Maternal mortality rate (2010) per 100 000 live births. Adult mortality: Adult mortality rate per 1000 male adults (2010). [100-(life expectancy)]: Life expectancy at birth (2010) subtracted from maximum of 100. Neonatal mortality: Neonatal mortality per 1000 living births. CD as cause of death: Communicable diseases as cause of death (% total). All data from World Bank's World Development Indicators. Income averages for stunting calculated by Bank staff and are unweighted.

### II. Inputs comparisons Ethiopia and Low Income Countries



THE as % of GDP: Health expenditure, total (% of GDP) (2010). Hospital bed density: Hospital beds per 1,000 people (latest available year). Physician density: Physicians per 1,000 people (latest available year). Nurse/midwife density: Nurses and midwives per 1,000 people (latest available year). GHE as % of THE/10: Public health expenditure (% of total expenditure on health) (2010). All data from World Bank's World Development Indicators.

-8.3%

## III. Coverage comparisons Ethiopia and Low Income Countries



DPT immunization: % of children aged 12-23 months with DPT immunization (2010). Prenatal services: % of pregnant women receiving prenatal care (latest available year). Contraceptive prevalence: % of women ages 15-49 using contraception (latest available year). Skilled birth attendance: % of all births attended by skilled health staff (latest available year). Improved sanitation: % of population with access to improved sanitation facilities (2010). TB treatment success: Tuberculosis treatment success: a (% of registered cases). All data from World Bank's World Development Indicators.

## IV. Infrastructure comparisons Ethiopia and Low Income Countries



#### Note on interpretation: In this plot 'higher' is 'better' – since these indicators are positive measures of provision of certain good / service, and a measure of urban development.

The values on the radar plot have been standardized with respect to the average low income country value.

The table below summarizes infrastructure comparisons with the average low income country (LIC).

Country Data	Ethiopia L	IC	% Diff.
GNI pc (2000 USD)	123.8	258.2	-52.1%
Paved roads	13.7	20.7	-34.0%
Mobile phones	16.7	40.8	-59.1%
Internet	1.1	5.9	-81.5%
Water	44.0	65.1	-32.5%

Paved roads: % of total roads paved (most recent). Internet users: users per 100 people (2010, with some estimates from prior years). Mobile phone users: mobile cellular subscriptions per 100 people (2010). Access to improved water: % of population with access to improved water source (2010). All data from World Bank's World Development Indicators.

## V. Demography comparisons Ethiopia and Low Income Countries



TFR: total fertility rate (births per woman), 2009. Dependency ratio: % of working-age population (2010) aged less than 15 or more than 64. Youth dependency: % of working-age population (2010) aged less than 15. Rurality: % of total population in rural areas (2010). All data from World Bank's World Development Indicators.

## VI. Inequality comparisons Ethiopia and Low Income Countries



Note on interpretation: In this plot 'higher' is 'inequal' and indicators here measure inequalities in selected health outcomes by taking the ratio of prevalence between Q1 and Q5.

The values on the radar plot have been standardized with respect to the average low income country value.

The table below summarizes inequality indicators comparisons with the average low income country (LIC).

< -50%
[-25%;-50%]
[-25%;+25%]
[+25%;+50%]
> 50%

Country Data	Ethiopia I	LIC	% Diff.	
GNI pc (2000 USD)	123.8	258.2	-52.1%	
IMR Q1/Q5	1.3	1.7	-21.7%	
U5MR Q1/Q5	1.4	1.8	-21.5%	
Stunting Q1/Q5	1.4	1.9	-28.0%	
ARI Q1/Q5	1.1	1.2	-5.1%	
Diarrhea 01/05	1.2	1.2	-4.2%	

All indicators measure the ratio of prevalence between the poorest (in Q1, the first wealth distribution quintile) and the richest (in Q5, the fifth wealth distribution quintile). The data (latest data available) are taken from HNPstats (<a href="http://data.worldbank.org/data-catalog/HNPquintile">http://data.worldbank.org/data-catalog/HNPquintile</a>).

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The World Bank supports the efforts of countries to share prosperity by transitioning toward universal health coverage (UHC) with the objectives of improving health outcomes, reducing the financial risks associated with ill health, and increasing equity. The Bank recognizes that there are many paths toward UHC and does not endorse a particular path or set of organizational or financial arrangements to reach it. Regardless of the path chosen, the quality of the instruments and institutions countries establish to implement UHC are essential to its success. Countries will face a variety of challenges during the implementation phase as they strive to expand health coverage. With that in mind, the World Bank launched the Universal Health Coverage Studies Series (UNICO Studies Series) to develop knowledge and operational tools designed to help countries tackle these implementation challenges in ways that are fiscally sustainable and that enhance equity and efficiency. The UNICO Studies Series consists of technical papers and country case studies that analyze different issues related to the challenges of UHC policy implementation.

The case studies in the series are based on the use of a standardized protocol to analyze the nuts and bolts of 27 programs in 25 countries that have expanded coverage from the bottom up, starting with the poor and vulnerable. The protocol consists of 300 questions designed to elicit a detailed understanding of how countries are implementing five sets of policies to accomplish the following:

- Manage the benefits package
- Manage processes to include the poor and vulnerable
- Nudge efficiency reforms to the provision of care
- Address new challenges in primary care
- Tweak financing mechanisms to align the incentives of different stakeholders in the health sector

The UNICO Studies Series aims to provide UHC implementers with an expanded toolbox. The protocol, case studies and technical papers are being published as part of the Series. A comparative analysis of the case studies will be available in 2013.

