

# Health Extension Program: An Innovative Solution to Public Health Challenges of Ethiopia A Case Study

## Abstract

The Health Extension Program is a flagship of the Ethiopian Health Sector Development Program: an innovative intervention marked by institutionalization of primary health care, government leadership, and the alignment and substantial support of development partners. Most importantly, the program is the main vehicle for achieving the Ethiopia's health Millennium Development Goals. This report is based on a secondary document review and the author's experience with the program. As such, it presents the programs' content, context, rationale, and strategy for implementation as well as early benefits in terms of health outcomes.



## BACKGROUND

Located in the Horn of Africa, Ethiopia is strategically positioned at the crossroads between Africa, the Middle East, and Asia. It covers an area of approximately 1.14 million square kilometers and is one of Africa's most populous countries: the 2007 Population and Housing Census counted a population of about 73.75 million, of which males constituted 50.5 percent and females 49.5 percent. Population density was 64.1 per sq. km. Average life expectancy was 53.42 and 55.42 years for males and females, respectively.

Nearly 84 percent of the population (32.50 million people) lived in rural areas while the remainder (16 percent, 6.95 million) was urban. Based on the country's annual growth rate of 2.6 percent, the commission estimated the population in 2009/10 to be nearly 80 million (Population Census Commission 2008).

Adopted in 1995, the constitution that established the Federal Democratic Republic of Ethiopia provides for a system structurally based on a federal government, nine autonomous states, and two chartered cities (Addis Ababa and Dire Dawa).

The urban/rural population breakdown cited above reflects the make-up of Ethiopia's economy. An estimated 85 percent of the population earns its livelihood directly or indirectly from agricultural production. Coffee exports account for more than 65 percent of foreign exchange earnings, while processed and semi-processed hides and skins are the second most important foreign exchange earners.

Though largely agrarian, Ethiopia has one of the fastest growing economies in the world. Between 2005/06 and 2009/10, the economy experienced an annual average growth of 11 percent (Ministry of Finance and Economic Development 2010). The best-case scenario of the Growth and Transformation Plan for 2010/11–2014/15 predicts the economy will continue to grow at that same rate; it set the high-case scenario at 14.9 percent. Such a high rate of growth would transform the trajectory of the Ethiopian economy in terms of both magnitude and structure.

## RATIONALE FOR A HEALTH EXTENSION PROGRAM

Before the 1990s, Ethiopia's health care delivery system was ineffective and inefficient, characterized by top-heavy and uncoordinated planning and implementation. The health service system had eight specialized vertical programs: malaria and other vector-borne

diseases, tuberculosis prevention and control, leprosy control, HIV/AIDS and other sexually transmitted disease prevention and control, the expanded program on immunization, control of diarrheal diseases, acute respiratory diseases control and prevention, and control of micronutrient deficiency diseases. Though the priorities were correct, the programs were poorly integrated and lacked appropriate direction and management, leading to inefficiency and limited impact.

Country health problems were dominated by preventable and communicable diseases, which constituted 60–80 percent of the disease burden (FMOH 2010a). Aggravating this was the rapidly growing population and poor infrastructure, which had been crippled by the decades of war and neglect. The health institutions were few compared to the size of the population and ill-equipped and inequitably distributed. In 1994, roughly 50 percent of Ethiopia's health facilities were in urban areas with over 30 percent needing either major repair or replacement. The health sector was poorly financed and had the following characteristics (FMOH 1998):

- The sector's share of government expenditures was less than 5 percent (under 2 percent of the Gross Domestic Product).
- Curative care dominated most health spending as demonstrated by the allocation of a significant proportion of the health budget to hospitals in the capital.
- The cost recovery (user fees) system was ad hoc and grossly inefficient and misused.

The sector was further characterized by an acute and chronic shortage of human resources coupled with poor community and private sector participation in service delivery and management. The pattern of distribution of human resources for health was skewed toward urban centers, following the distribution of health facilities. Voluntary community health workers of different types were introduced in the mid-1990s to deliver health promotion and prevention services and commodities, such as antenatal care, contraceptives, and delivery services. These workers included community health agents, community-based reproductive health agents,



and trained traditional birth attendants. However, the functionality and sustainability of these arrangements proved to be unsatisfactory due to their voluntary nature and the poor ownership of the lower levels of the government structures.

## DESIGN AND IMPLEMENTATION OF THE HEALTH EXTENSION PROGRAM

In 1993 the government published the country's first health policy in 50 years, articulating a vision for the health care sector development (FMOH 1993). The policy fully reorganized the health services delivery system as contributing positively to the country's overall socioeconomic development efforts. Its major themes focus on:

- Democratization and decentralization of health system;
- Expanding the primary health care system and emphasizing preventive, promotional, and basic curative health services; and
- Encouraging partnerships and the participation of the community and nongovernmental actors.

In pursuit of the health policy goals of improving the health status of the Ethiopian population and to implement the health policy, a Health Sector Development Program (HSDP) was developed every five years beginning in 1997/98. HSDP II included a strategy, called the Health Extension Program (HEP), for scaling up an institutionalized primary health care system. HEP was pilot tested and readied for scale-up in 2005. Implementation tools were defined and covered a package of health care interventions, delivery mechanisms, and human resource development for HEP. These tools also outlined the roles and responsibilities of the various health sector actors.

HEP is premised on the belief that access and quality of primary health care for rural communities can be improved through the transfer of health knowledge and skills to households. HEP aims to improve primary health services in rural areas through an innovative community-based approach that focuses on prevention, healthy living, and basic curative care.

Health extension workers (HEWs) are recruited based on nationally agreed-upon criteria that include residence in the village, knowledge of the local language, graduation from 10th grade, and willingness to go back to the village and serve the community (FMOH 2006). Two female trainees from the community are admitted to technical, vocational, and educational training institutions with a short practical training in health centers; the training lasts a year. After graduation, HEWs are assigned to the village from which they came to provide HEP health services. The local government pays their salary.

HEWs are all female except in pastoralist areas (discussed below). This arrangement was chosen after examining a number of issues. For most of the rural population, mothers and children are the accessible members of the household during house-to-house visits, as men spend most of their time farming. Female HEWs are also culturally more acceptable than males would be for family health-related interactions. Furthermore, because the formal labor market is male dominated, women are likely more available. Lastly, availing women as HEWs would help balance gender in the labor market.

The design of the package of HEW-provided health interventions was based on an analysis of major disease burdens for most of the population. The package consists of 17 health interventions from the four major categories (i.e., family health (maternal, newborn, and child health care), disease prevention and control, personal and environmental hygiene, and health education) (Table 1). Disease prevention and control includes in Ethiopia's case diagnostic and treatment services for malaria and pneumonia, the leading causes of morbidity and mortality of adults and children, respectively.

**TABLE I. PACKAGE OF HEP HEALTH INTERVENTIONS**

<b>Disease Prevention and Control</b>	<b>Hygiene and Environmental Sanitation</b>
HIV/AIDS and other sexually transmitted infection (STI) prevention and control	Excreta disposal
Tuberculosis (TB) prevention and control	Solid and liquid waste disposal
Malaria prevention and control	Water supply and safety measures
First aid emergency measures	Food hygiene and safety measures
Family health	Healthy home environment
Maternal and child health	Personal hygiene
Family planning	Rodent control
Immunization	Health education and communication
Nutrition	
Adolescent reproductive health	

After analysis of the socioeconomic, cultural, and environmental diversities of the Ethiopian population, three versions of the HEP were designed and implemented: the agrarian HEP, which covers more than 80 percent of the population; the pastoralist HEP; and the urban HEP. Basic principles underpin the design and implementation of each. Variations include gender differences of the HEWs in alignment with the populations being served: almost all HEWs in agrarian areas are female, male health workers dominate the pastoralist HEP given the cultural and environmental factors, and in urban areas the intervention package was modified to focus on chronic health problems, environmental issues, etc.

Two women (outside pastoralist areas) are deployed to each village, and one is expected to be or become a member of the village council, a political body in charge of village administration. Upon deployment, HEWs assess the village to understand the context, resources, population structure, and priority health problems. They select “model families” in collaboration with the village administration. Selected families have achieved significantly and been recognized in areas such as agricultural productivity. HEWs train these families for 96 hours. The training is not limited to theoretical aspects of health promotion and disease prevention: criteria for certification of a household include visible changes

in behavior; for example, owning and using a latrine, proper hand washing, completing immunization schedules by eligible mothers and children, and the accessing of antenatal care by pregnant mothers. Model families are expected to disseminate their knowledge and behavior to other households to support the HEWs’ efforts.

Critical thought informed the design of HEP in terms of support required from various stakeholders. The communities (and model families) are expected to cooperate and disseminate health knowledge and practices. The local village administration supports HEP by providing political leadership, mobilizing the communities, and monitoring the performance of HEWs based on an agreed plan. The nearest health center provides technical support to the HEWs, and serves as a logistic hub for HEWs and a referral center for HEW-referred clients and patients. One HEP supervisor in each health center supervises the HEWs in the health center’s catchment area.

The district government collaborates with villagers to construct a health post for every 5,000 people. The health post is the locus of the HEWs’ operation. The Federal Ministry of Health (FMOH) provides the curriculum and guidance on the recruitment of HEWs and mobilizes resources from development partners for procurement and distribution of medical equipment and supplies for the health posts. The regional health bureaus and zonal

health departments provide strategic leadership as well as technical support to the districts in implementing HEP. They also cover the stipend and salaries of HEWs during training and deployment, respectively. There is also a large group of donors, such as the U.S. Agency for International Development, that provides both technical and logistical support – refresher training, distribution of supplies, etc. – to HEWs through the various implementing partners.

## PROGRESS TO DATE

Since becoming operational in 2004, HEP has had tangible effects on the thinking and practices of rural people regarding disease prevention, family health, hygiene, and environmental sanitation, as described below.

### IMPROVED ACCESS TO HEALTH SERVICES IN REMOTE VILLAGES

The HEP has significantly corrected the skewed distribution of health facilities and human resources. In five years, Ethiopia’s human resources for health doubled as a result of the deployment of more than 34,000 HEWs (Figure 1). A 2010 study indicates that about 92 percent of households were within an hour’s (5 km) distance from a health facility. HEP has enabled Ethiopia to increase primary health care coverage from 76.9 percent in 2005 to 90 percent in 2010. Physical access to health facilities ranged from 84.5 percent in Benshangul Gumuz to 96.2 percent in the Southern Nations, Nationalities, and Peoples (SNNP) region in 2010. This has reduced the

average time taken to reach the nearest health facility by half – from 60 minutes in 2005 to 30 minutes in 2010 – for the three largest regions (Amhara, Oromia, and SNNP).

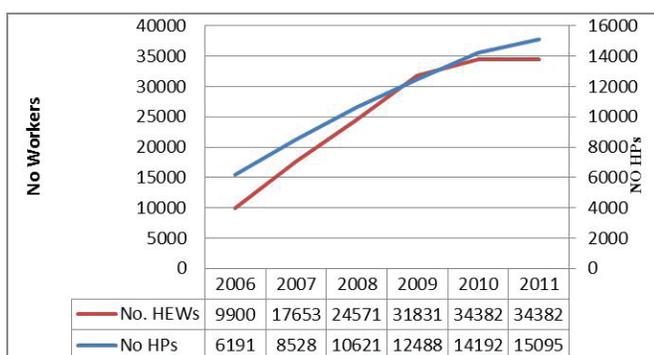
Since the beginning of the scale-up, more than 15,000 health posts have been built and more than 34,000 HEWs deployed (FMOH 2010b).

A 2010 nationwide study found that over half (52 percent) of the health posts were open for at least five days a week, and about 62 percent were open on Saturdays and/or Sundays. It also found that most health posts provide immunization (89.7 percent), family planning (87.7 percent), and antenatal care (86 percent) services. However, less than 50 percent offered delivery services (45.1 percent), outpatient treatment program (33.2 percent), and management of childhood illnesses (31.7 percent) (FMOH 2010c).

### GREATER ACCESS TO TOILET FACILITIES

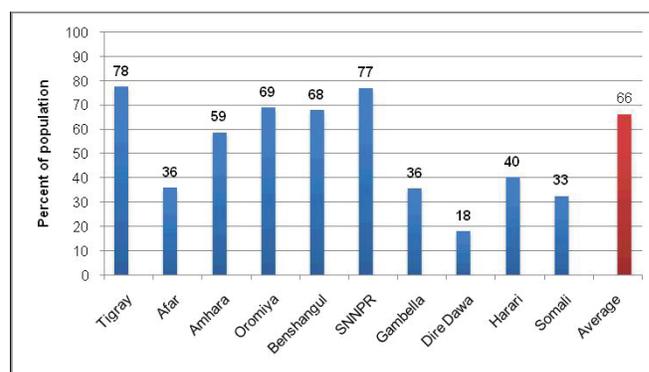
Overall, two-thirds (66.4 percent) of the rural population now have access to improved toilet facilities (Figure 2), with higher percentages among people in Tigray (77.6 percent) and SNNP (77.1 percent). Those people who did not build a toilet facility gave as reasons lack of awareness of the importance of latrine use, followed by high cost, lack of skill to build one, lack of land space, and cultural reasons (FMOH and UNICEF 2010).

**FIGURE 1. GROWTH IN THE NUMBER OF HEWS AND HEALTH POSTS**



Source: FMOH (2010c).

**FIGURE 2. ACCESS TO TOILET FACILITIES BY REGION, RURAL ETHIOPIA, 2010**



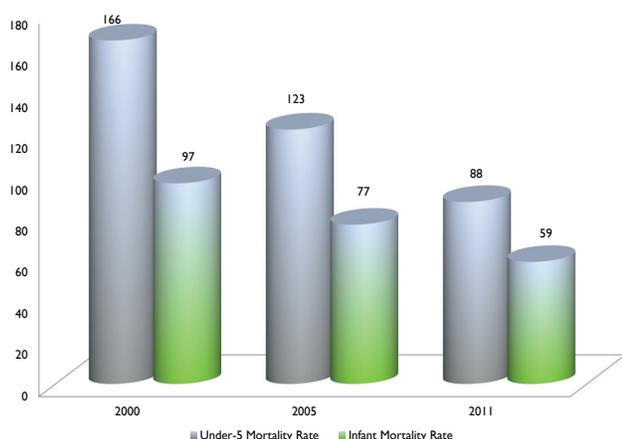
Source: FMOH and UNICEF (2010).

## IMPROVED USE OF HEALTH SERVICES IN RURAL COMMUNITIES

Coverage of primary health services has increased in Ethiopia. The contraceptive prevalence rate doubled in five years, from 15 percent in 2005 to 29 percent in 2011. While among urban women this rate rose only slightly in the period (from 47 to 53 percent), it doubled among rural women (from 11 percent to 23 percent) (Central Statistical Agency and ICF Macro 2011, henceforth referred to as the Demographic and Health Survey 2011, i.e., DHS 2011). In addition, 48 percent of last births were protected against neonatal tetanus, a large increase from the 2005 DHS estimate of 32 percent.

The DHS 2011 results show that 34 percent of women who gave birth in the five years preceding the survey received antenatal care at least once for their last birth. This is an increase of 12 percent since the 2005 DHS estimate (28 percent). Countrywide, 10 percent of women receive antenatal care from an HEW: 12 percent in rural areas and 18 percent and 14 percent, respectively, in the Tigray and SNNP regions. Figure 3 shows infant mortality rate, and the under-five mortality rate from three DHS reports.

**FIGURE 3. PROGRESS ON INFANT AND UNDER-FIVE CHILD MORTALITY RATES**



Sources: DHS (2000, 2005, and 2011).

Note: U5MR=under-five mortality rate, IMR= infant mortality rate,

More than 66 percent of children received BCG (anti-TB vaccine); 82 percent received the first dose of polio vaccine; and 64 percent received the first dose of DPT/pentavalent (DHS 2011), all increases since the 2005 DHS estimates. The 2011 DHS found that 37 percent of children had completed the DPT/pentavalent series and that 44 percent had completed that for polio. Coverage of vaccination against measles was 56 percent. Overall, 15 percent of children in Ethiopia had not received any vaccinations, as compared to 24 percent in 2005.

The 2011 DHS shows a rapid decrease in infant and under-five mortality during the five years prior to the survey compared to the period 5–9 years prior. For the five years immediately preceding the survey (corresponding roughly to 2006–2010), the infant mortality rate was 59 deaths per 1,000 live births. The estimate of child mortality was 31 deaths per 1,000 children surviving to 12 months, while the overall under-five mortality rate for that period is 88 deaths per 1,000 live births.

A community satisfaction survey covering more than 10,000 people indicated that 60 percent of the respondents rated all components of the HEP services as very satisfactory or satisfactory, with family planning receiving the highest score (76.5 percent). Most respondents had a favorable opinion of the performance and social behavior of HEWs. About 42 percent of respondents had heard about voluntary community health providers (vCHPs), and half (49.6 percent) of them had been visited by vCHPs. The most common service received from vCHPs was health education (43.8 percent) (FMOH 2010c).

**Challenges:** Some high-impact interventions such as clean and safe delivery are not implemented well by HEWs. The barriers identified are little demand from the community and inadequate skills of the HEWs. The FMOH has designed and implemented a number of strategies to improve this situation, but subsequent evaluations show no significant improvement, perhaps indicating the limits of what HEWs can offer in this area.

## CONCLUSION AND LESSONS LEARNED

HEP was initiated in response to a health system that was centralized, urban biased, inefficient, and poorly aligned with the country's major public health problems. Before HEP, the system also suffered from weak infrastructure and insufficient human resources and financing, along with a lack of community participation. Primary health care was poorly institutionalized, relying heavily on voluntary community-based workers who proved to be dysfunctional and unsustainable. The following are factors that have contributed to the success of HEP and that can improve the performance of this program and inform the replication of similar programs.

### OWNERSHIP AND LEADERSHIP BY THE GOVERNMENT AND LOCAL COMMUNITIES

HEP is a product of government ownership and leadership. The program has been made part of the government development agenda at all levels. The roles and responsibilities of the FMOH, local governments, and communities are clearly defined and regularly monitored.

Beneficiary communities are involved at all stages. The village community is in charge of providing material and labor support for the construction and maintenance of health posts; participating in health promotion campaigns such as clearing malaria breeding sites; and, most importantly, facilitating the work of HEWs.



Because HEP's basic approach is to enable families to take full responsibility for their health by transferring knowledge and skills, it considers each household a unit providing health services. To this end, HEWs target households, provide training for over 90 hours, and move on once the household has mastered the skills and is certified. The certification is based not only on hours of training, but also on demonstration by the household of practical behavior changes with respect to the package of 17 interventions, such as constructing and using a latrine, hand washing, immunizing children and mothers, and using insecticide-treated bed nets in malaria-prevalent areas.

HEWs have a presence on village councils. The district administration is expected to secure a budget for HEP, including salaries for HEWs, and to facilitate the planning and monitoring of HEWs.

### RELEVANCE TO THE CONTEXT THROUGHOUT THE PROCESS

In selecting, designing, and implementing a national program such as HEP, it is important to give attention to technical relevance and cultural sensitivities. To this end, the health interventions were selected based on their relevance and effectiveness in reversing major public health problems in the country as well as the ease of delivering them at low-cost through the deployment of HEWs.

To avoid a one-size-fits-all approach, three versions of HEP were designed to tailor the interventions and mode of delivery to the various settings (agrarian, urban, and pastoralist). The gender selection of HEWs reflects the population's sensitivities, relevance to the audience in the household, the greater availability of women than men in homes during working hours, and current gender imbalances in the health labor market.

### STRONGER PARTNERSHIPS AND GREATER INVESTMENT IN HEALTH

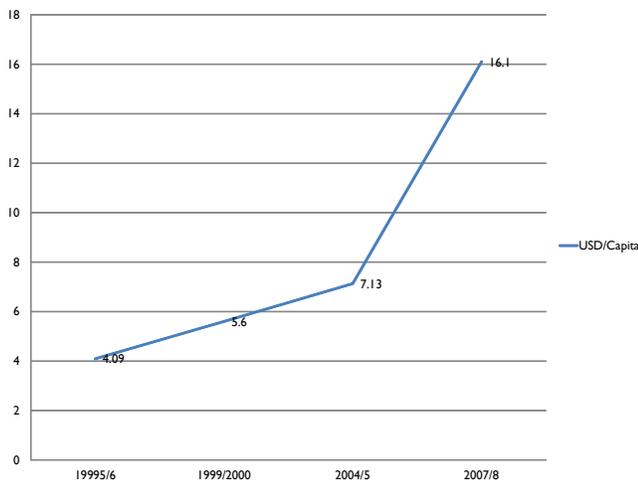
As a flagship of the HSDP, HEP is considered the major vehicle for delivering primary health care to the community. The priority health interventions have been made part of the HEP package of interventions. Accordingly, as part of the National Health Sector

Strategy, the government called for alignment of community-based health services with HEP.

Development partners have aligned around the national health strategy during HEP implementation. Significant resources have been channeled from the partners to pay for medical equipment, drugs, supplies, and pre- and in-service training and teaching materials. These partners have also contributed technically and financially to the distribution of commodities and continuous evaluation of HEP to provide evidence for improving program implementation.

National Health Accounts findings demonstrate significant increases in health spending from both the government and development partners. Health spending more than doubled between 2004/5 and 2007/8. The government share increased by 77 percent over five years between 2004/5 and 2007/8. Figure 4 shows the growth in total health expenditure from 1995/6 to 2007/8.

**FIGURE 4. GROWTH IN TOTAL HEALTH EXPENDITURE, ETHIOPIA, 1995/6-2007/8**



Source: NHA data from 1995/6, 1999/2000, 2004/5, 2007/8

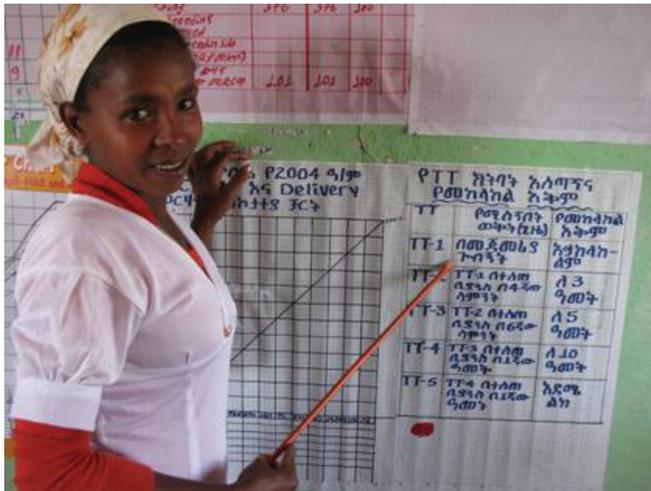
The FMOH entered into an agreement with the regional health bureaus. The agreement stated that the FMOH would provide the equipment for each health post constructed by the local government. The FMOH also supported the training and deployment of HEWs by designing the curriculum, providing training materials to vocational training institutes, and providing practical training in health institutions.

Once the HEWs complete their training, the local governments secure their salaries from the government and hire them as permanent employees. About 231 million ETB/year (US\$13.6 million/year) has been secured and spent by the national government for HEW salaries. This has been the foundation of institutionalization of primary health care services at the community and household levels as well as increased government budget allocation for health.

**Challenges:** Strategies are needed to address some of the challenges in regard to partnerships and investments; specifically, support from partners should be more effectively coordinated, and the monitoring and evaluation of HEP should be more fully integrated into program operations.

## CAPACITY BUILDING AND SYSTEMWIDE SUPPORT

HEP has been central to health system strengthening, including 1) providing standards and manuals, regular evaluation of the program, in-service trainings focused on identified skills gaps, and supportive supervision and 2) developing community information systems. To provide continued support to the HEWs, more than 3,000 HEP supervisors were trained and deployed. Each supervisor provides support to 10 HEWs (FMOH 2008). A 2010 study indicates that most health posts (72.4 percent) had received supervisory visits during the three months preceding the survey, and 57.1 percent had received feedback from supervisors. Nearly half of the health posts were supervised by an HEW supervisor or someone from the woreda health office, while 17.9 percent and 15.2 percent of health posts were supervised by the nearest health center or zonal health office, respectively (2010c).



The same study indicated some variability in the availability of the different guidelines and standard procedures at health posts. About half had national HEP implementation manuals (56 percent) and HEP package modules (47.3 percent), and a little over a third had model-family standards (38 percent), malaria guidelines (38 percent), and HEP service standards (35.5 percent). A quarter had diarrheal management guidelines. Guidelines for the Integrated Management of Childhood Illness, obstetric care, and referrals were not commonly available (FMOH 2010c).

Through regular evaluation of their performance and identification of gaps, HEWs receive in-service training to strengthen their capacity. The 2010 study disclosed that HEWs working in 10 to 40 percent of the health posts reported that at least one HEW attended trainings in one of the HEP service areas in the year preceding the survey. The most frequently attended trainings were on the outpatient therapeutic program (40 percent), family planning (34.6 percent), and clean delivery and newborn care (34.4 percent) (FMOH 2010c).

Defining the HEP management structure is crucial to motivate and retain this massive health workforce. A systematic upgrading of the skills as well as the management of the HEWs began recently as a collaborative effort between the FMOH and regional health bureaus. To this end, the Tigray, Oromia, and SNNP regions have started to provide training, while Amhara, Dire Dawa, and Harari are preparing to do so (FMOH 2010b). Table 2 shows the current recruiting levels in this regard.

**TABLE 2. HEWS RECRUITED FOR SKILLS UPGRADING**

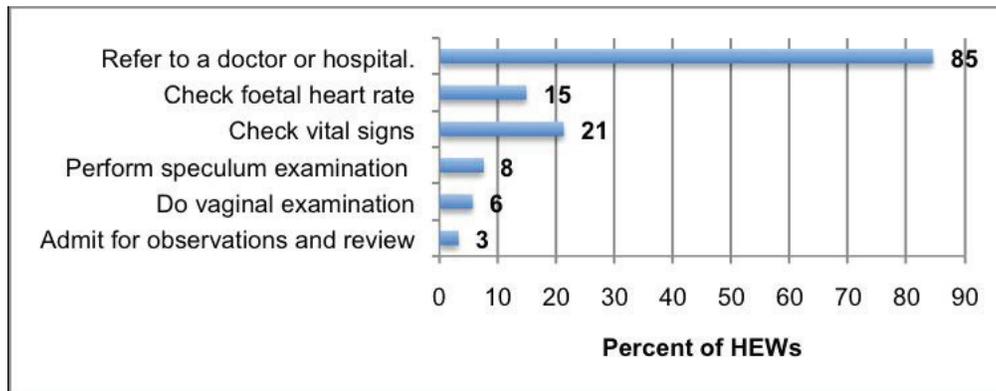
Region	Number Recruited
Tigray	40
Amhara	235
Oromia	524
SNNPR	208
Dire Dawa	55
Harari	38
Total	1100

Source: FMOH (2010b).

In another study, HEWs were asked to list the purpose of antenatal care to assess their knowledge (FMOH and UNICEF 2010). HEW responses in order of frequency were preparation for birth and preventing disease (68 percent), promoting safe delivery (59.8 percent), detecting existing diseases and managing complications (52.2 percent), ensuring that a woman has an individual birth plan (51.1 percent), and promoting breast feeding (17.8 percent).

That study also assessed knowledge on identifying the signs of pregnancy complications that require immediate intervention. When HEWs identify pregnancy-related danger signs, they are expected to check the vital signs and immediately refer the woman to a trained midwife, doctor, or hospital. HEWs are not qualified to undertake vaginal examinations. HEWs were asked what they do if they encountered a case of a pregnant woman with vaginal bleeding. The correct responses in order of frequency were to refer to a doctor or hospital (84.5 percent), to check vital signs (21.3 percent), and check

**FIGURE 5. ACTIONS HEWS WOULD TAKE IN ENCOUNTERING A PREGNANT WOMAN WITH VAGINAL BLEEDING, RURAL ETHIOPIA 2010**



Source: FMOH and UNICEF (2010).

fetal heart rate (14.9 percent) (FMOH and UNICEF 2010). These responses are shown in Figure 5 and perhaps point to a need for further training in referral practices.

To improve the continuous monitoring and evaluation of HEP and measure its impact over time, the FMOH designed a community health information system that includes a central family folder. This folder is retained at the health post and is a medical record of an entire household in relation to the HEP package of interventions. The FMOH is scaling up the family folder to 6.1 million households (FMOH 2011a).

**Challenges:** Evaluations have indicated that the pastoralist HEP needs revision and significant capacity building. The brevity of training of pastoralist HEWs is compromising quality; linkages between HEWs and the community are weak; supportive supervision is inadequate; the number of HEWs deployed in relation to vast geographic areas is insufficient; and some interventions are irrelevant to the pastoralist community (FMOH 2011).

## MULTI-SECTORAL COLLABORATION

HEP is a strong example of the multi-sectoral nature of effective health care programs that generate positive health outcomes. Coordination among at least four sectors contributed to HEP's success. The Ministries of Health and Education collaborated to implement the cycles of recruiting, training, and deployment of HEWs. They also worked together to design the curriculum for HEW training. The Ministry of Education provided the venue and training resources of the vocational training institutes, including class rooms and teachers. The Ministry of Health also worked with the subnational health authorities to ensure that the HEWs receive practical training in health centers under the supervision of health workers. Lastly, the subnational finance bureaus have routed salaries to the deployed HEWs through the payroll system for regular employees.

## Abbreviations

ANC	Antenatal care
DHS	Demographic and Health Survey
FMOH	Federal Ministry of Health
HEW	Health extension worker
HSDP	Health Sector Development Program
IMR	Infant mortality rate,
SNNP	State of Southern Nations
U5MR	Under-five mortality rate
vCHP	Voluntary Community Health Provider

## REFERENCES

- Central Statistical Agency and ICF Macro. 2011. *Ethiopia Demographic and Health Survey Preliminary Report*. Addis Ababa and Calverton, MD, USA.
- . 2000, 2005, and 2011. *Ethiopia Demographic and Health Survey Report*. Addis Ababa and Calverton, MD, USA.
- FMOH (Federal Ministry of Health). 1993. *Health Policy of the Transitional Government of Ethiopia*. Addis Ababa.
- . 1998. *Programme Action Plan of Health Sector Development Programme*. Addis Ababa.
- . 2006. *Manual for Implementation of Health Extension Programme*. Addis Ababa.
- . 2008. *Guideline for Implementation of Health Extension Programme*. Addis Ababa, Ethiopia.
- . 2010a. *Health Sector Development Programme IV*. Addis Ababa.
- . 2010b. *Report of the Performance of Health Sector Development Programme IV*. Addis Ababa.
- . 2010c. *Health Extension Workers and Health Post Performance and Community Satisfaction and Perception Evaluation in Rural Ethiopia*. Addis Ababa.
- . 2011a. *Report of the Annual Performance of HSDP IV*. Addis Ababa, Ethiopia.
- . 2011b. *Report of the Joint Review Mission of the Health Sector Development Programme*. Addis Ababa.
- FMOH and UNICEF. 2010. *Health Extension Workers' Competence Evaluation Report for Rural Ethiopia*. Addis Ababa.
- Ministry of Finance and Economic Development. 2010. *The Federal Democratic Republic of Ethiopia, Growth and Transformation Plan (GTP) 2010/11-2014/15*. Addis Ababa.
- Central Statistical Authority, Report of the Population Census of Ethiopia. Addis Ababa, Ethiopia

Health Systems 20/20 is a five-year (2006-2011) cooperative agreement (No. GHS-A-00-06-00010-00) funded by the U.S. Agency for International Development (USAID). The project uses an integrated approach to address the financing, governance, operational, and capacity constraints in a health system that impede access to and use of life-saving priority health services.

Abt Associates Inc. leads a team of partners that includes:  
| Aga Khan Foundation | Bitrán y Asociados | BRAC University | Broad Branch Associates |  
Deloitte Consulting, LLC. | Forum One Communications | RTI International  
| Training Resources Group | Tulane University School of Public Health

This publication was produced for review by USAID. It was prepared by Nejmudin Bilal for the Health Systems 20/20 project.

DISCLAIMER: The author's views expressed here do not necessarily reflect the views of the United States Agency for International Development or the U.S. Government.

March 2012



For more information about Health Systems 20/20 please contact: Health Systems 20/20 | Abt Associates Inc. | [www.abtassociates.com](http://www.abtassociates.com)  
4550 Montgomery Lane | Suite 800 North | Bethesda, MD 20814 | USA

E-mail: [info@healthsystems2020.org](mailto:info@healthsystems2020.org) | [www.healthsystems2020.org](http://www.healthsystems2020.org)