Center for National Health Development in Ethiopia

Ethiopia Health Extension Program Evaluation Study, 2007

Part -III

Health Post Performance Survey

Amhara, Oromia, and SNNP Regions
2008

Center for National Health Development in Ethiopia

The Earth Institute AT COLUMBIA UNIVERSITY

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VOLUME– III

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Abbreviations and acronyms

ACT	Artemisinin-based Combination Therapy
AD	Auto-Disable
AIDS	Acquired immune deficiency syndrome
ANC	Antenatal Care
BCC	Behavioral Change Communication
BCG	Bacille Calmette Guerin
CHP	Community Health Promoters
CHWs	Community Health workers
CNHDE	Center for National Health Development in Ethiopia
DHMO	District Health Management Office
DHS	Demographic Health Survey
DPT	Diphtheria, Pertussis (whooping cough) and tetanus toxoids
FMOH	Federal Ministry of Health
FP	Family planning
HEP	Health Extension Program
HEWs	Health Extension Workers
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HP	Health Post
HSDP	Health Sector Development Program
IEC	Information, Education, Communication
IMCI	Integrated childhood Illness Management
MIS	Malaria Indicator Survey
NGOs	Non Governmental Organizations
OPV	Oral Polio Vaccine
ORS	Oral rehydration salts
PHCU	Primary Health Care Unit
PHW	Public health workers
PMTCT	Prevention of Mother to Child Transmission
RDT	Rapid Diagnostic Test
RHBs	Regional Health Bureaus
SNNP	Southern Nations Nationalities and Peoples
STD	Sexually Transmitted Disease
TB	Tuberculosis
TT	Tetanus Toxoid
TTC	Tetracycline

Preface

The Center for National Health Development in Ethiopia (CNHDE), The Earth Institute at Columbia University, is pleased to present an Evaluation Survey Report of the Ethiopia Health Extension Program for 2005 – 2007. The principle objective of the evaluation survey is to generate critical information for policy-makers and program managers working in health. The CNHDE provides an independent evaluation of HEP to supplement the regular monitoring and evaluation activities undertaken by the Federal Ministry of Health (FMOH). This report summarizes the findings of the survey which was conducted in Amhara, Oromia and SNNP regions. The surveys were undertaken at the end of 2005 (baseline) and end of 2007 (follow-up). The evaluation report is prepared to inform the FMOH and Regional Health Bureaus (RHBs) on the implementation status in terms of achieving the goals and objectives of the HEP and identify challenges in the implementation of HEP. We also hope that it will be useful to stakeholders and partners to identify specific areas where they would support in the improvement of the program.

The evaluation report attempts to supplement the existing monitoring and evaluation programs of the FMOH and other surveys such as Demographic Health Survey (DHS) and Malaria Indicator Survey (MIS). Although, the routine health information system of the FMOH and RHBs provide critical information, it is not sufficient in providing wide ranges of data to show the impact of HEP. Household health surveys such as the DHS, although provide important information on demographic and health indicators for overall assessment of the health situation of the country, it doesn't provide the marginal effect of HEP on the health indicators. Moreover, the topics and indicators covered by DHS are not comprehensive enough to cover the 16 health service packages of HEP. Issues related to health facility performance and health provider, which are critical in addressing challenges and constraints in the implementation of HEP are also not covered by DHS and the existing health information systems.

In this report, we provide result of household survey, health provider (HEWs) survey, and health facility (health post) survey that cover all the 16 HEP service packages. We have provided a detailed result of the survey on all major areas of HEP and some recommendations intended to stimulate discussions and debate among all stakeholders for eventual improvement of the program are included.

The material within each result section is organized similarly. In most of the sections, a brief introduction of the topic and its importance in achieving the goals and objectives of HEP is given. The questions administered to household members or HEWs is indicated, and finally the response of respondents is presented. We have tried to organize the result sections by bringing similar topics together and as much as possible we tried to make the organization similar to other surveys such as DHS, where appropriate, to help users of the report cross reference with DHS.

The report is divided into three volumes, which enabled us to cover a wide range of program monitoring and evaluation areas. Volume **I** covers the results of the household survey. Chapter **1** of this Volume is concerned with introduction of the Ethiopian health system and particularly with description of HEP and rational of the HEP evaluation. Chapter **2** deals with the methodology of the HEP evaluation including the study design and sampling methods. A large part of the remainder of Volume **I** deal with the result of the household survey. Various areas under hygiene and environmental sanitation are contained in Chapter **3**. The results of maternal and child health survey is provided in Chapter **4**. The three major infectious diseases, malaria (Chapter **5**), HIV/AIDS and Tuberculosis (Chapter **6**) were also dealt with. Chapter **7** covers various topics that deal with community perception, utilization and satisfaction of HEP services. The last Chapter (Chapter **8**) deals with recommendations organized by major program areas.

Volume **II** covers HEWs performance. The first two Chapters deal with background and rational for HEWs performance survey (Chapter **1**) and study methodology (Chapter **2**) briefly covering specific areas with regard to HEWs, which are not covered in Volume **I** of the report. Chapter **3** provides perception and satisfaction of HEWs on various topics. The time allocation into the various components of HEP collected through diary method is given in Chapter **4**. Chapter **5** covers the assessment of the technical skills of HEWs. Conclusions of the results of the survey and recommendations made are given at the end of Chapters **3**-**5**.

Volume **III** covers health post performance. The first two chapters deal with brief description of the health posts and rational of the study (Chapter **1**) and study methodology (Chapter **2**), which are not covered in Volume **I** of the report. The remainder of Volume **III** report is organized into different areas of health facility performance such as infrastructure availability (Chapter **3**), HEP service availability and organization (Chapter **4**), readiness of health posts to provide HEP services (Chapter **5**), productivity of health posts (Chapter **6**), quality of services (Chapter **7**), and referral system (Chapter **8**).

Survey on the management system of HEP at district level has been undertaken. The type of data collected is primarily qualitative in nature, and it is not ready for dissemination when this report is published due to time constraint. It will be reported soon as Volume **IV** of the HEP survey.

Lastly, we hope that the survey results facilitate the improvement of the problems highlighted in the survey. The data generated will contribute to the ongoing efforts of the FMOH, RHBs and other stakeholders of HEP including non-governmental organizations and international agencies in supporting and formulating effective measures to address challenges for the benefit of the health and well-being of the rural communities in Ethiopia.

Acknowledgements

CNHDE is greatly indebted to the Blaustein Foundation, the Earth Institute at Columbia University and the Gates Foundation for providing funding to undertake the evaluation survey. CNHDE is grateful to the FMOH and RHBs for their logistic support and allowing us to undertake the study at the health posts and district health management offices.

Special thanks are due to all individuals and organizations who participated in the development of survey tools including questionnaires and survey personnel guidelines as well as translation of survey tools into local languages; who coordinated the field work during training of survey personnel and data collection; who developed database for the survey; who did the data processing and analysis; and who developed the report. Persons involved in survey design, organization, data analysis, and report preparation are listed at the end of the report.

Special thanks also to Anbessaw Belay (International Rescue Committee) and Tigist Alemu (MVP) for their valuable comments and editions of the report.

CNHDE would like to lend special thanks to the survey field personnel for their tireless work to collect quality data and survey respondents (Health Extension Workers) who were important for the successful completion of the study.

SUMMARY OF KEY FINDINGS

The federal and regional governments have invested substantially to implement Health Extension Program (HEP) with construction of new health posts in each rural village, upgrading of referral health facilities, purchase of medical equipments, drugs, supplies, recruitment and training of Health Extension Workers (HEWs) to improve accessibility and quality of services. Two female HEWs are deployed to each health post and supported by community voluntary workers. The characteristics of the health post infrastructure, the availability of the standard human resources, medical equipments and supplies, and type of services provided affect the quality of HEP services and productivity of health posts, and thus the success of the program.

Independent monitoring and evaluation is central to the success of any health program. Center for National Health Development in Ethiopia (CNHDE) undertook the evaluation of the health post performance as an independent evaluator. The main objective of the study was to monitor the process for ensuring proper and effective implementation of HEP. With the HEP service packages serving as a gold standard, a wide range of quantitative measures were developed to assess the performance of the health posts. Detailed information about availability and condition of the physical infrastructure and assets of the health posts, the health post's operating hours, human resources, facility infrastructure, and their readiness to provide quality care, type of HEP services rendered and number of clients received services was collected from a sample of health posts in Amhara, Oromia and SNNP regions. The health post performance survey was undertaken along with the follow-up household and HEWs performance surveys at the end of 2007. The study provides a baseline assessment for prioritizing and deciding how to invest resources into the HEP.

The study design and sampling methodology for this study was linked with the HEWs' performance survey and household survey for the HEP evaluation. Thus, the design adopted the same health posts where the HEWs were selected for the HEWs' performance survey within the sample villages used to generate household data for the HEP evaluation study. The number of sample health posts for this study was 53 health posts. The major findings of the study and recommendations are summarized as follows.

CHARACTERISTICS OF HEALTH POSTS

Majority (94.3%) of villages have health post infrastructure specifically built for the provision of HEP, which were built by the local communities and/or the government. Overall, 90% of the health posts had at least 3 rooms and 81.1% had a separate delivery room. Majority of health posts were equipped with basic furniture. About 54.7% of the health posts had medical waste disposal mechanism, and two-third (64.2%) had access to toilet facility. Access to other important services (clean water, electricity, telephone, and means of transportation) was generally low in all regions. About two-third (62.3%) of villages were connected by dry season road, while 20.8% were connected by all weather road to the nearest health center and/or district health office. According to HEWs, improving access to water, electricity, and means of transportation are priority facilities that need to be available urgently.

SERVICE AVAILABILITY AND ORGANIZATION

A quarter of the health posts (26.5%) opened for at least five days a week. More than half of the health posts opened on Saturdays and/or Sundays. In the three months preceding the survey, immunization, family planning, and antenatal care services were provided by majority of health posts, while postnatal care for baby and postpartum care for mothers were render in less than 50% of the health posts. About 74% of the health posts supervised CHWs.

READINESS OF HEALTH POSTS TO PROVIDE HEP SERVICES

Availability of medical equipments: Medical equipments and supplies for provision of antenatal care (ANC) and delivery care such as blood pressure apparatus, delivery kit, and foetoscope were available in majority of health posts. However, delivery table, and neonatal resuscitation mask and bag were available in about a third of the health post. About 22.6% of health posts were equipped with 60% of the minimum set of medical equipments necessary for ANC and delivery services.

Among equipments and supplies required for child care, only baby weighing scale was available widely (71.7%). Other equipments such as graduated measuring jar and tap were available only in few health posts. Thus, none of the health posts were equipped with the necessary minimum set of medical equipments for child care. While only 7.5% were equipped with 80% of the minimum set of medical equipments, a third (30.2%) of the health posts had 60% of the minimum set of medical equipments.

Majority of health posts (81%) had vaccine carriers. Ice box and refrigerator were available in 54.7% and 43.4% of health posts respectively. Taken as a whole, about a third (30.2%) of the health posts were equipped with the necessary minimum set of medical equipments for provision of static immunization services at the health post. However, 67.9% of health posts were not equipped fully (had only 60% of the minimum set of equipements required) to provide static immunization services at the health posts.

About two-thirds of the health posts were equipped with first aid kit, while only about one-fourth of the health posts were equipped with basic dressing tray and sterilization set. Overall, 32.1% of the health posts were equipped with 60% of the minimum set of first-aid equipments.

Availability of drugs: Anti-malarial drug, coartem was available in stock in 64.2% health posts during the day of the visit, and 45% of the health posts reported that there were no stock-outs of coartem in the three months preceding the survey. Chloroquine was available in stock in 37.7% of health posts during the day of the visit. Both anti-malarial drugs were available in 34% of the health posts. Oral rehydration salts (ORS) were available in 58.5% of the health posts during the visit. About half (47.2%) of the health posts reported no stock-outs during the three months preceding the survey. Oral contraceptives were available in 79.3% of the health posts during the day of the visit. Similarly, Depo-Provera injections were available in 81.1% health posts during the visit. About 86.8% of the health posts had at least one of the contraceptive methods, while 71.7% of health posts had both contraceptive methods. There were no stock outs of oral contraceptive and Depo-Provera injections in 67.9% and 62.3% of the health posts respectively in the three months preceding the survey.

Availability of micronutrients: The availability of micronutrient supplements such as Iron, folic acid and Vitamin A was generally very low. Iron tablets were available only in a quarter of the health posts and folic acid was available only in 18.9% of the health posts during the visit. Majority of health posts also reported stock-outs in the three months preceding the survey.

Availability of Medical Supplies: AD syringes and needles and gloves were available in majority of the health posts. Similarly, mixing syringes and gauze were available in about two-thirds of the health posts. Condoms were available in more than half of the health posts. However, other supplies such as alcohol and cord ties were not widely available.

Availability of vaccines: Among the 53 health posts, 23 health posts (43.4%) had refrigerator, however, the refrigerators were functional in only 20 of the health posts (37.7%). BCG, DPT, polio and measles vaccines were available in 26.4%, 34%, 34%, and 28.3% of the health posts respectively. Overall, 23% of the health posts had all the necessary vaccines including TT vaccine. Among the health posts with functional refrigerator, six did not have BCG during the visit, and the average duration of stock out was 24 days. DPT was missing in 2 health posts for an average duration of 63 days, while Measles was missing in 5 health posts for an average duration of 30 days.

Drug supply system: HEWs working in more than half (52.8%) of the health posts reported that the drugs supplied to the health posts are usually less than the requested quantities. In the majority (56.6%) of health posts drugs are usually supplied as need arises. The supply of drugs in 54.7% of health posts was within the same day when request was made.

PRODUCTIVITY OF HEALTH POSTS

Family planning: Majority (92.4%) of the health posts rendered family planning service in the year preceding the survey. A quarter (24.5%) of the health posts had between 1 and 25 new FP clients, another quarter (24.5%) had between 25-50, 17% of health posts had between 50-100, and 26.4% of health posts had at least 100 new FP clients in the year preceding the survey. The average number of new FP clients in the year preceding the survey was 73 clients per health post.

Antenatal care (ANC) services: Majority (88.5%) of the health posts provided ANC service in the year preceding the survey. Thirty health posts (56.6%) had between 1 and 25 new clients, while 31.9% of health posts had more than 25 new clients in the year preceding the survey. The average number of ANC clients in the year preceding the survey was 38 pregnant women per health post.

Delivery care: Less than half (43.4%) of the health posts provided delivery service at the health post in the year preceding the survey. The number of deliveries assisted by HEWs at these health posts was very low, between one and 25 deliveries in majority of the health posts. The average number of deliveries at the health posts in the year preceding the survey was 7.5 per health post. Moreover, the HEWs in 73.5% of the health posts assisted deliveries at home of the mothers.

Postpartum care: About 62.3% of the health posts provided postpartum care in the year preceding the survey. The average number of mothers who received postpartum care in the year preceding the survey was 11 per health post.

Immunization: Majority (83.1%) of the health posts provided immunization service in the year preceding the survey. A quarter of the health posts (26.4%) immunized between 1 and 25 children and another 26.4% of health posts immunized between 25 and 50 children against measles in the year preceding the survey. About a third of the health posts (30.3%) immunized at least 50 children during the same period. The average number of children immunized against measles in the year preceding the survey was 38 children per health post.

QUALITY OF HEP SERVICE DELIVERY AND SUPPORT SYSTEMS

Quality of delivery services: Only two health posts (3.8%) were using partograph in monitoring labour of women. The necessary key factors were monitored and recorded in the partograph for majority of deliveries attended in the two health posts.

Quality of immunization services: The refrigerator's temperature in 16 (80%) of the health posts with functional refrigerator was between 2 and 8 degrees, and it was being checked regularly. Thus, overall 30.2% of health posts followed correct cold chain management practices. Although immunization service was available in all sampled villages, only 26.4% of the health posts provided daily static immunization services at the health post. About 58.5% of the health posts provided outreach service in addition to the service at the health post. Majority (73.6%) of the outreach services from the health post or nearest health center occurred every month.

Supervision: Two-third (67.3%) of the health posts were supervised by the district/zonal/regional health team during the three months preceding the survey, and 75% of these health posts received feedback from supervisors. Supervisions were mainly undertaken by the district health team.

Training of health personnel: About a third of health posts reported that there was at least one health worker trained each on malaria and family planning during the year preceding the survey. HEWs working in about a quarter of the health posts received training on ANC, management of anemia during

pregnancy, prevention of mother to child transmission (PMTCT) of HIV, and neonatal care. One in ten health posts received training on emergency obstetric and post-abortion care during the same period.

Guidelines and standard procedures: The availability of the different guidelines and standard procedures was variable. National HEP implementation manual and HEP modules were available in majority of health posts. Malaria case management guideline was available in half of the health posts, while diarrheal management guideline and growth monitoring guidelines were available in a third of the health posts. IMCI, obstetric, and referral guidelines were not commonly available. The different existing guidelines and standards were prepared in Amharic, English and Oromiffa. Preference of language for all guidelines and standards was Amharic among HEWs in Amhara and SNNP regions, while HEWs in Oromia region preferred Oromiffa.

Support to HEP from stakeholders: The support to HEP from district health office, CHWs/volunteers, and nearest health centers was rated relatively high, while the support from community, development agents, village health committee, school teachers and kebele council was rated relatively low.

REFERRAL SYSTEM

About 60% of the health posts referred at least one obstetric patient in the year preceding the survey. Generally, the referral rate from the health posts was low, with an average of 3.2 obstetric patients referred per health post in the year preceding the survey. About three-quarters (73.6%) of the health posts refer patients to nearest health centers. The average distance of the referral health facilities was 14Kms from the health posts, and majority (81.1%) of the health posts were within acceptable distance (<20km) from the referral health facilities. The main means of transporting obstetric cases from the health posts to the referral health facilities was reported to be stretcher (71.7%), and arrangements of transportation were mainly made by relatives (41.5%) and community (35.9%). HEWs reported that majority of the referred patients were usually willing to go to higher health facilities. However, there were still patients who were not willing to go to referral health facilities. According to HEWs the major obstacles that affect the referral system were distance, lack of means of transportation, poor roads, no free services/drugs at referral health facilities, and lack of awareness by the community.

About half (54.7%) of the health posts received feedback from the referral health facilities about the patients they referred, and a quarter of the health posts reported that the referral health facilities referred patients (cases of tuberculosis or leprosy) who are residents of the village for follow-up of treatment at the health posts.

RECOMMENDATIONS

The priority areas that need particular attention include: (1) provision of basic amenities and services such as water and power supplies, and communication systems; (2) strengthening procurement and supply management system and ensuring the continuous availability of essential drugs, equipments and supplies based on the HEP standards, with particular emphasis on contraceptive methods, delivery equipments, and cold chain systems; (3) introducing the use of partograph; (4) creating well equipped and technically qualified supervisory staff; and (5) strengthening the referral system. These measures can improve the quality and availability of a wide range of HEP services thereby increasing the utilization of services by the community and productivity of the health posts.

SUMMARY OF HEALTH POST PERFORMANCE INDICATORS

Indicator	Value
A. CHARACTERISTICS OF HEALTH FACILITIES	**%**
Percent of HPs with at least two room infrastructure	98
Percent of HPs that have a separate room for delivery services	81.1
Percent of health posts staffed as per the HEP standard	64.2
Percent of health posts that have supportive CHWs/volunteers	80.1
Percentage of HPs with working client toilets	64.2
Percent of HPs with access to water source	11.3
Percent of HPs with waste disposal mechanism	54.7
Percent of HPs with access to electricity	5.6
Percent of HPs with access to telephone	3.8
B. SERVICE PROVISION AND ORGANIZATION	**%**
Percent of health posts opened at least five days per week	26.5
Percent of HPs opened on Saturdays and/or Sundays	56.6
Percent of health posts that provide supervision to CHWs/volunteers	73.6
C. READINESS OF HEALTH POSTS TO PROVIDE HEP SERVICES	
1) Percent of HPs equipped with at least 60% of the minimum medical equipments for -	**%**
ANC and delivery services	22.6
Child care	30.2
Immunization	67.9
First-aid	32.1
2) Availability of drugs and supplies on day of survey	**%**
Percent of HPs with oral contraceptives	79.3
Percent of HPs with Depo-provera injections	81.1
Percent of HPs with condoms	56.6
Percent of HPs with at least one type of contraceptive method (oral and/or injectables)	86.8
Percent of HPs with Coartem	64.2
Percent of HPs with oral rehydration salts (ORS)	58.5
Percent of HPs with Iron	24.5
Percent of HPs with Folic Acid	18.9
3) Percent of HPs with no stock-outs in the 3 months preceding the survey	**%**
Oral contraceptive method	67.9
Depo-provera injections	62.3
Coartem	45.3
ORS	47.2
4) Availability of vaccines on day of survey	**%**
Percent of HPs with BCG vaccine available	26.4
Percent of HPs with DPT vaccine available	34
Percent of HPs with polio vaccine available	34
Percent of HPs with measles vaccine available	28.3

Indicator	Value
Percent of HPs with Penta vaccine available	32.1
Percent of HPs with TT vaccine available	30.2
Percent of HPs with all vaccines available	23
D. PRODUCTIVITY OF HEALTH POSTS	
1) Percent of HPs that rendered services in the year preceding the survey	**%**
Percent of HPs that rendered FP service	92.4
Percent of HPs that rendered ANC service	88.5
Percent of HPs that rendered delivery service	43.4
Percent of HPs that rendered postpartum care service	62.3
Percent of HPs that rendered immunization service	83.1
2) Number of clients who received services per HP in the year preceding the survey (average)	**No.**
Average number of new clients who received family planning services per HP	73
Average number of clients who received ANC services per HP	38
Average number of clients who received delivery services per HP	7.5
Average number of clients who received postpartum care services per HP	11
Average number of children who received immunization against measles per HP	38
E. QUALITY OF HEP SERVICE DELIVERY AND SUPPORT SYSTEMS	**%**
Percent of HPs using partograph to monitor labour	3.8
Percent of HPs with correct cold chain management practice	30.2
Percent of HPs supervised at least once in the 3 months preceding the survey	67.3
F. REFERRAL SYSTEM	**%/No.**
Percent of HPs within acceptable distance from referral health facilities (<20km)	81.1
Percent of HPs with access road to nearest HC and/or DHMO	83.1
Percent of HPs that referred obstetric patients in the year preceding the survey	60.4
Average number of obstetric patients referred in the year preceding the survey per HP	3.2
Percent of HPs with established arrangements with referral health facilities (measured as % that received feedback in the year preceding the survey)	54.7

The use of the HEP process indicators applied in this study (although needs to be improved) should be encouraged as a way of standardizing periodic monitoring and evaluation of HEP services at the district level

1. BACKGROUND

1.1 HEALTH EXTENSION PROGRAM

Ethiopia launched Health Extension Program (HEP) to expand the national health program to include community based health interventions as a primary component of the Health Sector Development Program (HSDP). The goal of the HEP is to create healthy society that will play an active role in poverty reduction. The overall objectives of HEP are to improve equitable access to quality essential health interventions provided at kebele and household levels with a focus on sustained preventive health actions and increased health awareness, and to serve as an effective mechanism for shifting health care resources from urban to the rural population. HEP is a nationwide comprehensive program targeting all rural populations and all health issues. The national program became operational beginning mid-2004 along with the recognition of the need for a massive scaling up of health post construction, the recruitment, training and engagement of Health Extension Workers (HEWs) and Community Health Workers (CHWs).

HEP services are organized and implemented along geographic lines (villages): construction of a comprehensive network of "primary health care units" (PHCU) throughout the country with one health post in every rural village of 5000 people linked to referral health facilities. The HEP makes the bottom level component of the national health system, and is primarily on preventive and promotive component with limited curative services, while essential curative care is provided at health centre and district hospital levels. A health center and five health posts surrounding the health center make a PHCU thereby making the service package and referral system linked to each other. A health post is the most peripheral health care unit (in the national health care system) with a two room structure, and represents the first level of health care. Health posts serve as the operational centre for HEP. A total of about 15,000 health posts are being built and equipped to cover all the rural villages in the country. To ensure ownership of the health program by the community, the construction of health posts is undertaken both by the community and the government. The community contributes local materials and labour, while the government contributes industrial materials. Each health post is staffed with two female health extension workers. Moreover, each health post is equipped with basic medical equipments and supplies to provide the HEP service packages. In particular, medical equipments to undertake antenatal care (ANC), delivery services, postpartum care, immunization, child care such as growth monitoring and first aid services are among the medical equipments provided to the health posts based on the HEP standard. Antimalarial drugs, ORS, contraceptive methods, and analgesics are also among some of the drugs and medical supplies that are distributed to health posts.

1.2 RATIONAL FOR THE HEALTH POSTS STUDY

The federal and regional governments have invested substantially to implement HEP with construction of new health posts, upgrading of referral health facilities, purchase of medical equipments, drugs, supplies, training of HEWs to improve accessibility and quality of services. The characteristics of the health post infrastructure including the size; ownership; hours of operation; access to infrastructure, utilities and other services; and type of services provided affect the quality of HEP services. Moreover, the implementation of HEP have a large number of inputs, but some of the most important inputs including human resources, medical equipments, drugs, and other supplies, which account for the majority of the operational cost, are critical for the successful implementation of the program. The ultimate purpose of the various inputs is to provide quality HEP services to the community, which can be measured among others through the number of patients or clients who received quality services.

Independent monitoring and evaluation is central to the success of any health program. Center for National Health Development in Ethiopia (CNHDE) undertook the evaluation of the health post performance as an independent evaluator. With the HEP service packages serving as a gold standard, a wide range of quantitative and qualitative measures were developed to assess the performance of the health posts. Detailed information about availability and condition of the physical infrastructure and assets of the health posts, the health post's operating hours, human resources, facility infrastructure, and their readiness to provide quality care and type of HEP services rendered was collected from a sample of health posts in Amhara, Oromia and SNNP regions. The health post performance survey was undertaken along with the follow-up household and HEWs performance surveys at the end of 2007. The study provides a baseline assessment for prioritizing and deciding how to invest resources into the HEP. The report of the household survey and HEWs performance survey are being issued along with this report (Volume-I and Volume-II HEP Evaluation reports).

2. SURVEY OBJECTIVES AND STUDY METHODOLOGY

In this survey, detailed information about availability and condition of the physical infrastructure and assets of the health posts, the health post's operating hours, human resources, their facility infrastructure, and their readiness to provide quality care and type of HEP services rendered was collected. By determining the health posts status in terms of infrastructure, facilities, utilities, and inputs, this study provides a baseline assessment for prioritizing and deciding how to invest resources into the HEP.

The health post level study will be linked upstream to the district administration and political processes through district level surveys (which is under preparation) and downstream to the community through household surveys to combine supply of and demand for services. By combining all levels of surveys, the information would allow a much more comprehensive analysis of service delivery performance and its determinants.

2.1 OBJECTIVES OF THE HEALTH FACILITIES SURVEY

Main objective of the health posts survey was to monitor the process for ensuring proper and effective implementation of HEP, and the specific objectives were:

- To assess existing health post characteristics (HP infrastructure, human resources, utilities and facilities, medical equipments, drugs and supplies) as per the norms under HEP
- To assess the availability of HEP services and optimal use of available infrastructure
- To assess the readiness of health posts to provide quality HEP services
- To assess the productivity of the health posts
- To assess the existence of support systems to provide quality HEP services (cold chain management, quality of delivery services, access to continuing education, supervision, availability and use of standard guidelines, protocols, registers, and IEC material)
- To assess and characterize the referral system (its performance, utilization and functionality)

2.2 INDICATORS

a. <u>Characteristics of health facilities</u>

- Percent of HPs with at least two room infrastructure
- Percent of HPs that have a separate room for delivery services
- Percent of health posts staffed as per the HEP standard
- Percent of health posts that have supportive CHWs/volunteers
- Percentage of HPs with working client toilets
- Percent of HPs with access to water source
- Percent of HPs with waste disposal mechanism
- Percent of HPs with access to electricity
- Percent of HPs with access to telephone

b. <u>Service provision and organization</u>

- Percent of health posts opened at least five days per week

- Percent of HPs opened on Saturdays and/or Sundays
- Percent of health posts that provide supervision to CHWs/volunteers

c. Readiness of health posts to provide HEP services

1) Percent of HPs equipped with at least 60% of the minimum medical equipments for -
   - ANC and delivery services
   - Child care
   - Immunization
   - First-aid
2) Availability of drugs and supplies on day of survey
   - Percent of HPs with oral contraceptives
   - Percent of HPs with Depo-provera injections
   - Percent of HPs with condoms
   - Percent of HPs with at least one type of contraceptive method (oral and/or injectables)
   - Percent of HPs with Coartem
   - Percent of HPs with oral rehydration salts (ORS)
   - Percent of HPs with Iron
   - Percent of HPs with Folic Acid
3) Percent of HPs with no stock-outs in the 3 months preceding the survey
   - Oral contraceptive method
   - Depo-provera injections
   - Coartem
   - ORS
4) Availability of vaccines on day of survey
   - Percent of HPs with BCG vaccine available
   - Percent of HPs with DPT vaccine available
   - Percent of HPs with polio vaccine available
   - Percent of HPs with measles vaccine available
   - Percent of HPs with Penta vaccine available
   - Percent of HPs with TT vaccine available
   - Percent of HPs with all vaccines available

d. Productivity of health posts

1) Percent of HPs that rendered services in the year preceding the survey
   - Percent of HPs that rendered FP service
   - Percent of HPs that rendered ANC service
   - Percent of HPs that rendered delivery service
   - Percent of HPs that rendered postpartum care service
   - Percent of HPs that rendered immunization service
2) Number of clients who received services per HP in the year preceding the survey (average)
   - Average number of new clients who received family planning services
   - Average number of clients who received ANC services
   - Average number of clients who received delivery services
   - Average number of clients who received postpartum care services

- Average number of children who received immunization against measles

e. <u>Quality of HEP service delivery and support systems</u>

- Percent of HPs using partograph to monitor labour
- Percent of HPs with correct cold chain management practice
- Percent of HPs supervised at least once in the 3 months preceding the survey

f. <u>Referral system</u>

- Percent of HPs within acceptable distance from referral health facilities (<20km)
- Percent of HPs with access road to nearest HC and/or DHMO
- Percent of HPs that referred obstetric patients (at least one) in the year preceding the survey
- Average number of obstetric patients referred in the year preceding the survey per HP
- Percent of HPs with established arrangements with referral health facilities (measured as % that received feedback in the year preceding the survey)

2.3 STUDY DESIGN

The health posts performance study aimed to characterize the health posts in terms of infrastructure, human resources, availability of medical equipments, drugs, vaccines and other supplies, and the availability of services. The study design and sampling methodology for this study was linked with the HEWs' performance survey and household survey for the HEP evaluation. Thus, the design adopted the same sample villages used to generate household data for the HEP evaluation study, and the health posts where the HEWs were selected for the HEWs' performance survey. The study design and sampling methodology for the evaluation of the HEP has been described in detail in Volume-I of the HEP evaluation report. Some specifics to health post performance survey are described here.

The linked sampling method employed in the study ensures the estimation of unbiased estimates of outcome (output) measures for the health posts in addition to providing additional information on the HEP environment for the community in the sample villages for the household survey. Thus, the linking of the health posts performance survey to the household survey offers powerful analytic value for investigating how the performance of the health posts can influence health practices and behaviors of the community.

2.4 SAMPLING METHODS AND SAMPLE SIZE

The target for HP performance study was the intervention villages. Thus, the number of health posts included for the HP performance study depended on the number of intervention villages sampled for the HEP impact evaluation because of the linked sampling design used. The intervention villages for the HEP impact evaluation were 42 villages, which was inadequate sample size to estimate the outcome measures for the HP performance survey. In order to ensure reliable estimation of the health post performance outcome measures, additional 11 villages that have implemented HEP were included and the sample size was increased to 53 intervention villages. As described in the study design for the HEP impact evaluation survey (Volume-I), the complex sampling procedures employed resulted in exclusion of some of the regions, and in different probabilities of selection of sampling units (villages) from the three regions. Thus, the number of sample health posts by region does not correspond with the population size of the regions, with 20, 16, and 17 health posts from Amhara, Oromia, and SNNP regions, respectively.

2.5 DATA COLLECTION AND PROCESSING

Data collectors

The same survey team involved in the household survey was involved in the HP performance survey. The supervisors of the household survey administered the questionnaires, mainly by direct observation on most of the items, and by interviewing HEWs in each of the intervention villages. Supervisors were given additional training to undertake the data collection. To achieve high quality data and homogeneity in the administration of the questionnaires, the training was standardized to include an exhaustive explanation on how to conduct the interview including the use of personalized introduction to HEWs, the use of the survey instruments, simulation of the interview by means of role-playing techniques, and practiced in health posts which were not part of the study. Regional coordinators and CNHDE staff provide support on technical and administrative issues to the supervisors.

Interview procedures

The study contents and survey purposes were explained to the HEWs. Questions that require direct observation were filled by the data collectors after permission was granted by HEWs. Other questions that require a response from the HEWs were filled by interviewing both HEWs (if available) at the same time, and one questionnaire was administered to each health post. Data was collected from November 1 – December 30, 2007 at the same time with the follow-up survey of the HEP impact evaluation. Depending on the duration of HEP implementation in the sample villages, the data collection was conducted after one to two years of the implementation of the program.

Data processing

Upon completion of the data collection and editing, data entry clerks having competency and experience were hired. Data managers at the CNHDE, with the support of the Earth Institute developed the data entry format and gave training to the data entry clerks. Data was cleaned and analyzed with STATA. Two data managers, a biostatistician and an epidemiologist were involved to undertake the statistical analysis.

3. CHARACTERISTICS OF HEALTH POSTS

The government aims to establish comprehensive network of PHCU with a health post in every rural village. A health post, with at least two rooms structure, needs to meet a set of infrastructure and human resource standards. According to the HEP standard, each health post should be staffed with two female HEWs. The layout and space of the physical infrastructure should ensure convenience and privacy to clients, particularly to women receiving delivery services. The health posts should be furnished with basic furniture, have access to sanitary facilities such as latrine and waste disposal pits, clean water, electricity and telephone services. These infrastructure and facility factors, which influence the convenience of the health post to clients, are among the key factors that affect access to health services. The assessment of the characteristics of health posts included the quality of the health posts physical infrastructure, availability of basic furniture, access to facilities and utilities, and human resources. The report presented in this chapter is based on direct observation of the 53 sample health posts supplemented with interviewing of the HEWs working in each health post as a team.

3.1 PHYSICAL INFRASTRUCTURE OF THE HEALTH POSTS

Majority (94.3%) of villages have health post infrastructure built specifically for the provision of HEP, and a health post was under construction in one village (in Amhara region), however, there was no health post infrastructure in two villages (in Oromia region) and HEWs were stationed in other offices temporarily. The characteristics of the 50 health post infrastructure was assessed in terms of the number of rooms and the type of material used to build the infrastructure, and by whom it was built (Table 3.1).

Table 3.1: Percent distribution of health posts by characteristics of the health post infrastructure

		Percent of Health Posts			
Characteristics of Health Post		**Amhara**	**Oromia**	**SNNPR**	**Total**
Health post infrastructure	Building available	95.0	87.5	100.0	94.3
Number of rooms in the health post	2	5.3	14.3	5.9	8.0
	3	26.3	57.1	58.8	46.0
	4+	68.5	28.6	29.5	44
Separate delivery room available		90.0	62.5	88.2	81.1
Health post built by	Community	35.0	18.8	29.3	28.3
	Government	30.0	31.3	17.6	26.4
	NGOs	0.0	25.0	23.5	15.1
	Community & government	25.0	12.5	29.4	22.6
	Community & NGOs	5.0	6.3	0.0	1.9
Main material of wall	Wood with mud	65.0	37.5	58.8	54.7
	Bricks with cement	30.0	37.5	35.3	33.9
	Stone with cement	0.0	12.5	5.9	5.7
Main material of roof	Corrugated iron sheets	85.0	87.5	76.5	83.0
	Wood and mud	10.0	0.0	11.8	7.6
	Thatch	0.0	0.0	11.8	3.8
Main material of floor	Cement	75.0	75.0	100.0	83.0
	Earth /sand	10.0	0.0	0.0	3.8
	Others	10.0	6.3	0	5.7

Except one health post in SNNP region, all health posts had at least two room infrastructures in line with the HEP standard, and 90% of the health posts had at least 3 rooms. A room for provision of delivery service was separate in 81.1% of all health posts (with as high as 90% in Amhara and as low as 62.5% in Oromia). Majority of the health posts (77.3%) were built by the local communities and/or the government, while about 15% of the health posts were built by non-governmental organizations (NGOs). In the majority of the health posts, the main materials of the wall, roof, and floor were mud and wood (54.7%), corrugated iron sheet (83%), and cement (83%) respectively.

3.2 AVAILABILITY OF FURNITURE

Majority of health posts were equipped with basic furniture such as table and chairs (77.4%) and shelves (62.3%), and about 45.3% of health posts were equipped with bench. The absence of bench in more than half of the health posts indicates that the health posts are not inviting to clients and patients visiting the health posts. A minority of the health posts were equipped with drawer, filing cabinet, dust bin, and hand washing apparatus (Table 3.2). Although megaphone is important for educational purposes, only a quarter of the health posts had megaphone. Similarly, hand washing apparatus was available only in 20.8% of health posts and were found functional only in 11.3% of the health posts, whereas the availability and use of hand washing apparatus at the health posts is critical not only for the cleanliness and prevention of infections but as a demonstration and promotion of hand washing to the community. Overall, majority of the existing furniture and equipments were functional. Water tankers that do not have roof water harvesting mechanism were found in 17% of the health posts; however, they were functional (used) only in 3.8% of health posts. Only 5.7% of the health posts owned functional bicycle.

Table 3.2: Percent of health posts with (functional) furniture and equipments

	Percent of Health Posts that own	
Furniture and equipments	**Any equip.**	**Functional equip.**
Table	77.4	77.4
Chair	77.4	77.4
Shelves	62.3	62.3
Bench	47.2	45.3
Drawer	22.6	20.8
Filing cabinet	20.8	20.8
Notice board	13.2	9.4
Dust bin	30.2	30.2
Megaphone	26.4	22.6
Hand wash apparatus	20.8	11.3
Water tanker with roof catchment mechanism	9.4	9.4
Water tanker –no roof catchment mechanism	17.0	3.8
Bicycle	7.6	5.7
Number of health posts	53	53

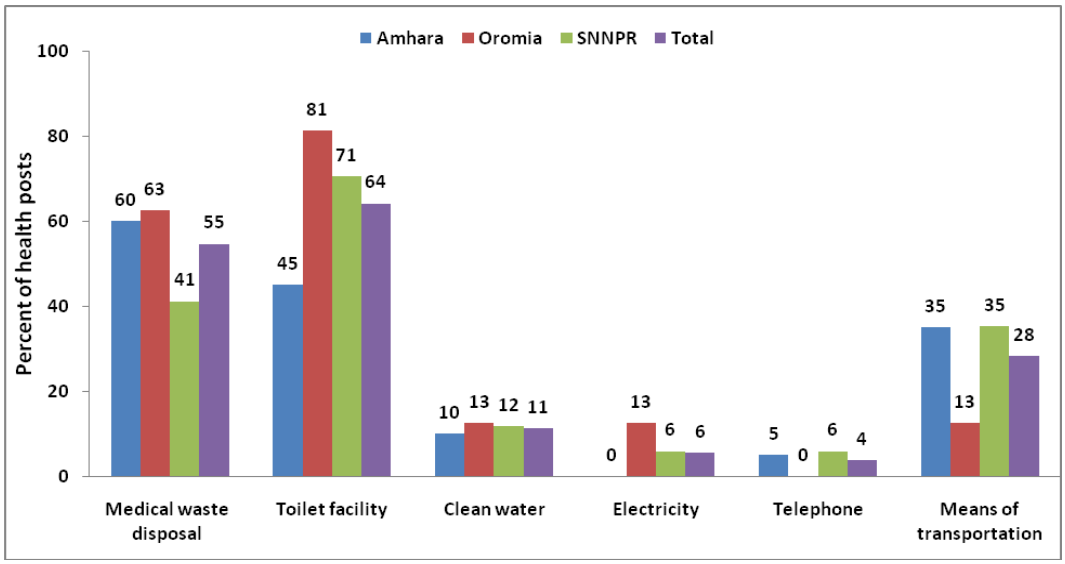
3.3 ACCESS TO FACILITIES, UTILITIES AND INFRASTRUCTURES

3.3.1 Facilities and utilities

About 55% of the health posts had medical waste disposal mechanism (pits, burning or incineration), and nearly two-third (64.2%) of the health posts had access to toilet facility. Access to other important services (mainly public utilities) was generally low in all regions – clean water (11.3%), electricity (5.6%), telephone

(3.8%), and means of transportation (28.3%). The regional distribution of the health posts with access to facilities and utilities is presented in figure 3.1.

Figure 3.1: Percent of health posts with access to facilities and utilities by region



3.3.2 Road connecting HPs

With regard to availability of access road connecting villages to the nearest health centre and/or district health office, about two-third (62.3%) of villages had dry season road, 20.8% had all weather road, while 16.9% of the villages had no access at all (Table 3.3). The road connectivity of the health posts in SNNP was better than the other regions because all health posts were connected either with dry season or all weather roads to the district health office or nearest health center. On the other hand, more than a third of health posts in Oromia were not connected by any type of road (Table 3.3).

Table 3.3: Percent distribution of health posts by type of road connecting the village to district health office

	Percent of Health Posts			
Type of road	**Amhara**	**Oromia**	**SNNPR**	**Total**
No road	15.0	37.5	0.0	16.9
Dry season road	60.0	43.8	82.4	62.3
All weather road	25.0	18.8	17.7	20.8
Number of HPs	20	16	17	53

3.3.3 Priority facilities and utilities

HEWs were asked to identify a single facility or service that should be urgently available to the health post in order to improve the quality of services. The three most commonly identified facilities or services that were needed urgently were access to water (28.3%), electricity (20.8%), and means of transportation such as animals (18.9%). The other less commonly identified urgently needed facilities were telephone (7.6%) and road (5.7%). There was variation on the priority areas by region, and the top three priority areas for each region were: electricity, water, and means of transport in Amhara region; means of transport, water, and electricity in Oromia; and water, means of transportation, and telephone in SNNP region (Table 3.4).

Table 3.4: Percent distribution of health posts by priority of facilities and utilities that should be made available

Facilities and utilities	Percent of Health Posts by region			Total HPs	
	Amhara	Oromia	SNNPR	Number	Percent
Water	20.0	18.6	47.1	15	28.3
Electricity	40.0	6.3	11.7	11	20.8
Means of transport (such as Animal)	10.0	31.1	17.7	10	18.9
Telephone	0.0	6.3	17.7	4	7.6
Road	10.0	0.0	5.9	3	5.7
Build HP with cement & bricks	10.0	0.0	0.0	2	3.8
Health center	0.0	12.5	0.0	2	3.8
None	0.0	6.3	0.0	1	1.9
Not stated	10.0	18.8	0.0	5	9.4
Total	20	16	17	53	100.0

3.4 HUMAN RESOURCES AT THE HEALTH POST

All but one health post were staffed with female health extension workers. The one health post was staffed with junior nurses/PHW/health assistant. In addition, junior nurses/PHW/health assistant were working in five health posts together with HEWs. Majority (64.2%) of health posts were staffed with 2 HEWs, while 34% of the health posts were staffed with only 1 HEW. Majority (80.1%) of health posts were also supported by CHWs and other types of community based health workers. Summary of the type and number of the health workers by gender working in the villages is presented in table 3.5. This information was obtained by interviewing both HEWs from the same health post together. Under the HEWs' performance survey (Volume-II of the HEP evaluation report), each HEW (interview was done separately for each HEW) was asked to given an account of the existence of CHWs who worked in the village, and to provide their perception on the working relationship with CHWs and on CHWs' level of support to HEP.

Table 3.5: Number of health posts by the type and number of health personnel

Number of workers	Number of health posts									
	Health extension workers	Junior nurses / PHW/Health assistant			Community health worker			Others		
		Male	Female	Both	Male	Female	Both	Male	Female	Both
1	18 (34%)	2	3	5 (9.4%)	10	8	7 (13.2%)	0	1	0
2	34 (64.2%)	0	1	1 (1.9%)	10	5	9 (17%)	1	0	1 (1.9%)
3 – 5	0	0	0	0	6	4	7 (13.2%)	0	0	0
6 – 9	0	0	0	0	3	3	4 (7.6%)	1	1	0
10 +	0	0	0	0	10	3	14 (26.4%)	0	0	1 (1.9%)
Total	**52 (98.1%)**	**2**	**4**	**6 (11.3%)**	**39**	**23**	**41 (77.4%)**	**2**	**2**	**2 (3.8%)**

4. SERVICE AVAILABILITY AND ORGANIZATION

Each health post is expected to provide comprehensive health care services based on the HEP health service packages. Availability of a wide range of services in the health posts ensures that the program is responsive to the needs of the population. Service availability is a major key factor affecting accessibility. Another important factor that affects accessibility of health services is the organization of HEP in terms of operational days of the health posts. The operation hours of health posts should be favorable in promoting accessibility of services during working hours, after hours and on weekends. Moreover, the involvement of volunteer community health workers/promoters in the implementation of HEP contributes to the availability of services at household level and improves accessibility and quality of HEP services. To ensure CHWs/CHPs have the necessary skills, the health posts should provide support and supervision to the CHWs/CHPs. The service availability and organization assessment presented in this chapter included documentation of the operational days of the health posts, the type of services available, and the level of supervision to CHWs/CHPs.

4.1 OPERATIONAL DAYS OF THE HEALTH POST

About a quarter (26.5%) of the health posts opened for at least five days a week. Two-third (66.1%) of the health posts opened to render services three or less days per week (Table 4.1). In terms of the opening status of the health posts during the weekends – one in five (20.8%) health posts opened on Saturdays and Sundays, a quarter of the health posts opened only on Saturdays, and 9.4% opened only on Sundays. Overall, more than half (56.6%) of the health posts opened on Saturdays and/or Sundays. Generally, the number of days that the health posts were opened per week was similar in the three regions. However, there was difference on the opening status over the weekends – more health posts in Amhara region rendered services over the weekend. In Amhara, 85% of the health posts opened on Saturday and/or Sunday, while only 43.8% in Oromia and 35.3% in SNNP regions opened for at least one day over the weekend (Table 4.1).

Table 4.1: Percent distribution of health posts by the number of operational days of health post per week

		Percent of Health Posts			
Factors	**Operational days**	**Amhara**	**Oromia**	**SNNPR**	**Total**
Number of days opened	1	5.0	6.3	0.0	3.8
	2	40.0	25.0	58.8	41.5
	3	30.0	18.8	11.8	20.8
	4	5.0	18.8	11.8	11.3
	5	5.0	18.8	11.8	11.3
	6	10.0	0.0	11.8	7.6
	7	10.0	12.5	0.0	7.6
Opening on weekend days	Open Saturday only	30	31.3	17.7	26.4
	Open Sunday only	25	0	0	9.4
	Open Saturday and Sunday	30	12.5	17.6	20.8
	Closed on Saturday and Sunday	10	43.8	64.7	37.7
Number of Health Posts		20	16	17	53

4.2 TYPE OF HEP SERVICES RENDERED AT THE HP

During the three months preceding the survey, the services rendered by most of the health posts in order of frequency were immunization (96.2%), family planning (84.9%), and antenatal care (83%). About two-third of the health posts also provided management of diarrhea and first aid services during the three months preceding the survey. The services that were provided by only less than 50% of the health posts were diagnosis and treatment of malaria, postnatal care for baby and postpartum care for mothers (Table 4.2).

Table 4.2: Percent of health posts that have offered selected HEP services in the 3 months preceding the survey

	Percent of Health Posts			
HEP services	**Amhara**	**Oromia**	**SNNP**	**Total**
Immunization	95	100	94.1	96.2
Family planning	85	87.5	82.4	84.9
Antenatal care	90	87.5	70.6	83
Management of diarrhoea	80	43.8	58.8	62.3
First aid services	75	50	52.9	60.4
Normal delivery services	60	50	64.7	58.5
Growth promotion and nutrition	60	37.5	64.7	54.7
Diagnosis & treatment of malaria	60	18.8	58.8	47.2
Postnatal care for baby	50	43.8	47.1	47.2
Postpartum care for mothers	55	18.8	58.8	45.3
Total number of HPs	20	16	17	53

4.3 SUPERVISION OF CHWS OR VOLUNTEERS

Three-quarter of the health posts reported that they have supervised the CHWs or volunteers during the three months preceding the survey, but only in a quarter of the health posts confirmed on record (Table 4.3). The proportion of health posts that supervised the CHWs or volunteers during the 3 months period was higher in Amhara (80%) and SNNP (82.4%) regions than the health posts in Oromia (56.3%).

Table 4.3: Percent of health posts that provided supervision to CHWs

	Percent of health posts			
	Amhara	**Oromia**	**SNNPR**	**Total**
Yes and confirmed on record	45	6.3	17.7	24.5
Yes but not confirmed on record	35	50	64.7	49.1
No	15	43.8	17.7	24.5
Not stated	5	0	0	1.9
Number of health posts	20	16	17	53

5. READINESS OF HEALTH POSTS TO PROVIDE HEP SERVICES

Almost every key intervention under HEP is affected by availability of drugs, medical equipments and supplies necessary to provide HEP services. Availability of adequate medicines (including vaccines), medical equipments and medical supplies is necessary if the health post is to provide HEP services as per the standard. Quality of HEP services at the health posts depends, among other things, on the availability of such supplies. Assessment of the availability of medical equipments, drugs and medical supplies as well as vaccines was undertaken in the sampled health posts. The assessment of the availability of medical equipments was based on two approaches: 1) the percent of health posts with individual medical equipments (eg: delivery bed), and 2) the percent of health posts with minimum set of medical equipments necessary to provide a specific HEP service based on the standard of health posts (eg: all basic medical equipments and supplies necessary for delivery service). The second approach is meaningful because it indicates the readiness of the health post to provide a specific HEP service using a complete set of medical equipments. For example, many health posts may have delivery kits but only few of them may have delivery bed; in such cases only health posts that have both delivery kits and delivery beds can provide quality delivery services. This chapter presents the results of the assessment of availability of medical equipments, drugs and medical supplies as well as vaccines.

5.1 AVAILABILITY OF MEDICAL EQUIPMENTS

The availability and functionality of all medical equipments and supplies based on the HEP standard is presented in table 5.1. Generally, the availability of the medical equipments in the health posts was poor. There was no a single medical equipment which was available in 100% of the health posts. However, there seems to be a good trend and that medical equipments such as blood pressure apparatur, delivery kits, baby weighing scale, vaccine carriers, and stethoscope were available in majority of health posts. On the other hand, medical equipments such as neonatal resuscitation mask and bag, graduated measuring jar, and sterilization/autoclave were available in minority of the health posts.

The availability of individual medical equipments doesn't indicate the readiness of the health posts to provide HEP services. For the provision of a specific HEP service, the health posts should have a minimum set of medical equipments that could enable them to provide the service appropriately. Thus, availability of the minimum medical equipments and supplies for a specific HEP service based on the standard of health posts is essential to assess the readiness of the health posts to provide the specific HEP service properly. For example, many health posts may have delivery kits but only few of them may have delivery bed; in such cases only health posts that have both delivery kits and delivery beds can provide quality delivery services. Thus, the availability of the minimum medical equipments to undertake the HEP services is meaningful rather than availability of individual medical equipments. The availability of the minimum medical equipments necessary to undertake some selected HEP services is presented below.

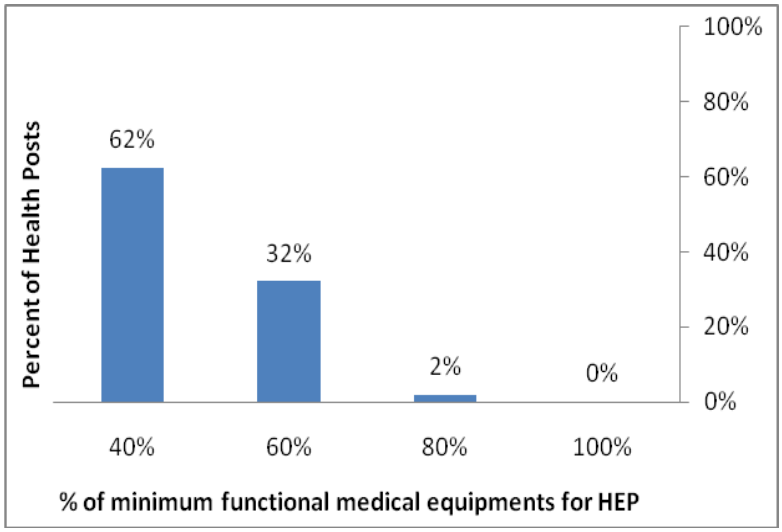
Table 5.1: Percent of health posts with (functional) medical equipments and supplies for HEP services

Service area	Equipments and supplies	Available		Functional & in use	
		Number	%	Number	%
ANC and delivery	Adult weighing scale	28	52.8	27	50.9
	ANC kit	20	37.7	19	35.8
	Blood pressure apparatus	41	77.4	38	71.7
	Foetoscope	34	64.2	33	62.3
	Delivery kit	39	73.6	36	67.9
	Delivery table	23	43.4	21	39.6
	Neonatal resuscitation mask & bag	8	15.1	6	11.3
Child care	Baby weighing scale	38	71.7	36	67.9
	Measuring tap (1.5mt)	14	26.4	14	26.4
	Measuring board	17	32.1	15	28.3
	Graduated measuring jar	7	13.2	6	11.3
	Spoons	20	37.7	20	37.7
Immunization	Refrigerator	23	43.4	20	37.7
	Vaccine carriers (ice bags)	43	81.1	42	79.2
	Ice box	29	54.7	29	54.7
First aid care	First aid kit	35	66	32	60.4
	Basic dressing tray	15	28.3	15	28.3
	Kidney dishes	33	62.3	31	58.5
	Sterilization set/autoclave	11	20.8	8	15.1
General service	Gowns	19	35.9	19	35.8
	Examination bed	32	60.4	29	54.7
	Stretcher	23	43.4	20	37.7
	Stethoscope	45	84.9	45	84.9
	Thermometer	32	60.4	28	52.8
Others	Spatula	13	24.5	13	24.5
	Torch light	6	11.3	5	9.4

5.1.1 Overall medical equipments and supplies for HEP

Based on the standard of the FMOH for HEP, none of the health posts had 100% of the minimum medical equipments and supplies to provide HEP services; 2% (one health post) was equipped with 80% of the minimum set of medical equipments; 32% of health posts were equipped with 60%; and 62% of health posts were equipped with 40% of the minimum set of medical equippments required to function properly as per the standard (Figure 5.1). The availability of the minimum set of medical equipments and supplies necessary to undertake some of the key HEP services (ANC and delivery, child care, immunization, and first-aid) that require medical equipments was also assessed.

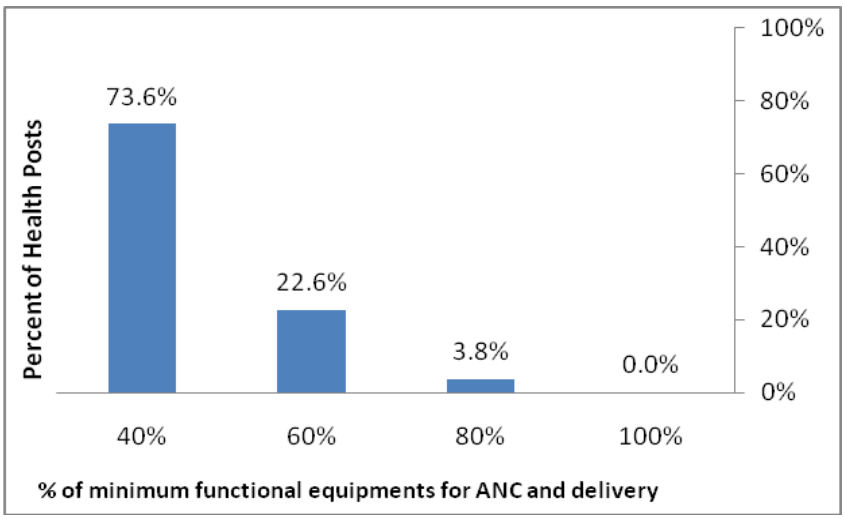
Figure 5.1: Percent distribution of health posts by percent of available minimum set of medical equipments based on the HEP standard



5.1.2 ANC and Delivery services

Among the medical equipments and supplies that are necessary for undertaking ANC and delivery care, the equipments that were available in majority of health posts include blood pressure apparatus (77.4%), delivery kit (73.6%), and foetoscope (64.2%). However, delivery table and ANC kit were available only in 43.4% and 37.7% of the health posts respectively. Similarly, neonatal resuscitation mask and bag was available only in 15% of the health posts. The availability and functionality of individual equipments for ANC and delivery services are presented in table 5.1. Although, majority of the health posts were equipped with some of the equipments, the availability of the minimum required equipments as a set to enable the health posts to provide ANC and delivery services was generally very low (Figure 5.2). The set of minimum medical equipments considered essential to provide basic ANC and delivery services were adult weighing scale, ANC kit, blood pressure apparatus, foetoscope, delivery kit, delivery table, and neonatal resuscitation mask and bag. None of the health posts were equipped with minimum set of medical equipments necessary to render ANC and safe delivery services; 3.8%, 22.6%, and 73.6% of the health posts had 80%, 60% and 40% of the minimum set of medical equipments necessary for ANC and delivery services, respectively.

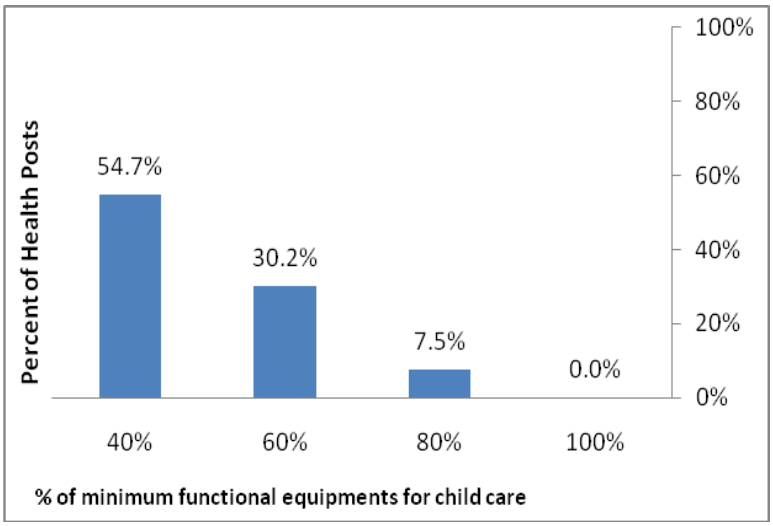
Figure 5.2: Percent distribution of HPs by percent of available minimum set of medical equipments for ANC and delivery care based on HEP standard



5.1.3 Child care services

Among equipments and supplies required for child care, only baby weighing scale was available in majority (71.7%) of health posts. Other equipments such as graduated measuring jar, and measuring tap were not widely available. The availability and functionality of individual equipments necessary for child care services are presented in table 5.1. Although, some equipments are available in majority of health posts, the availability of the minimum set of equipments necessary to undertake child care services is low as shown in figure 5.3, due to lack of some other equipments to make up the minimum standard. The minimum set of medical equipments considered necessary for provision of child care services included baby weighing scale, measuring tap, measuring board, graduated measuring jar and spoons. Thus, none of the health posts were equipped with 100% of the minimum set of medical equipments, while only 7.5% of the health posts were equipped with 80% of the minimum set of medical equipments. About a third (30.2%) of the health posts had 60% of the minimum set of medical equipments, and about half (54.7%) of the health posts were equipped with only 40% of the minimally required set of medical equipments.

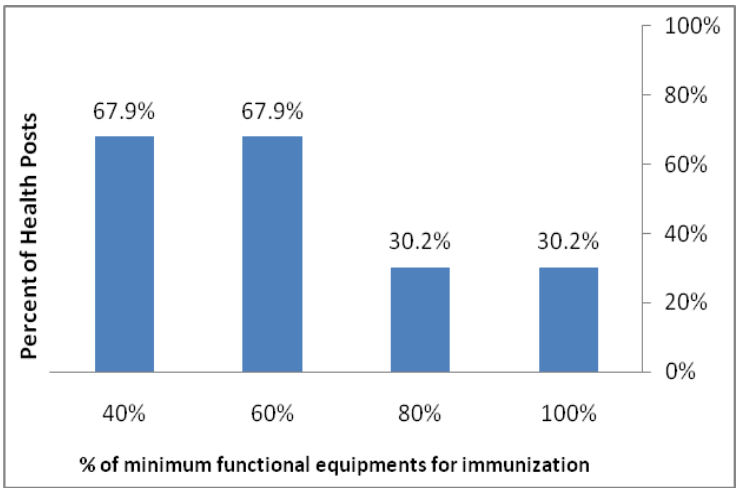
Figure 5.3: Percent distribution of HPs by percent of available minimum set of medical equipments for child care based on HEP standard



5.1.4 Immunization services

Refrigerator was available in 43.4% of health posts, but the majority (81%) of health posts had vaccine carriers and half (54.7%) of health posts had ice box. The available and functional individual medical equipments that are necessary for the provision of immunization are presented in table 5.1. The availability of the minimally required medical equipments for immunization services is presented in Figure 5.4, and included refrigerator, vaccine carrier and ice box. About a third (30.2%) of the health posts were equipped with 100% of the minimum set of medical equipments necessary for immunization, and thus, these health posts were in a position to provide static immunization services at the health post. On the other hand, 67.9% of health posts were equipped with 60% of the minimum set of equipements required to provide immunization service at the health posts (Figure 5.4).

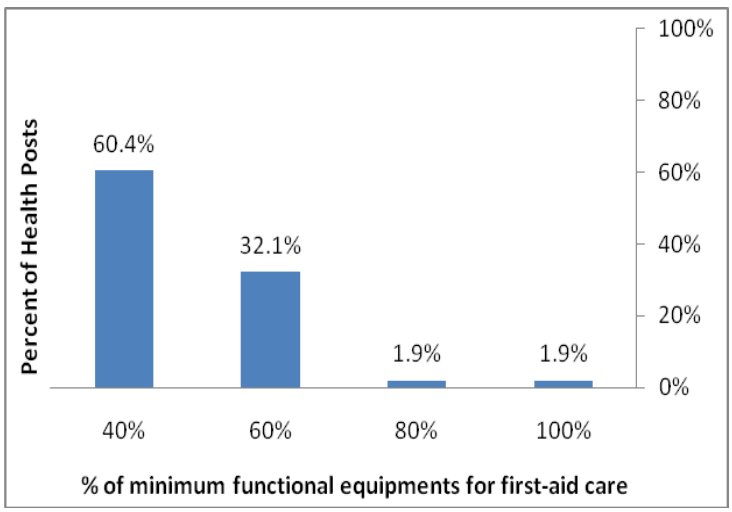
Figure 5.4: Percent distribution of HPs by percent of available minimum set of medical equipments for immunization based on HEP standard



5.1.5 First-Aid services

About two-thirds of the health posts were equipped with first aid kit and kidney dishes, while only about one-fourth of the health posts were equipped with basic dressing tray and sterilization set (Table 5.1). The set of minimum medical equipments considered essential for the provision of first-aid services included first aid kit, basic dressing tray, kidney dishes and sterilization set/autoclave. Based on the availability of these medical equipments as a set, the percent of health posts that were equipped with 100%, 60% and 40% of the necessary medical equipements to provide first-aid service were 1.9%, 32.1% and 60.4%, respectively (Figure 5.5).

Figure 5.5: Percent distribution of HPs by percent of available minimum set of medical equipments for first-aid care based on HEP standard



5.1.6 General services

About half (54.7%) of the health posts had examination bed, about a third (37.7%) of health posts were equipped with stretcher, half of them had thermometer, while majority (84.9%) of health posts were equipped with stethoscope. Gowns for HEWs were available only in a third (35.8%) of the health posts. Detailed information on each of these equipments is presented in table 5.1.

5.2 AVAILABILITY OF DRUGS AND MEDICAL SUPPLIES

5.2.1 Availability of drugs

Antimalarial drugs

Coartem and chloroquine were commonly available. Coartem was available in 64.2% of health posts, and the average number of coartem doses in stock during the day of the visit was 83 doses per health post. Among the 34 health posts that had coartem, coartem was being used in 30 health posts, while the 4 health posts were not using the coartem. Chloroquine was available in 37.7% of health posts, and the average number of chloroquine doses in stock within these health posts was 458 doses per health post. Both antimalarials were available in 34% of the health posts. Less than half (45.3%) of the health posts reported that there was no stock-outs of coartem in the three months preceding the survey, while the remaining reported stock-outs during the same time period (Table 5.2).

Oral rehydration salts

Oral rehydration salts (ORS) were available in 58.5% of the health posts with an average quantity of 90 sachets in stock per health post during the visit (Table 5.2). There were 2 health posts with expired ORS and the quantity was relatively high with an average of 70 sachets per health post. Nearly half (47.2%) of the health posts reported no stock-outs during the three months preceding the survey.

Contraceptive methods

Oral contraceptives were available in 79.3% of health posts, and the average number of oral contraceptive strips, which were in stock during the visit was 87 per health post (Table 5.2). Similarly, Depo-Provera injections were available in 81.1% of health posts, and the average number of vials of Depo-Provera injections in stock during the visit was 39 vials per health post. At least one of the contraceptive methods was available in 86.8% of health posts, while 71.7% of health posts had both contraceptive methods. There were very few health posts that had expired contraceptive methods, but the quantity seemed to be large. About 67.9% and 62.3% of the health posts did not report stock-outs of oral contraceptive and Depo-Provera injections respectively in the three months preceding the survey.

Micronutrients

The availability of micronutrient supplements such as Iron, folic acid and Vitamin A was generally very low. Iron tablet were available only in a quarter of the health posts and Folic Acid was available only in 18.9% of the health posts. Each of the health posts that had Iron and Folic Acid had at least 1000 tablets in stock. Majority of health posts had stock-outs of Iron and Folic Acid in the three months preceding the survey. Similarly, about a third of health posts had Vitamin A (100,000IU) capsule, while only 5 (9.4%) of health posts had Vitamin A (200,000IU) capsule. There were three health posts that had expired Vitamin A. Majority of health posts also reported stock-outs of Vitamin A in the three months preceding the survey (Table 5.2).

Other drugs

Other drugs such as analgesics and tetracycline (TTC) eye ointment were available in about a third of health posts. Similarly, ergometrine was available only in 15% of the health posts. On average the quantity of the medicines in stock within these health posts was large. Majority of the health posts also reported stock-outs in the three months preceding the survey.

Table 5.2: Percent of health posts with essential medicine on the day of survey and status of stock-outs in the last three months preceding the survey

	Medicine	HPs with medicine in stock		HPs using the medicine		Average quantity of medicine in stock		HPs with expired medicine		Average quantity expired (#unit)	HPs with stock outs in last 3 months	
		No.	%	No.	%	Unit	Quantity	No.	%		No.	%
Antimalarial drugs	Coartem(ACT)	34	64.2	30	88.2	Dose	83	2	3.8	55	29	54.7
	Chloroquine	20	37.7	20	100.0	Dose	458	0	0	-	35	66.0
	Both antimalarial drugs	18	34	-	-	-	-	-	-	-	-	-
Diarrheal control	ORS	31	58.5	30	96.8	Sachets	90	2	3.8	70	28	52.8
Contraceptive methods	Oral contraceptives	42	79.3	41	97.6	Strip	87	2	3.8	46	17	32.1
	Depo-provera injection	43	81.1	43	100.0	Vial	39	1	1.9	68	20	37.7
	At least one method	46	86.8	-	-	-	-	-	-	-	-	-
	Both contraceptive methods	38	71.7	-	-	-	-	-	-	-	-	-
Micronutrient supplementation	Iron Tablet	13	24.5	13	100.0	Tab	1008	1	1.9	200	43	81.1
	Folic Acid	10	18.9	9	90.0	Tab	1541	0	0	-	47	88.7
	Vitamin A, Capsule 100,000 IU	17	32.1	15	88.2	Capsule	463	3	5.7	470	40	75.5
	Vitamin A, Capsule 200,000 IU	5	9.4	4	80.0	Capsule	196	1	1.9	70	48	90.6
Others	Analgesics -Aspirin/Paracetamol	20	37.7	20	100.0	Tab	688	0	0	-	37	69.8
	Ergometrine-500mg	8	15.1	7	87.5	Vial	387	1	1.9	13	46	86.8
	TTC eye ointment	18	34.0	17	94.4	Tubes	26	0	0	-	42	79.2
	Baby Lotion (Bottle)	4	7.6	4	100.0	Bottle	8	0	0	-	50	94.3

5.2.2 Availability of Medical Supplies

AD syringes and needles, and gloves were available in majority of the health posts. Similarly, mixing syringes and gauze were available in about two-thirds of the health posts. However, the various vaccines including BCG, OPV, DPT, Measles, and TT were found only in about a quarter of the health posts. Disinfectants such as alcohol, savlon, Iodine, and GV were also available in about a quarter of the health posts. Other supplies such as cord ties and Rapid Diagnostic Test (RDTs) for malaria were available in about third of the health posts. Condoms were available in more than half of the health posts. Generally, the quantities for the various medical supplies, which were available in stock during the day of the survey, varied across the health posts (Table 5.3). For example, some health posts had as little as one AD syringe while some had as much as 800 AD syringes in stock.

Table 5.3: Percent of health posts with medical supplies and quantity in stock

Supplies	No. and % of HPs		Units	Quantity of supply in stock		
	No.	%		Average	Min	Max
AD Syringes and needles	41	77.4	Pcs	144	1	800
Mixing Syringes	36	67.9	Pcs	20	1	100
Syringes and needles	22	41.5	Pcs	73	1	300
Gloves	46	86.8	Pairs	75	1	550
Gauze	35	66.0	Pcs	41	1	900
BCG	13	24.5	Dose	34	1	200
OPV	14	26.4	Dose	34	2	130
DPT	13	24.5	Dose	28	5	60
Measles	14	26.4	Dose	31	2	200
TT	14	26.4	Dose	93	4	500
Alcohol	13	24.5	Liter	17	1	200
Savlon	18	34.0	Liter	42	1	500
Iodine	15	28.3	Liter	9	1	100
GV	15	28.3	Liter	21	1	300
Disinfectants	10	18.9	Liter	5	1	30
Cord Ties	19	35.9	Pcs	9	1	35
RDT for Malaria	21	39.6	Pcs	75	4	600
Condoms	30	56.6	Pcs	140	1	908

5.2.3 Drug supply system

HEWs working in more than half (52.8%) of the health posts reported that the drugs supplied to the health posts are usually less than the requested quantities. About 43.4% of health posts are supplied with the requested quantities. In the majority (56.6%) of health posts, HEWs reported that drugs are usually supplied as need arises, and in only 22.6% of health posts, drugs were supplied monthly. The supply of drugs in 54.7% of health posts was within the same day when request was made, while it took one or more months in 22.8% of health posts. One month or more time from making request to delivery of drugs was mainly common in SNNP region.

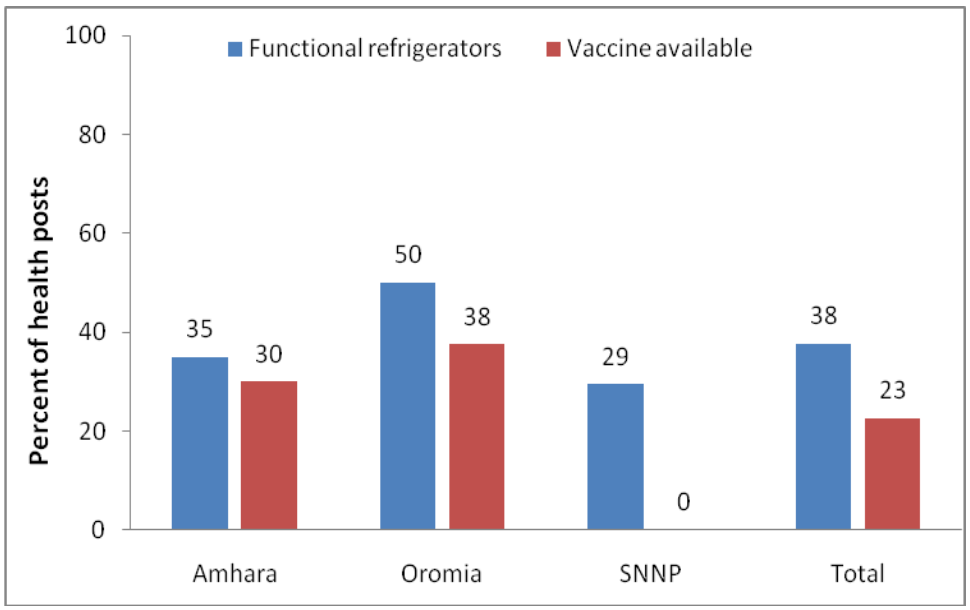
Table 5.4: Percent distribution of health posts by drug supply pattern to health posts

		Percent of health posts			
		Amhara	Oromia	SNNP	Total
Quantities supplied	Quantities more than requested	0	0	11.8	3.8
	Requested quantities	55	62.5	11.8	43.4
	Quantities less than requested	45	37.5	76.5	52.8
Frequency of supply	As need arises	60	50	58.8	56.6
	Bi-weekly	5	0	0	1.9
	Monthly	30	31.3	5.9	22.6
	Other	5	18.8	35.3	18.9
Time from request was made to delivery	1 day	70	56.3	35.3	54.7
	2 or 3 days	20	12.5	11.8	15.1
	1 month or more	10	12.6	47.2	22.8
	Total number	20	16	17	53

5.3 VACCINES

Among the 53 health posts surveyed, 23 health posts (43.4%) had refrigerators; however, the refrigerators were functional in only 20 of the health posts (37.7%). The percent of health posts with functional refrigerator in Amhara, Oromia, and SNNP regions were 35%, 50%, and 29% respectively (Figure 5.6). About a third (30%) of the health posts in Amhara and 38% of health posts in Oromia regions had all the necessary vaccines, while none of the health posts in SNNP had all the necessary vaccines (i.e. at least one type of vaccine was missing). Overall, 23% of the health posts had all the necessary vaccines. With regard to the availability of specific vaccines - BCG, DPT, polio, Measles and Penta vaccines were available in 26.4%, 34%, 34%, 28.3%, and 32.1% of health posts respectively on the day of the survey. Similarly, TT vaccine was available in 30.2% of health posts on the day of the survey.

Figure 5.6: Percent of health posts with functional refrigerator and with all vaccines during the day of the visit



The specific type of vaccines which were missing during the visit and the duration they were out of stock were checked by the interviewer. The number of health posts that did not have BCG during the visit was 6 health posts, which was 30% of those with functional refrigerator, and the average duration of stock out was 24 days. DPT was missing in 2 health posts for an average duration of 63 days, while Measles was missing in 5 health posts for an average duration of 30 days. Similar information for the other types of vaccines is presented in table 5.5. The various vaccines that were missing during the visit were concentrated in eight health posts. Thus, a total of eight health posts had at least one of the vaccines missing and they were from Amhara (1HP), Oromia (2HPs), and SNNP (5HPs).

Table 5.5: Percent of health posts with missing vaccines by type of vaccine and duration of stock-out

Vaccines	HPs with missing vaccines		Average duration since out of stock (days)
	Number	%	
BCG	6	30	24
DPT	2	10	63
MEASLES	5	25	30
OPV	2	10	39
PENTA	3	15	13
TT	4	20	9

6. PRODUCTIVITY OF HEALTH POSTS

The rapid increase in the number of health posts and HEWs in the last few years indicates an improvement in geographical accessibility of health services to the community. However, geographic accessibility doesn't ensure availability of a wide range of services, acceptability and utilization of services by clients. In a village with an average population of about 5,000 people, it is expected that there will be about 900 non-pregnant women of reproductive age group, 250 pregnant women, 200 under one year, and 800 under five year children. In order to know the productivity of the health posts (or efficiency), our study examined data from the sample health posts on selected HEP services that were provided to clients/patients in the target population over one year period preceding the survey. Productivity in this report is defined as the number of clients/patients who received a specific service per health post per year. The productivity of the health posts on some specific HEP services is presented in this chapter.

6.1 FAMILY PLANNING

Majority (92.4%) of the health posts rendered family planning service to new clients in the year preceding the survey. A quarter (24.5%) of the health posts had between 1 and 25 new FP clients, another quarter (24.5%) had between 25-50 clients, 17% of health posts had between 50-100 clients, and 26.4% of health posts had at least 100 new FP clients in the year preceding the survey. The average number of new FP clients in the year preceding the survey was 73 clients per health post. There was a huge difference between the regions. Half of the health posts in Amhara region had more than 100 new FP clients each in the year preceding the survey, with an overall average of 126 new FP clients per health post. On the other hand, the average numbers of new FP clients in Oromia and SNNP regions in the year preceding the survey were 46 and 35 clients per health post respectively. The distribution of health posts by number of revisit FP clients was similar with that of new clients.

Table 6.1: Percent distribution of HPs by number of FP clients in the one year preceding the survey

Type of visit	Number of clients	Percent of Health Posts			
		Amhara	Oromia	SNNP	Total
New clients	None	5	6.3	11.8	7.6
	1- 25	0	31.3	47.1	24.5
	25-50	25	37.5	11.8	24.5
	50- 100	20	6.3	23.6	17
	> 100	50	18.8	5.9	26.4
	Average no. of new clients	**126**	**46**	**35**	**73**
Revisit clients	None	5	6.3	11.8	7.6
	1- 25	15	25	23.5	20.8
	25-50	15	18.8	35.3	22.6
	50- 100	20	37.6	23.6	28.4
	> 100	45	12.5	5.9	22.6
	Average no. of revisit clients	**121**	**59**	**59**	**82**
Number of HPs		20	16	17	53

6.2 ANC SERVICES

In villages with a population of about 5,000 people, it is expected that there will be about 250 pregnant women each year. The number of new antenatal care clients over one year was compiled from the register in the health posts. Majority (88.5%) of the health posts provided ANC service in the year preceding the survey. More than half (56.6%) of the health posts had between 1 and 25 new clients, while 31.9% of the health posts had greater than 25 new clients in the year preceding the survey. The average number of ANC clients in the year preceding the survey was 38 pregnant women per health post. With regard to number of ANC clients, the health posts in Oromia region performed better than the health posts in Amhara and SNNP regions. The health posts in Oromia region provided ANC services to an average of 70 pregnant women per year, while it was 21 and 28 pregnant women in Amhara and SNNP regions respectively (Table 6.2).

Table 6.2: Percent distribution of HPs by number of ANC clients during the year preceding the survey

Type of visits	Number of clients	Percent of Health Posts			
		Amhara	Oromia	SNNP	Total
New visits in the year preceding the survey	0	5	0	23.5	9.4
	1- 25	75	50	41.2	56.6
	25 - 50	5	18.8	17.6	13.2
	50 - 100	5	6.3	11.8	7.6
	100 +	5	25.1	5.9	11.1
	Average no. of new clients	**21**	**70**	**28**	**38**
Re-visits in the year preceding the survey	0	5	12.5	23.5	13.2
	1- 25	60	25.0	11.8	33.9
	25 - 50	25	12.5	11.8	17.0
	50 - 100	10	50.2	35.4	30.3
	Average no. of revisit clients	**17**	**60**	**47**	**39**
Number of HPs		20	16	17	53

6.3 DELIVERY AND POSTPARTUM CARE

Delivery care: Similar to the number of pregnant women, about 250 deliveries are expected in each village of 5,000 people over one year period. However, the number of deliveries assisted by HEWs either at the health post or home of the pregnant women in all villages was very low. Less than half (43.4%) of the health posts provided delivery service at the health post in the year preceding the survey. About a third of health posts (39.6%) provided between one and 25 delivery services at the health post over one year period. Only 3.8% of health posts assisted between 25 and 50 deliveries at the health post. The average number of deliveries at the health posts in the year preceding the survey was 7.5 per health post. Deliveries registered at the health posts include deliveries assisted by HEWs at home of the mother. About three-quarter of the health posts provided assisted delivery at home in the year preceding the survey, however, the number of deliveries was very low. In two-thirds of the villages, HEWs assisted between one and 25 deliveries and the overall average number of deliveries at home in the year preceding the survey was 6.3 per health post.

Table 6.3: Percent distribution of health posts by number of assisted deliveries in the year preceding the survey

Place	Number of deliveries	Percent of Health Posts			
		Amhara	Oromia	SNNP	Total
Assisted deliveries at health post	0	45.0	43.8	76.5	54.7
	1- 25	45.0	50.0	23.5	39.6
	25 - 50	10.0	0.0	0.0	3.8
	Average no. of deliveries	**6.8**	**8.4**	**8.5**	**7.5**
Assisted deliveries at home	0	40.0	18.8	17.7	26.4
	1- 25	55.0	81.3	70.6	67.9
	25 – 50	5.0	0.0	11.8	5.6
	Average no. of deliveries	**7.9**	**3.8**	**7.2**	**6.3**
Number of health posts		20	16	17	53

Postpartum care: About 62.3% of the health posts provided postpartum care in the year preceding the survey. Less than a third (28.3%) of the health posts had between 1 and 10 postpartum attending mothers during the same period, while the other third (34%) of the health posts provided postpartum care to at least 10 mothers. The average number of mothers who received postpartum care in the year preceding the survey was 11 per health post. However, there was variation among the three regions, and the average numbers of mothers who received postpartum care were 14, 7, and 10 in Amhara, Oromia, and SNNP regions respectively.

Table 6.4: Percent distribution of HPs by number of postpartum care

Number of mother who received postpartum care	Percent of Health Posts			
	Amhara	Oromia	SNNPR	Total
None	25	62.5	29.4	37.7
1-10	30	18.8	35.3	28.3
10+	45	18.9	35.3	34
Average no. of PPC clients	**14**	**7**	**10**	**11**
Number of HPs	20	16	17	53

6.4 IMMUNIZATION

Majority (83.1%) of the health posts provided immunization service in the year preceding the survey. The health posts that did not provide immunization services were from Oromia and SNNP regions. The number of children immunized against measles over one year was compiled from the register in the health posts that provide immunization. A quarter of the health posts (26.4%) immunized between 1 and 25 children and another 26.4% of health posts immunized between 25 and 50 children against measles in the year preceding the survey. About a third of the health posts (30.3%), mainly from Amhara and SNNP regions, immunized at least 50 children during the same period. The average number of children immunized against measles in the year preceding the survey was 38 children per health post. The average number of children immunized against measles was higher in Amhara (56 children) than in SNNP (39 children) and Oromia (14 children).

Table 6.5: Percent distribution of HPs by number of children immunized against measles less than 1 year

Number of children less than 1 year old	Percent of health posts			
	Amhara	Oromia	SNNP	Total
No child	0	37.5	17.7	17
1- 25 children	15	31.3	35.3	26.4
25-50 children	35	25	17.7	26.4
50- 100 children	40	6.3	17.7	22.7
Greater than 100 children	10	0	11.8	7.6
Average no. of children immunized	**56**	**14**	**39**	**38**
Number of HPs	20	16	17	53

6.5 OTHER HEP SERVICES

HEWs were asked to make available the statistics of other services they had provided on selected HEP services in the one month preceding the survey. The average number of children who attended growth monitoring sessions was 10 children per village. HEWs treated an average of 15 malaria patients with antimalarial drugs in the month preceding the survey. Other services provided are presented in table 6.6. The major differences observed between the regions were on the number of patients treated with anti-malarial drugs (more patients treated in SNNP); on number of HIV/AIDs talk sessions (the number of HIV/AIDS talk sessions were higher in Oromia and SNNP); and on the number of water treatment beneficiary households (large number of beneficiaries in SNNP while very small number in Amhara).

Table 6.6: HEP services provided by health posts in the one month preceding the survey

HEP services provided	Average number per health post			
	Amhara	Oromia	SNNP	Total
Maternal and child health				
Growth monitoring (children)	11.7	11.9	6.0	10.3
Nutrition talks/demonstration (sessions)	3.1	1.7	5.0	3.1
Disease prevention and control				
Number of patients treated with anti-malaria drugs	6.1	7.5	40.4	15.0
HIV/AIDs talks (number of sessions)	2.0	20.2	20.6	12.4
Condoms (number of clients)	5.8	7.7	4.3	6.0
Disease investigation (number of days used)	3.9	1.7	4.8	3.4
Hygiene and environmental sanitation				
Water treatment (number of beneficiary households)	3.3	40.7	111.3	42.0
Village health talks/inspection (no. of days used)	9.6	11.8	10.1	10.4

7. QUALITY OF HEP SERVICE DELIVERY AND SUPPORT SYSTEMS

The quality of care provided by a health facility is determined particularly by the skills of the personnel and the health facility performance including the support and supervision. In-service training, support and supervision are needed to achieve and maintain the motivation of health workers. The health posts should be supported by the kebele council, community, district health office, nearest health centers and other partners. Weaknesses in support and management are also reflected in the quality of services. All health posts should be equipped with the necessary guidelines and standard procedures for HEP implementation. The guidelines and standard procedures for the various HEP services are important factors in the provision of uniform and quality services by outlining the HEP objectives, strategies and targets. They also offer disease specific national guidelines.

To determine the quality of HEP services at the health posts, a number of factors were assessed in this study. The use of partographs in the management of labour and completeness of information recorded in the partograph were used to assess quality of delivery. Quality of immunization was also assessed by the quality of cold chain management system and practice. The frequency and type of refresher training given, and supportive supervision were assessed. The availability of guidelines and standard procedures for different HEP services and supportive programs; availability and appropriate use of registers and other health information records; and availability of IEC materials were also assessed.

7.1 QUALITY OF DELIVERY SERVICES

Quality of delivery can be improved by using partographs in the management of labour, and when used correctly it improves maternal and perinatal mortality rates. Partograph should become an essential part of the documentation of labour in all women, and the information recorded in the partograph should be complete. Partographs were developed to differentiate normal from abnormal labour. The WHO model partograph has an alert and action lines, which is useful to make obstetric decisions in order to improve quality of maternal services. Assessment of health posts to determine the proportion of health posts that use partograph in the management of labour and the completeness of information recorded in the partograph was undertaken to determine the quality of delivery services available in the health posts.

Table 7.1: Percent of deliveries with correctly filled key labour monitoring observations on the partograph

Key factors monitored on partograph	Number of deliveries	% of deliveries
Dilatation of cervix	8	80
Foetal heart rate	6	60
Contractions correctly filled	8	80
Descent correctly filled	2	20
Maternal BP correctly filled	7	70
Total number of deliveries	10	100

Only two health posts (3.8%), which were from Amhara region, were using partograph in monitoring labour of women. However, HEWs' competence survey (reported in HEP evaluation Volume II) showed that a significant proportion of HEWs knew the use of partograph for monitoring of labour. None of the health posts in Oromia and SNNP regions were using partograph. Records of the last five deliveries were assessed from the two health

posts to check whether the necessary key observations were monitored and recorded in the partograph. Dilatation of cervix, contractions and maternal blood pressure were correctly filled in majority of the deliveries, while foetal heart rate was filed in 6 of the 10 deliveries, and descent of foetal head was only filled in 2 of the 10 deliveries.

7.2 QUALITY OF IMMUNIZATION SERVICES

The effective protection of beneficiaries against vaccine preventable diseases depends on the cold chain maintenance system. According to the HEP standard, each health post will be equipped with the necessary cold chain equipments. The functioning of refrigerators needs to be monitored through regular maintenance of temperature chart, which is important in initiating timely action in case of a breakdown by indicating time and duration of temperature irregularities. When the cold chain system fails, all the vaccines distributed to beneficiaries will become impotent. Unlike cold chain maintenance at immunization session, which affects only the beneficiaries immunized during that session, failure of cold chain system at the storage level affects all the beneficiaries immunized for a period of time. To assess the quality of immunization services rendered to beneficiaries at the health post level, the proportion of health posts with functioning refrigerator was determined. Then, among the health posts with functioning refrigerator, the following were assessed: the availability of temperature chart, if the temperature was within the recommended range (2-8 degrees), and if regularity checked. Moreover, the availability of immunization services, availability and frequency of outreach services and the specific responsibility of HEWs during immunization sessions were assessed in all health posts.

Cold chain system

Out of the 53 health posts, 23 health posts had refrigerator among which 20 were functional. The refrigerator's temperature in 16 (80%) of the health posts with functional refrigerator was between 2 and 8 degrees, and it was being checked regularly using temperature chart (Table 7.2). Overall, 30.2% of the health posts had correct cold chain management practice.

Table 7.2: Percent of health posts with refrigerator that is regularly checked and have correct temperature

Refrigerator characteristics	Percent of health posts			
	Amhara	Oromia	SNNPR	Total
Temperature between 2 and 8 degrees	85.7	75.0	80.0	80.0
Regularly checked	85.7	75.0	80.0	80.0
Number of health posts with functional fridges	7	8	5	20
Number of sample health posts	20	16	17	53

Immunization services

Immunization service is available in all sampled villages; however, only 26.4% of the health posts provide daily service at the health post. About 58.5% of the health posts also provide outreach service from the health post, and 90.6% reported that the nearest health centers provide outreach services.

Frequency of outreach services

Majority (73.6%) of the outreach services from the health post or nearest health center occur every month. During the outreach services, HEWs in 86.8% of the health posts participate in vaccination of children and women, while in 13.2% of the health posts, only health personnel from the health centers participate in the vaccination program.

HEWs' responsibility during immunization

The type of activities that HEWs undertake when they participate during immunization outreach services, in order of frequency, includes administration of vaccine (66%), identification of children and mothers (62.3%), registration during immunization (58.5%), mobilization (54.7%), preparation of tally sheet (43.4%), and distribution of immunization diploma (34%).

Table 7.3: Percent distribution of health posts by the characteristics of immunization services in the village

Characteristics of immunization services		Percent of health posts			
		Amhara	Oromia	SNNPR	Total
Type of immunization service available in the village	Service available daily at HP	40	25	11.8	26.4
	Outreach service from health post	55	68.8	52.9	58.5
	Outreach service from nearest health centre	90	93.8	88.2	90.6
Frequency of outreach services	Monthly	80	81.3	58.8	73.6
	Every two months	5	0	0	1.9
	Irregular	5	0	5.9	3.8
	Not stated	10	12.5	35.3	18.9
	Other	0	6.3	0	1.9
HEWs' responsibility during immunization outreach services	Administration of vaccine	55	68.8	76.5	66
	Identification of children and mother	60	43.8	82.4	62.3
	Registration of children and mother	50	68.8	58.8	58.5
	Mobilization of the community	60	37.5	64.7	54.7
	Preparation tally sheet	35	43.8	52.9	43.4
	Distribution of immunization diploma	20	43.8	41.2	34
	Other	10	12.5	0	7.6
	Number of health posts	20	16	17	53

7.3 SUPERVISION

Management and administrative systems including supervision activities are important to maintain and support quality health service delivery, and ensure services are appropriately utilized. According to the organizational structure of the health system, the DHMO is mainly responsible for undertaking supervision of the health posts, although the zonal and regional health teams are expected to provide support and complement the DHMO activities. Quality supervision is critical to promote adherence to standards through provision of feedback on performance. Supervision is also important to identify problems in the health post and its environment that contribute to poor quality services. Supervision can minimize the effects of poorly trained and qualified staff and poor communication between the health system tiers and increase staff motivation. Supervision should be undertaken regularly and include problem solving, reviewing records, and observing practice. Under the HEWs performance survey (Volume-II of HEP Evaluation report), the quality and method of supervision, and HEWs' perception and satisfaction on supervision and supervisors were assessed through interviewing individual HEWs. In this survey, supervision and feedback rates of the health posts were

assessed. Thus, if there were two HEWs in a health post, both were interviewed to provide information about the health post (and/or records of the health post were reviewed).

Two-third (67.3%) of the health posts were supervised by the district/zonal/regional health team during the three months preceding the survey, however, only in 30.2% of the health posts confirmed on record. More health posts in Amhara region than in Oromia and SNNP regions were supervised. Among the health posts supervised by the woreda/zonal/regional health supervisors in the three months preceding the survey, 75% of the health posts received feedback. However, the feedback received was confirmed only in 16.7% of the health posts and 58.3% of the health posts reported that they received oral feedback. There was some variation between the regions (Table 7.4). Relatively more health posts in Amhara received feedback which was confirmed on report compared to the other regions; relatively more health posts in Oromia received oral feedback compared to other regions; and relatively more health posts in SNNP did not receive feedback compared to other regions.

Table7.4: Percent distribution of health posts by supervision and feedback received in the three months preceding the survey

Supervision and feedback status and quality		Percent of health posts			
		Amhara	Oromia	SNNPR	Total
Health post supervised by health supervisors	Yes and confirmed on record	45	25	17.7	30.2
	Yes but not confirmed on record	30	43.8	41.2	37.7
	No	25	31.3	41.2	32.1
	Number of health posts	20	16	17	53
Health post received feedback from supervision team	Yes and confirmed on report	26.7	18.2	0	16.7
	Oral feedback	46.7	72.7	60	58.3
	No	26.7	9.1	40	25
	Number of health posts	15	11	10	36

The supervisions were mainly undertaken by the district health team (Table 7.5). The district health team supervised over two-third of the health posts at least once and 45.3% of health posts at least twice over the three months preceding the survey. About 10% of the health posts were supervised by the zonal and regional health supervisors. The involvement of the zonal and regional health teams was only reported in Oromia and SNNP regions, while none of the health posts in Amhara were supervised by zonal and regional health teams.

Table 7.5: Percent distribution of health posts by number of supervision received by level of health system in the three months preceding the survey

Supervisors	Frequency of supervision	Number and percent of health posts							
		Amhara		Oromia		SNNP		Total	
		Number	%	Number	%	Number	%	Number	%
Woreda	0	5	25	5	31.3	7	41.2	17	32.1
	1	9	45	4	25.0	2	11.8	15	28.3
	≥2	6	40	7	50.0	8	47.1	21	45.3
Zonal	0	20	100	13	81.3	13	76.5	46	86.8
	1	0	0	2	12.5	3	17.6	5	9.4
	≥2	0	0	1	6.3	1	5.9	2	3.8
Regional	0	20	100	14	87.5	14	82.4	48	90.6
	1	0	0	2	12.5	2	11.8	4	7.5
	≥2	0	0	0	0.0	1	5.9	1	1.9

7.4 REFRESHER TRAINING OF HEALTH PERSONNEL

The number of health personnel from each of the health posts who received refresher training on the various health service packages in the year preceding the survey was assessed. Although a wide range of health service packages were covered through refresher training sessions in the year preceding the survey, the percent of health posts whose staff received the training varied a lot for the various health service packages (Table 7.6). More than a third of health posts reported that there was at least one health personnel trained on malaria prevention and control during the one year preceding the survey. About 28.3% of the health posts also reported that there was at least one staff trained on family planning. Less than a quarter of the health posts reported that at least one staff member received training on management of anemia during pregnancy, focused antenatal care, prevention of mother to child transmission of HIV, and neonatal care. Emergency obstetric care and post-abortion care training were given to staff working in 11.4% and 7.6% of the health posts during the one year preceding the survey.

Rating of training received: HEWs were asked to rate the importance of the training received by any staff in the health post on each of the health service packages during the one year preceding the survey. HEWs rating of the importance of refresher training varied among the various HEP service packages (Table 7.7). The highest rating of importance (very important and important) was given to focused antenatal care (77.4%), neonatal care (77.4%), counseling and communication (73.6%), reproductive health (71.7%), management of anemia during pregnancy (69.9%), prevention of mother to child transmission (PMTCT) of HIV (69.3%), post-partum care (68%), and emergency obstetric care (67.9%). Comparatively lowest rating of importance was given to malaria prevention and control (56.6%) and family planning (66%).

Table 7.6: Percent distribution of HPs by number of trained staff on HEP services in 1 year preceding the survey

Health service packages	Percent of health posts by number of personnel trained				
	1	2+	Not stated	At least one trained	No one trained
Malaria prevention and control	20.8	18.9	22.6	39.7	37.7
Family planning	15.1	13.2	15.1	28.3	56.6
Management of anemia during pregnancy	11.3	13.2	5.7	24.5	69.8
Counseling and communication	3.8	20.8	3.8	24.6	71.7
Focused antenatal care	11.3	11.3	9.4	22.6	67.9
Prevention of mother to child transmission of HIV	9.6	11.5	17.0	21.1	63.5
Neonatal care	9.4	11.3	7.6	20.7	71.7
Reproductive health	9.4	7.55	0	17.0	83
Post –partum care	3.8	11.3	9.4	15.1	75.5
Infection prevention	3.8	9.4	3.8	13.2	83
Emergency obstetric care	7.6	3.8	3.8	11.4	84.9
Post- abortion care	5.7	1.9	5.7	7.6	86.8
Management skills	1.9	3.8	9.4	5.7	84.9

Table 7.7: Percent distribution of HPs by rating of the importance of the trainings they received

HEP service packages	Percent of HPs by rating of importance of training received					Total positive rating
	V. Important	Important	Neutral	Not Important	Missing	
Malaria prevention and control	37.7	18.9	9.4	7.6	26.4	56.6
Family planning	50.9	15.1	3.8	1.9	28.3	66
Manag. of anemia during pregnancy	49.1	20.8	7.6	3.8	18.9	69.9
Counseling and communication	51.0	22.6	5.7	5.7	15.1	73.6
Focused antenatal care	58.5	18.9	5.7	5.7	11.3	77.4
PMTCT of HIV	55.8	13.5	3.9	5.8	21.2	69.3
Neonatal care	49.1	28.3	1.9	5.7	15.1	77.4
Reproductive health	58.5	13.2	7.6	1.9	18.9	71.7
Post –partum care	47.2	20.8	7.6	5.7	18.9	68
Infection prevention	49.1	17.0	7.6	3.8	22.6	66.1
Emergency obstetric care	54.7	13.2	9.4	0.0	22.6	67.9
Post- abortion care	41.5	24.5	9.4	3.8	20.8	66
Management skills	41.5	28.3	9.4	5.7	15.1	69.8

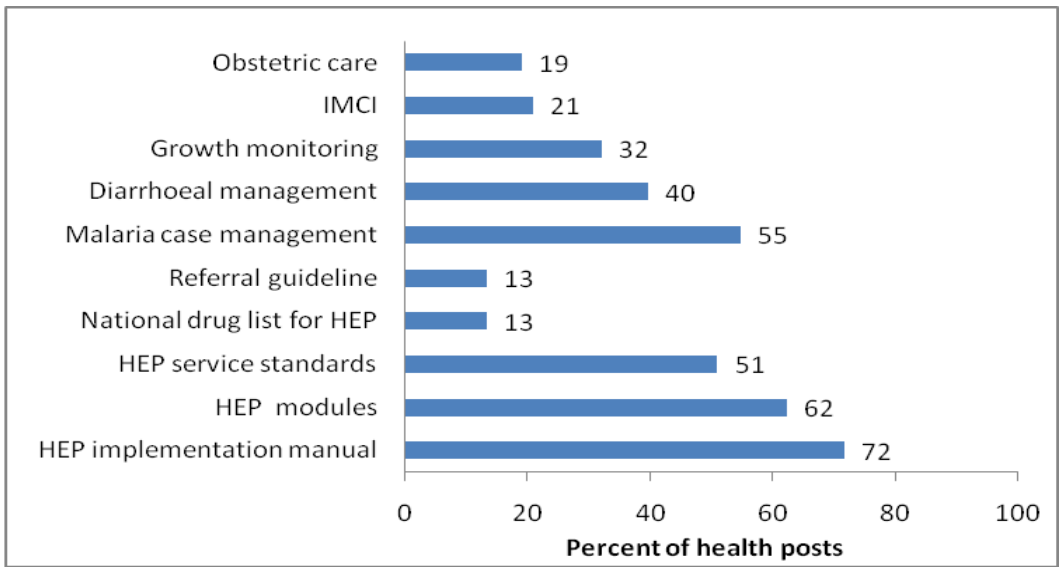
7.5 GUIDELINES AND STANDARD PROCEDURES

7.5.1 Availability of guidelines and standard procedures

Figure 7.1 shows the availability of guidelines and standard procedures. About two-thirds of the health posts had national HEP implementation manual and HEP modules, and half of the health posts had malaria case management guideline and HEP service standards. A third of the health posts also had diarrheal management guideline and growth monitoring guidelines. IMCI and obstetric guidelines were available only in one-in-five

health posts. Referral guideline and national drug list for HEP were available in 13.2% of the health posts. None of the health posts in Oromia region had HEP service standards, HEP implementation manual and obstetric care manual.

Figure 7.1: Percent of health posts with latest National and Regional Guidelines and Standard Procedures



7.5.2 Language of available guidelines and standards

Although majority of the various guidelines and standards available in majority of the health posts in Amhara region were prepared in Amharic language, some of the guidelines and standards such as growth monitoring, IMCI, and obstetric guidelines were in English in greater part of the health posts. In Oromia region, the language of the various available guidelines and standards was Oromiffa in majority of health posts but some of the available guidelines and standards were also prepared in English and Amharic languages. The language of the available guidelines and standards was in Amharic in majority of health posts in SNNP region but guidelines and standards in English were also widely available.

Table 7.8: Percent distribution of health posts by language of available guidelines and standards by region

Guidelines and standards	Percent of health posts by region						
	Amhara		Oromia			SNNP	
	English	Amharic	English	Amharic	Oromiffa	English	Amharic
Diarrhoeal management	40	40	0.0	33.3	33.3	12.5	50.0
Growth monitoring	62.5	37.5	0.0	0.0	50.0	28.6	57.1
HEP modules	11.1	72.2	0.0	0.0	20.0	30.0	40.0
HEP service standards	18.8	68.8	0.0	0.0	0.0	12.5	50.0
IMCI	71.4	28.6	100.0	0.0	0.0	66.7	33.3
Malaria case management	25	58.3	12.5	12.5	12.5	11.1	66.7
National drug list for HEP	25	50	0.0	10.0	20.0	33.3	33.3
HEP implementation manual	16.7	72.2	0.0	0.0	0.0	0.0	80.0
Obstetric care	66.7	16.7	0.0	0.0	0.0	0.0	75.0
Referral guideline	0	100	0.0	0.0	100.0	33.3	33.3

7.5.3 Preferred language for guidelines and standards

The preference of language for all guidelines and standards was Amharic in majority of health posts in Amhara and SNNP regions. The preference of language for all guidelines and standards was Oromiffa in majority of health posts in Oromia region.

Table 7.9: Percent distribution of health posts by the preferred language for guidelines and standards

Guidelines and standards	Percent of health posts by region						
	Amhara		Oromia			SNNP	
	English	Amharic	English	Amharic	Oromiffa	English	Amharic
Diarrhoeal management	15.0	75.0	6.3	12.5	50.0	0.0	52.9
Growth monitoring	20.0	65.0	12.5	12.5	50.0	0.0	52.9
HEP modules	15.0	65.0	0.0	6.3	50.0	0.0	41.2
HEP service standards	5.0	75.0	0.0	6.3	56.3	0.0	35.3
IMCI	15.0	60.0	12.5	6.3	62.5	0.0	58.8
Malaria case management	20.0	65.0	0.0	6.3	37.5	0.0	29.4
National drug list for HEP	10.0	75.0	6.3	12.5	68.8	0.0	58.8
HEP implementation manual	10.0	70.0	0.0	0.0	25.0	5.9	29.1
Obstetric care	10.0	75.0	6.3	18.8	56.3	0.0	58.8
Referral guideline	5.0	75.0	6.3	12.5	62.5	0.0	64.7

7.6 REGISTERS/CARDS

Although more than half of health posts had most of the essential registers/cards, it was generally only in about a third of the health posts that majority of the registers/cards properly used (Table 7.10). Family planning register was available in 69.8% of the health posts, while 52.8% of health posts used it properly. On the other hand, 52.8% of health posts had FP cards but only 26.4% of health posts used it properly. Antenatal care register was also available in 67.9% of the health posts but properly used in 41.5% of health posts. Although, ANC cards were available in 56.7% of the health posts, only 20.8% of HPs used it properly. Referral forms were available in only two (3.8%) of the health posts. The essential registers and cards were well organized and easily available in over 50% of the health posts with the various registers and cards.

Table 7.10: Percent of health posts with essential registers/cards during three months preceding the survey

Essential registers/cards/forms	Percent of health posts			
	Available			Not available
	Properly used	Not properly used	Total	
FP register	52.8	17	69.8	30.2
ANC register	41.5	26.4	67.9	32.1
Delivery register	37.7	28.3	66	34
Outpatient register	41.5	20.8	62.3	37.7
Postpartum register	24.5	35.9	60.4	39.6
Immunization diploma	41.5	18.9	60.4	9.6
Monthly summary sheet	41.5	18.9	60.4	39.6
Child health cards	43.4	15.1	58.5	41.5
Daily tally sheet	37.7	20.8	58.5	41.5
Drugs and supplies register	35.9	20.8	56.7	43.4
Ante-natal cards	20.8	35.9	56.7	43.4
FP card	26.4	26.4	52.8	47.2
Referral forms			3.8	96.2
Number of health posts	20	16	36	17

7.7 POSTER AND CHARTS

The interviewers observed the premises of the health post for availability of displayed poster and charts during the survey day. The commonly displayed poster was HIV/AIDS counseling and testing poster, which was displayed in 75.5% of the health posts, followed by family planning poster displayed in 62.3% of the health posts. Moreover, family planning flip charts were also displayed in about half of the health posts. Posters and flip charts on maternal health, ANC, breastfeeding, and STD care were not widely displayed (Table 7.11). Monthly summary sheets and daily attendance sheets were displayed in 54.7% and 39.6% of the health posts respectively.

Table 7.11: Percent of health posts with posters and charts displayed in plain view at the health post

Type of posters or charts displayed	% of HPs displayed
HIV counselling and testing poster	75.5
Family planning poster	62.3
Family planning flip chart	49.1
Maternal health poster	39.6
Breastfeeding poster	34
STD poster	30.2
STD flip chart	20.8
ANC flip chart	20.8
Monthly summary sheet	54.7
Daily attendance sheet	39.6
Number of health posts	53

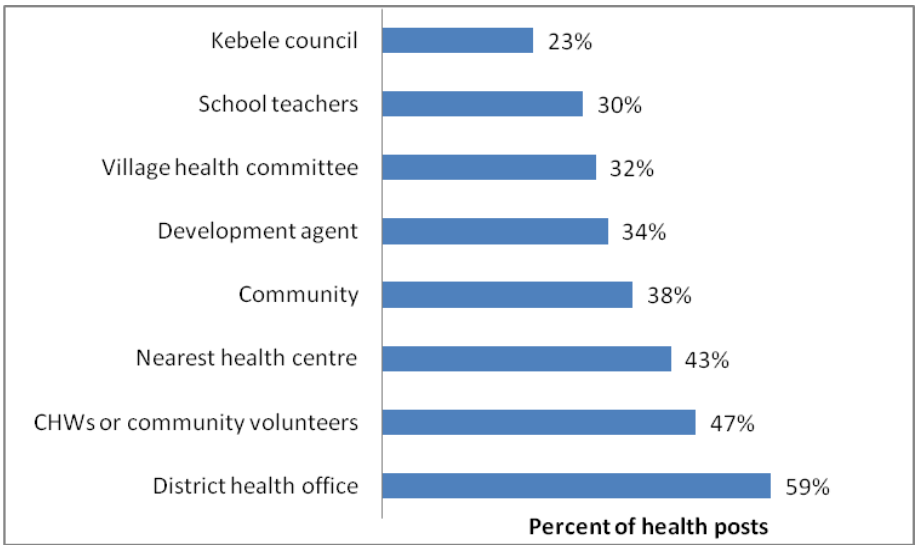
7.8 SUPPORT TO HEP FROM STAKEHOLDERS

Majority (96.2%) of the health posts reported that there was a health committee in the village that provides support to the HEP implementation. The HEWs working in each health post were asked to rate the degree of support they get from the different stakeholders of HEP. More than half (58.5%) of the health posts rated the support they received from the district health office as very high or high. The support from CHWs/volunteers and the nearest health center were rated as high or very high by 47.2% and 43.4% of health posts, respectively. About a third of the health posts also rated the support they received from the community, development agents, the village health committee and school teachers as very high or high. Only 22.7% of the health posts reported that they received very high or high support from the kebele council.

Table 7.12: Percent distribution of health posts by the level of support they received from various stakeholders

	Percent of health posts					
Stakeholders	**Very high**	**High**	**Moderate**	**Low**	**Very low**	**N/S**
The district health office	20.8	37.7	28.3	7.6	5.7	0
CHWs or community volunteers	20.8	26.4	32.1	17	3.8	0
The nearest health centre	13.2	30.2	30.2	13.2	11.3	1.9
The community	9.4	28.3	45.3	15.1	1.9	0
Development agent	11.3	22.6	34	18.9	13.2	0
The village health committee	17	15.1	35.9	13.2	15.1	3.8
School teachers	5.7	24.5	22.6	33.9	13.2	0
The kebele council	1.9	20.8	18.9	24.5	28.3	5.7

Figure 7.2: Percent of health posts that expressed receiving very high or high support from stakeholders



8. REFERRAL SYSTEM

HEP is a package of basic and essential promotive, preventive and basic curative health services targeting households in a community, based on the principle of Primary Health Care. HEWs are responsible for providing basic health services within their scope of practice. Continuity of care for the community is ensured through the provision of referrals to higher health facilities when necessary. For example, HEWs are expected to undertake ANC and assist normal deliveries but cannot provide emergency obstetric care, which is critical to prevent maternal mortality. As the first point of entry for the community to the health system, health posts are expected to refer 10%-15% of pregnant mothers that are expected to develop obstetric complications. In a village of 5000 people and about 250 pregnant women per year, it is expected that there would be between 25 – 38 pregnant mothers who would develop obstetric complications. Ideally, if all obstetric complications were identified by HEWs, 25-38 pregnant women should be referred per health post annually. However, there are multiple factors that can affect the referral system. In order for the referral system to function, HEWs should be well equipped with the necessary knowledge and skills to identify cases that need referral services. There is also a need to have communication systems between the health posts and the referral facilities. Moreover, the accessibility of the referral health facilities in terms of distance, availability of means of transportation, and cost of services are important factors affecting referral system. The quality of services at the referral health facilities is also an important factor affecting the functionality of referral system. All these factors could affect the willingness of patients to go to referral health facilities. Referral health facilities, on the other hand, should be able to provide feedback to the health posts which motivates the HEWs as well as patients and ensure the continuity of patient care. The assessment of the referral system included analysis of the number of patients referred per health post annually, main reasons for referring patients, willingness of patients to go to referral health facilities, type of referral health facilities and their distance from the health posts, means of available transportation, availability of feedback from referral health facilities, and the main challenges affecting the referral system.

8.1 RATE OF PATIENT REFERRAL

8.1.1 Obstetric cases

The rate of referral for obstetric clients among other factors indicates the quality of delivery service, because risk factors for referral can only be identified if there is good monitoring of delivery. The health posts were asked for the total number of obstetric patients referred during the year preceding the survey. About 60.4% of the health posts reported that at least one obstetric patient was referred from the health post in the year preceding the survey. About 43.4% of health posts each referred between 1 and 5 obstetric patients over one year, 7.6% of health posts each referred between 5 and 10 obstetric patients, and 9.4% of health posts each referred at least 10 obstetric patients. The average number of obstetric clients referred over one year was 3.2 clients per health post.

8.1.2 Non-obstetric patients

A quarter of the health posts reported that there were no other cases referred during one year period. A quarter of the health posts each referred between 1 and 5 cases, 13.2% of health posts each referred between 5 and 10 cases, another quarter of health posts each referred between 10 and 100 cases, and 7.6% of health posts referred at least 100 cases during the one year preceding the survey.

Table 8.1: Percent distribution of HPs by the number of referred patients over 1 year preceding the survey

Type of cases	Number of cases referred	Percent of health posts			
		Amhara	Oromia	SNNPR	Total
Obstetric patients	No patient referred	35	50	35.3	39.6
	1-5	50	25	52.9	43.4
	6-10	5	12.5	5.9	7.6
	> 10	10	12.5	5.9	9.4
	Average no. of obstetric patients	**4**	**2.6**	**2.8**	**3.2**
Other cases	No patient referred	15	37.5	23.5	24.5
	1-5	35	25	23.5	28.3
	6-10	10	6.3	23.5	13.2
	11-100	35	18.8	23.6	26.4
	> 100	5	12.5	5.9	7.6
	Average no. of cases	**24**	**18**	**20**	**21**
Number of health posts		20	16	17	53

8.2 MAIN REASONS FOR REFERRING PATIENTS

In 56.6% of the health posts, HEWs reported that mothers in labour were referred because there were no medical supplies necessary to provide the normal delivery services. More than a third (37.7%) of health posts reported that mothers in labour were referred because the HEWs lacked the necessary skills to manage the delivery. The proportion of health posts that referred other patients due to lack of supplies, drugs and functional equipments was 79.3%, while 77.4% of health posts did so because of lack of skilled manpower.

Table 8.2: Percent distribution of health posts by the main reason for referring patients

Type of cases	Reason	Percent of health posts			
		Amhara	Oromia	SNNPR	Total
Obstetric cases	Lack of supplies	45.0	56.3	70.6	56.6
	Lack of skills	20.0	43.8	52.9	37.7
Other cases	Lack of supplies	70.0	81.3	88.2	79.3
	Lack of skills	85.0	62.5	82.4	77.4
	Number of HPs	20	16	17	53

8.3 PATIENT'S WILLINGNESS TO GO TO REFERRAL HEALTH FACILITIES

HEWs were asked their experience with referred patients whether the patients were willing to go to higher health facilities when referred by HEWs. HEWs working in 41.5% of the health posts reported that all referred patients were willing to go to higher health facilities. HEWs in additional 22.6% of health posts also reported that majority of patients were willing to go to higher health facilities. On the other hand, HEWs working in 5.7% and 13.2% of the health posts reported that none of the referred patients and a few of the patients, respectively, were willing to go to higher health facilities.

Table 8.3: Percent distribution of health posts by patients' willingness to go to referral facility

Proportion willing to go to referral facility when referred	Percent of health posts			
	Amhara	Oromia	SNNP	Total
All patients	45	25	52.9	41.5
Majority of patients	35	18.8	11.8	22.6
Some patients	15	18.8	11.8	15.1
Few patients	0	18.8	23.5	13.2
Not at all	0	18.8	0	5.7

From the health posts which reported that there were patients in the village who were not willing to go to referral health facilities, the main reasons of patients for not going to referral health facilities according to HEWs were assessed (Table 8.4). The main reasons in order of frequency were lack of financial capacity (45.3%), distance (22.6%), lack of awareness (17%), lack of support (7.6%), and poor service at referral health facilities (3.8%).

Table 8.4: Percent distribution of health posts by main reasons for people not willing to go to referral facility

Reasons	Percent of health posts			
	Amhara	Oromia	SNNPR	Total
Lack of financial capacity	50	50	35.29	45.3
Distance	20	43.8	5.9	22.6
Lack of awareness	10	25	17.7	17
Lack of support from relatives/community	5	12.5	5.9	7.6
Poor service at referral health facilities	0	6.3	5.9	3.8
Other	5	12.5	0	5.7
Number of health posts	11	12	8	31

8.4 REFERRAL HEALTH FACILITIES

About three-quarters (73.6%) of the health posts refer patients to nearest health centers, while 11.3% of health posts refer patients to hospitals. Although, the average distance of the referral health facilities was 14Kms from the health posts, it varied among the regions. The average distance of the referral health facilities in Amhara and SNNP was about 10Kms, while it was about 23Kms in Oromia. Majority (81.1%) of the health posts were within acceptable distance (<20km) from the referral health facilities.

Table 8.5: Percent distribution of health posts by type of referral health facilities and their distance

Type of referral health facilities and distance		Percent of health posts			
		Amhara	Oromia	SNNP	Total
Type of nearest referral health facility	Hospital	15	6.3	11.8	11.3
	Health centre	70	62.5	88.2	73.6
	Other	15	31.3	0	15.1
Distance to nearest referral health facility (Km)	<10	60	6.3	64.7	45.3
	11-20	35	50	23.5	35.8
	>20	5	37.5	11.8	17
	Average distance	10.3	23.4	9.9	14.0
Number of HPs		20	16	17	53

8.5 TRANSPORTATION FOR TRANSFER OF REFERRAL PATIENTS

The main means of transportation system for transfer of obstetric emergency from the health posts to the referral health facilities was reported to be using stretcher (71.7%) followed by animals (17%). Animals were mainly used in Oromia. Bus was used in 5.7% of the health posts, but mainly in Amhara and Oromia regions.

Table 8.6: Percent distribution of health posts by means of transportation for transfer of obstetric emergency

Means of transportation	Percent of health posts			
	Amhara	Oromia	SNNP	Total
Bus	10	6.3	0	5.7
Animal	5	37.5	11.8	17
Stretcher	80	50	82.4	71.7
Other	5	6.3	5.9	5.7
Number of HPs	20	16	17	53

Transportation arrangements for emergency referral of obstetric patients are mainly made by relatives (41.5%) and community (35.9%). As can be expected the staff of the health posts are not in a position to provide or arrange transportation of referred obstetric patients.

Table 8.7: Percent distribution of health posts by transportation arranger for emergency referral of mother

Transportation arranger	Percent of health posts			
	Amhara	Oromia	SNNP	Total
Health post staff	0	0	5.9	1.9
Relatives	50	37.5	35.3	41.5
Community	40	18.8	47.1	35.9
Neighbours	10	0	5.9	5.7
IDER	0	37.5	5.9	13.2
Number of HPs	20	16	17	53

8.6 FEEDBACK FROM REFERRAL HEALTH FACILITIES

More than half (54.7%) of the health posts reported that they receive feedback from the referral health facilities about the patients that they referred. Higher proportion of health posts in SNNP (82.4%) receives feedback from referral health facilities than health posts in Oromia (37.5%) and Oromia (45%). About a quarter (28.3%) of the health posts (majority in SNNP region) reported that the referral health facilities refer back

patients (cases of tuberculosis (TB) or leprosy) who are residents of the village for follow-up of treatment at the health posts.

Table 8.8: Percent of health posts that receive feedback and patients for follow-up from referral health facility

Type of feedback	Percent of health posts			
	Amhara	Oromia	SNNPR	Total
Feedback for any referred patients	45.0	37.5	82.4	54.7
Refer cases (TB & leprosy) for follow-up	20	12.5	52.9	28.3
Number of health posts	20	16	17	53

8.7 CHALLENGES IN THE IMPLEMENTATION OF REFERRAL SYSTEM

HEWs working in the sample health posts were asked to identify the major obstacles that affect the referral system. The major obstacles that affect the referral system in order of frequency were distance (52.8%), lack of means of transportation (50.9%), poor roads (47.2%), no free services/drugs at referral health facilities (47.2%), and lack of awareness by the community (37.7%). Other obstacles identified by the health posts are presented in table 8.9.

Table 8.9: Percent of health posts with obstacles that affect the referral system

Obstacles	Percent of health posts			
	Amhara	Oromia	SNNP	Total
Distance	50	56.3	52.9	52.8
No transportation	45	62.5	47.1	50.9
Poor roads	40	56.3	47.1	47.2
No free service/drugs at referral health facilities	55	50	35.3	47.2
Lack of awareness by community	40	31.3	41.2	37.7
No feedback from referral health facilities	35	12.5	23.5	24.5
Patients unwilling to go to higher level	15	25	5.9	15.1
High transportation cost	25	0	11.8	13.2
Poor customer service at health centre/hospital	20	6.3	0	9.4
Patients prefer private clinic	10	12.5	5.9	9.4
Other	5	0	5.9	3.8
Total number	20	16	17	53

9. DISCUSSIONS AND CONCLUSIONS

While it is feasible to offer HEP services under a variety of conditions, there are infrastructure, resource, and health system components that are important for enabling a health post to provide and maintain good quality health services, as well as for increasing appropriate utilization by the population. This study gives a useful idea of what is happening in health posts around the country in general and the study regions in particular. The study provides an exact quantification of the problems in health posts and highlights some areas of concern. The selected indicators for the study of health post performance included basic measures of the availability, accessibility, productivity, and quality of HEP services.

INFRASTRUCTURE AVAILABILITY

Physical Infrastructure availability

It is encouraging that almost all sampled villages have a health post infrastructure with adequate space. The role of the community in the construction of health posts was found to be very impressive. Majority of the health posts were built by the local communities and the government. Large number of sampled health posts was also found to have separate delivery room, although with huge regional variation.

Basic facilities and utilities

The study identified some of the key concerns which included lack of basic operating necessities such as clean water, toilets, transportation systems and electricity in a substantial proportion of sample health posts. Waste disposal mechanism in the form of burning and dumping was available only in 54.7% of health posts. The other health post threw their waste into the trash, which is dangerous and unacceptable, as proper waste disposal is important for infection control and safety of the service providers. It also prevents contamination of the surrounding environment. Water supply is very critical indicator of health delivery system but unfortunately water supply was available only in 11.3% of the health posts. Electricity/power supply is very essential for safe deliveries at health post level, but access was poor in general.

Health Post Staffing

Although almost all health posts were staffed with HEWs, all were not staffed as per the standard. The regions used different approaches in the scaling-up of HEP into the villages, particularly with the number of HEWs deployed per health post. For example in SNNP region, majority of health posts were staffed by one HEW with the objective of facilitating coverage of as many villages as possible in short period of time until sufficient number of HEWs are trained. In addition to HEWs, majority of health posts were supported by CHWs.

HEP SERVICES AVAILABILITY AND ORGANIZATION

Basic HEP functions and services performed by HEWs in the three months prior to the survey in a majority of sample health posts (but with varying degrees of coverage) include immunization, family planning, and antenatal care, management of diarrhea, normal delivery services, growth promotion and nutrition, and first aid. On the other hand postnatal care for baby and postpartum care for mothers were rendered in minority of health posts. Despite overall positive findings, the health post survey demonstrated that there are still many areas for improvement around the following areas.

Availability of HEP Services

The way services are organized limits access to basic HEP services. The mix of services offered by the sample health post does not seem responsive to the needs of the population. Sample health posts provided limited range of services, thus making many health services unavailable. Limited access to referral care was also a

major problem as shown in the section on referral system. This may be a reflection of the lack of basic essential medical equipment, supplies and drugs.

Operational days of the health post

A quarter of the health posts open for at least five days a week, while majority of health posts open between one and three days a week. Although, majority of the health posts open on Saturday and/or Sunday, about a third of health posts don't open on weekends. This indicates that the operation hours of a significant proportion of health posts was not favorable in promoting accessibility to ensure access to needed health services during working hours, after hours and on weekends. The FMOH HEP implementation manual calls for the HEWs to spend 25% of their time at the health post. Thus, with a clear guidance and arrangements, the HEWs can alternate their time between the health post and household level activities to maximize the health posts hours of operation.

Supervision of CHWs or volunteers

Majority of sample health posts were supported by volunteer community health workers/promoters (CHWs/CHPs) in the delivery of HEP services, which would contribute to the availability, accessibility and quality of services. Moreover, the HEWs in majority of the health posts provided support and supervision to the CHWs/CHPs to ensure quality of services. However, the number of available CHWs/CHPs per village currently involved was less than the standard of the FMOH for CHP to population ratios. The HEP implementation guideline considers that HEWs are likely to be most effective when working in collaboration with community-based volunteer health workers to extend contact with families and the community. Thus, aggressive effort is needed to select and train model households to be CHP to achieve the standard ratio. Moreover, the HEW alone cannot be expected to implement all the activities mentioned in HEP guidelines, therefore it is very important that they are supported by all types of community health works. In this regard all the activities of different community health work needs to be well coordinated, harmonized and appropriately led by the HEW.

READINESS OF HEALTH POSTS TO PROVIDE HEP SERVICES

Availability of medical equipments and supplies

General services Equipment

Stethoscope, first aid kit and kidney dishes were available in majority of health posts. However, only 7.5% of the health posts were equipped with 80% of the minimum medical equipments for general services as per the standard set for health posts. Although, first aid kits and kidney dishes may be available in majority of health posts, if sterilization set/autoclave, for example, is not available, the prevention and control of infections would be difficult.

Child Health Services

The Majority of health posts had baby weighing scale which would enable them to undertake growth monitoring services. Graduated measuring jar was not available widely, which may affect diarrheal management and demonstration activities. Similarly, only a quarter of health posts had the necessary cold chain system to provide immunization services. Overall the minimum necessary equipments to undertake an integrated child care services were not available in majority of health posts.

Maternal and newborn health services

Majority of health posts were equipped with blood pressure apparatus, delivery kit, and foetoscope, however, medical equipments such as delivery table and ANC kit were available only in less than half of the health posts.

Similarly, neonatal resuscitation mask and bag was available only in minority of the health posts. The assessment of the availability of a set of medical equipments necessary to provide ANC and safe delivery services showed a poor picture. None of the health posts were equipped with the set of minimum medical equipments, while one in five health posts were equipped with 60% of the minimum medical equipments necessary for ANC and delivery services. The lack of equipments and supplies indicates the inadequate capacity of the health posts to provide basic obstetric care and life saving new born health care services.

Availability of drugs

Drugs and supplies availability in the sample health posts was inconsistent and insufficient. The proportion of sample health posts that had stock-out of various drugs in the three months preceding the survey was very high. These stock-outs include critical drugs such as contraception methods, analgesics, vaccines, antimalarial drugs, ORS, and micronutrients/supplements. ORS was available in only 58.5% of the health posts, and over half of the health posts reported stock-outs during the three months preceding the survey. Although majority of health posts had contraceptive methods, about a third of the health posts reported stock-outs in the last three months preceding the survey. The availability of micronutrient supplements such as Iron, folic acid and Vitamin A was generally very low. Drug loss due to expiration was low in the majority of health posts which might be due to the fact that drugs and supplies were in short supply and consumed before expiration. Over forty percent of sample health posts were not using record keeping and information systems, which might have contributed to the high stock-out rates for most of the drugs. Poor inventory management practices might have led to the frequent stock-outs and unreliable supply of essential drugs. The findings may reflect the early stage of HEP implementation, particularly the inability of the DHMO to manage as many health posts as the number of villages in a district.

PRODUCTIVITY OF HEALTH POSTS

Family planning

Although majority of the sample health posts provided family planning services in the one year preceding the survey, the number of family planning clients served by majority of the health posts was low. The overall average number of family planning clients who utilized the health posts in the year preceding the survey was 73 clients. However, the number of clients varied considerably across the health posts, from 0 to over 100. Similarly, the average number of clients varied across the three regions. The number of FP clients was higher in Amhara than in Oromia and SNNP regions. When the actual service rendered is compared with the annual expected number of beneficiaries (about 900 women of reproductive age per health post), there seems to be a huge gap in coverage. Many factors could contribute to the low productivity of the health posts on family planning services. However, based on the HEP evaluation results, lack of methods of contraception (poor supply system and high stock-out rates), lack of family planning counseling skills of HEWs (as indicated in Volume II of HEP Evaluation report), and lack of demand by community (as shown in Volume I of HEP Evaluation report) could contribute greatly to the low productivity of the health posts.

ANC services

Majority of the sample health posts provided ANC services in the year preceding the survey, however, the number of pregnant mothers who received ANC services by majority of the health posts was low. Only about a third (31.9%) of health posts had more than 25 new clients in the year preceding the survey, while the other health posts had between one and 25 new clients or did not provide ANC service at all. Overall, the average number of new ANC clients who received services was 38 pregnant women per health post per year. Relative to the expected 250 pregnant women that are expected to receive ANC services per village per year, the low number of ANC services provided per health post found in the sample health posts shows that the health posts

are underutilized. The lack of some of the necessary equipments and supplies for ANC services in majority of the health posts (as shown by this study) indicates the inadequate capacity of the health posts to provide quality ANC services. Moreover, lack of demand by the community and inadequate HEWs' skill to undertake ANC services could contribute to the low productivity of the health posts on ANC services.

Delivery and postpartum care

The average number of assisted deliveries provided per health post was 7.5 deliveries per year. Health posts in the Oromia and SNNP, on the average, performed more deliveries than health posts in Amhara. Similar to the number of pregnant women expected to attend ANC, about 250 delivering mothers are expected in each village over one year period, but the number of deliveries assisted by HEWs either at the health post or home of the pregnant women was very low and incomparable to the expected number of delivering mothers. Moreover, more than half of the health posts did not provide delivery service at the health post in the year preceding the survey. About two-thirds of the health posts provided postpartum care in the year preceding the survey, and overall, the average number of clients in the same period was 11 clients per health post. The unavailability of delivery and postpartum care in a significant number of health posts for one year period, and the overall low productivity could be attributed, among other factors, to lack of some of the necessary medical equipments and supplies in a significant number of health posts, low skills of HEWs in delivery and postpartum care (as indicated in Volume II of HEP Evaluation report), and to lack of demand by community for cultural and other reasons (as shown in Volume I of HEP Evaluation report).

Immunization

Immunization service was available in majority of the health posts, however, the number of immunized children under the age of one year was low compared with the number of children expected to be immunized over one year period. Only about a third of the health posts immunized over 50 children in the year preceding the survey. On the other hand, a significant number of health posts did not provide immunization to any child, and a quarter of health posts immunized between one and 25 children over one year period. Overall, the average number of children under the age of one year who received immunization against measles in the year preceding the survey was 38 children per health post.

A very low client-health post ratio was observed in the sample health posts relative to the expected eligible clients for maternal health, child health and family planning services. Productivity of the health posts is a function of a range of factors, which could contribute to the observed low number of clients who received HEP services at the health posts. Productivity of the health posts could be affected by the availability and quality of services at the health posts, which depends on the type and amount of resources available for delivering HEP interventions. Moreover, level of workload, particularly in health posts staffed with only one HEW could be a factor. Lack of necessary medical equipments and supplies as shown by this study could be a major contributor for the low productivity of the health posts. Similarly, inadequate knowledge and skills on some aspect of HEP services as indicated in the HEWs' performance survey could affect the quality of service and hence reduce the utilization by affecting the confidence of people in the program. On the demand side, lack of perceived need due to lack of awareness by the community and dissatisfaction with the service qualities could be a major contributing factors for the low productivity.

QUALITY HEP SERVICE DELIVERY AND SUPPORT SYSTEMS

Quality of delivery service

Partograph, a graphic recording of progress of labour with salient features in the mother and feotus, has been in use since 1970 to detect labour that is not progressing normally. It serves as an early warning system. It also increases the quality and regularity of all observations on the fetus and the mother in labour and aids early

recognition of problems with either the mother or feotus. However, the findings in the assessment of delivery care showed that deliveries were not being monitored with a partograph in majority of the health posts. An assessment of the quality of data collected in a partograph from the last 5 deliveries attended at the health posts was undertaken only in two health posts in Amhara that were using partograph. The practice in using the partograph in the two health posts showed that majority of the information were regularly and appropriately monitored indicating a quality of care at least in the two health posts.

Quality of immunization services

One way of assessing the quality of immunization services provided at health facilities is through checking the cold chain system. Although refrigerators were not available in all health posts, our study revealed that majority of the health posts with a functioning refrigerator had a refrigerator temperature between 2 and 8 degrees and were regularly checked. This implies that health posts were providing potent vaccines.

Supervision

Management and administrative systems are important to maintain and support quality health service delivery, which ensure that the health system is meeting the needs of the community, and increase the probability that services will be appropriately utilized. Although, the findings of the survey showed that majority of health posts received supervision from DHMO, the frequency of supervision and type of feedback they received was not satisfactory. Majority of the health posts were supervised once over three months period, and only a negligible proportion of health posts received written feedback. Moreover, the involvement of the zonal and regional health bureaus was limited with only one in five health posts supervised by the zonal and regional health bureaus supervisors during the three months preceding the survey. This has several implications in terms of helping HEWs to promote adherence to standards through provision of feedback on their performance as clear and timely feedback on performance is an important factor in enabling a health worker to achieve and sustain desired performance. Other important benefit of supervision is to identify problems in the health post and its environment that contribute to poor quality services. Considering the lack of transport and communication, it may also be important for DHMOs and regions to consider alternative supervision approaches. The findings of this study level of supervision was observed when HEP was rolled out to only about two-thirds of the villages, but once all villages are covered by HEP, the anticipated increase in the number of health posts demands new supervision approaches, roles and capacities from all levels in the health system.

Refresher training

The proportion of health posts with at least one staff who received refresher training in the one year preceding the survey for any HEP related topics was found to be low. The major inconsistency in planning and provision of refresher training was that while health workers in some health posts received more than one refresher training, health workers in other health posts were not trained at all. In order to maintain levels of knowledge and technical competence achieved during basic training, it is essential that all HEWs be provided with continuous exposure to current and new information, both to refresh knowledge and to update practices as new policies and protocols are introduced.

Moreover, the rating of importance given to the refresher trainings on the various HEP service packages was variable. For example, HEWs gave highest ratings of importance to refresher trainings on focused ANC and neonatal care, while the importance ratings on malaria prevention and control and family planning were relatively low. This indicates the problem with the process of identification of health service packages for refresher training by the planners and organizers of refresher training programs. Planning and identification of

topics for refresher training should consider the need of the health providers, the complexity of the health service package and the technical skills and knowledge of the HEWs.

Record keeping and data collection

Although more than half of health posts had most of the essential registers/cards, it was generally only in about a third of the health posts that majority of the registers/cards properly used. The importance of a complete standardized record on all HEP services in general and family Health Services in particular is paramount to the quality of maternal care, because it reminds health providers of the standards of care. The findings on this indicator should be able to create understanding among HEP managers of the need for a standardized HEP component record or for improvements to an existing one. This indicator primarily measures staff compliance with record-keeping, an important function that improves continuity of care.

Guidelines and standard procedures availability and use

Standards, protocols and guidelines were not widely available in the sample health posts, which can greatly affect quality of care provided by the health posts. Even when these were available, language was a barrier to proper utilization of the guidelines and procedures. Compliance with service delivery/working procedures and protocols calls for the provision of clear technical guidance.

Poster/IEC materials and charts availability and use

The commonly displayed poster was on HIV/AIDS counseling and testing, followed by family planning posters. Our survey also found that less than half of the health posts have flip-charts on family planning, antenatal/postnatal, HIV/AIDS and STDs. These all shows that majority of the sample health posts were not well prepared to carry out IEC activities and were not interacting with their clients with a well displayed inclusive IEC/BCC material. The presence of a well displayed IEC/BCC material posted in a user friendly way is one indicator of quality of the services and information provided by health posts.

Support to HEP from stakeholders

Although the level of support that the health posts received from the district health office, CHWs/volunteers and the nearest health center was relatively high, it was rated as very high or high only in about half of the health posts. The support from the community, village health committee, and particularly from kebele council is critical for the success of the program; however, the level of support from these stakeholders was rated as high or very high only in about a third of health posts. Ensuring support from the various stakeholders, and particularly the kebele council, which indicates political commitment to the program, should be an area of improvement for the HEP implementation.

REFERRAL SYSTEM

The health posts are the first point of entry for the community to the health system, and with this assumption, 10%-15% of pregnant mothers that are expected to develop obstetric complications and 5% of all others cases attending the health posts are expected to be referred to higher health facilities. However, more than a third of the health posts did not refer a single obstetric patient in one year, and 43.4% of the health posts referred between one and five obstetric patients over the one year preceding the survey. Similarly, a quarter of the health posts did not refer any other cases. Generally, the rate of referral compared to the expected number of cases that should have been referred was low. One of the main reason contributing to the low referral rate is the low utilization of services by the community as shown in this study.

Moreover, the reason for referral in majority health posts was lack of supplies in the health posts rather than lack of skill of the HEWs, which indicates that referred patients were not exclusively those that should be

referred. The willingness of the people to go to a referral health facility when referred was encouraging, but some of the hurdles that affect the willingness of referred case to go to referral health facilities included distance of a referral health facility, lack of specific arrangements and means of transportation. Stretcher, which was normally arranged by relatives and community, was the main means of transportation system for transfer of cases to referral facilities. The feedback from referral health facilities and referring back patients for follow up of treatment by health posts was found an area for improvement, because it was practiced only in half of the health posts. The major obstacles that affect the referral system, according to HEWs, were distance to the referral health facilities, lack of means of transportation and poor roads, fee for services and drugs at referral health facilities, and lack of awareness by the community.

The survey showed that the necessary infrastructure and a clear system for referral to higher health facilities and provision of feedback to health posts were not in place in the sample health posts. The barriers to successful referral system included financial barriers (high transportation cost, poor exemption system); poor quality services at referral health facilities (poor customer services, absence of drugs) and distance to referral health facilities. By design and necessity, HEWs will have to refer patients to higher levels of the health system for conditions that they cannot manage in the health post. In particular, many women with severe obstetric complications and children with severe illness will not survive without more complex care than can be offered at health posts. The success of HEP health services depends not only on the provision of quality services at the village level but also on the availability of a functioning referral link with higher health facilities that are capable of managing cases referred by health posts.

10. RECOMMENDATIONS

Comprehensive interventions at the community, the health post and health facilities higher up in the health system are required if the health goals are to be achieved. There is a need to address the supply and demand side bottlenecks that occur in seeking care in order to impact the high morbidity and mortality burden and contribute to achieving national and international set targets and goals. Health systems, including the referral system and procurement and supply management system must be improved. The following strategic action, which are based on the findings of the health post performance study, need to be undertaken by HEWs, HEP managers, and partners in order to improve the performance of the HEP as a system. Particular attention needs to be placed on family health service components of the HEP thereby reducing the obvious gaps illustrated by this study.

HEALTH POST INFRASTRUCTURE

- There is a need to address the health facility infrastructure to improve access and quality of health services; particularly to achieve the objective of institutional deliveries, presence of separate delivery room in all health posts is very important.
- There is urgent and dire need to provide minimum basic amenities and services such as water and power supplies, and telephone/communication systems to improve delivery of health services at health posts.
- Staffing of the health posts as per the HEP standard is critical, and more efforts are needed to ensure the involvement and support of CHWs.

ORGANIZATION AND AVAILABILITY OF HEP SERVICES

- The limited type of available services at the health posts should be improved through improved supply of basic essential drugs, medical equipments and supplies as well as increasing the demand side by creating awareness among the community. Scaling-up the training of community health promoters will also be critical to ease the workload of HEWs so that HEWs can be able to provide services on key areas of HEP health services.
- The operational days of the health posts must be increased and flexible to ensure access to needed health services during working hours, after hours and on weekends. There is a need to develop a clear guideline on how to manage HEWs' time that emphases the need to maximize the operation hours of the health posts. For example, each HEW is expected to spend 25% of the working time at the health post, but the operational hours of the health post can be maximized if each of the two HEWs in a health post alternates her time at the health post.
- Along with the need to aggressively select and train model households to be CHP, there is a need for all the activities of the different community health work to be well coordinated, harmonized and appropriately led by the HEWs.

READINESS OF HEALTH POSTS TO PROVIDE HEP SERVICES:

- There is a need to develop and implement interventions to increase the availability of essential drugs, equipment and supplies in health posts according to the HEP standards. The most urgently needed supplies and medical equipments include contraceptive methods to ensure continuous availability, delivery beds and kits, and cold chain systems for immunization.

- The provision of medical equipments and supplies should be systematically designed. Given the limited resources in the country, provisions of a full set of minimum medical equipments to some health posts in order to enable them provide a specific HEP service ensures the readiness of the health posts to provide the service, rather than providing incomplete set of equipments to many health posts. If the supplies are incomplete, the health posts will not be able to provide the specific services and the equipments will be seated and damaged.
- At the center of ensuring the availability of drugs and supplies is the need to strengthen drugs and supplies procurement and management system, which can help, even at the current level of investment, ensure the appropriate distribution and use of the limited resources and limit the rate of stock-outs and expiration of drugs.

PRODUCTIVITY OF HEALTH POSTS

- Some of the specific measures that need to be considered from the supply side include increasing the operational hours of the health post, particularly during afterhours and on weekends. Fulfilling the necessary essential equipment, drugs and supplies as already depicted above is an important factor that can contribute to increased quality of service, which contributes to increased productivity of the health posts. Moreover, measures that improve HEW skills and motivation to ensure quality services, and improve poor management of the HEP should be considered to increase the productivity of the health posts.
- Ultimately, productivity of the health posts depends on the demand of the community. Thus, more efforts are needed to address the existing underutilization that could be due to lack of perceived need, and dissatisfaction with the quality of services. HEWs should proactively educate and persuade community members through one-to-one interaction of household members and also involve community and religious leaders.

QUALITY HEP SERVICE DELIVERY AND SUPPORT SYSTEMS

- It is imperative that the **use of partograph** should be introduced to all health posts and all HEWs need to be trained on the use of the partograph to enable them record the progress of labour and to detect labour that is not progressing normally. Reinforcement of proper usage should be encouraged. It will increase the quality and regularity of all observations on the fetus and the mother in labour and serve as an early warning system to aid early recognition of problems with either the mother or fetus.
- To ensure that well maintained **cold chain system** and potent vaccines, training courses on maintenance of cold-chain equipments should be conducted to all HEWs and their supervisors.
- **Health post supervision** should be strengthened through realistic approaches that take into account the nationwide scale up of the HEP. Particular emphasis should be given to creating well equipped and qualified supervisory staff, provision of appropriate transport mechanisms and addressing infrastructure constraints. Supervision is considered as an essential on-the-job training, and supervisors need proper training in supervision techniques. Supervisors should also be equipped with supervisory checklists developed based on the duties and responsibilities of the health post. The FMOH, Regions and Districts must be prepared to make available the necessary human, financial and technical resources to produce and sustain an effective supervisory system to support essential interventions under the HEP.
- The health service packages and other areas that need to be covered by **refresher training** should be based on the need of the HEWs and generally, on the situation in the ground. The HEP evaluation study has brought some insight on the level of technical skills and knowledge of HEWs in the various HEP services

(Volume-II), HEWs' preferred topics for refresher training (Volume-II), and importance rating of various topics by HEWs (Volume-III). These findings are overall indications that any refresher training should be planned based on the need of the beneficiaries to maximize the cost-effectiveness of the training sessions, and we acknowledge that the situation and need would vary between and within regions. Although, the information in this evaluation study could serve as a basis for general planning purposes, there is a need to base the selection of refresher training topics on individual health provider needs. Moreover, institutionalized in-service training is a key strategy for improving staff skills, and establishing in-service training units in all bigger health centers should be considered.

- The lack of clear **standards, protocols and guidelines** is the main concern in the area of quality of care provided by health posts. Even when these are available they are not enforced due to a weak monitoring system. The strategic action recommended is to continue the development of clear (simplicity and language) standards and service protocols covering all key services under HEP and to support these by regular supervision and monitoring of staff performance.
- Health information system including the quality of HEP **records and registers** needs to be improved by availing all the necessary tools, providing training around these tools. Revising the HEP HMIS, regular review and systematic updates, comparison of the data with other sources as they become available and continued support for the availability HEP services and the necessary inputs will ensure the improvement of data quality over time and become more useful for planning and monitoring and evaluation purposes.
- The high political commitment at higher level of the government in realization of HEP implementation should be able to extend down to the lowest level of government structure. Thus, the involvement and **support of the kebele council** in the implementation of HEP needs to be strengthened and enforced. Moreover, support from other stakeholders should be sought actively.

REFERRAL SYSTEM

A strong referral system is critical to improving health outcomes. The success of HEP services at the health post level depends on the possibility of referring patients with problems that are beyond the capacity of health posts to the level above. In particular, many women with severe obstetric complications and children with severe illness will not survive without more complex care than can be offered in the health post. There are at least three aspect of referral system that are critical in establishing a strong referral system: appropriate identification of cases; prompt transfer of cases to the higher level institutions; and good reception and intake at the receiving end. The constraints to successful referral need to be addressed systematically and with adequate resources as an essential part of the establishment of health post. To make referrals, HEWs will need communication systems in order to advise colleagues at the next levels of the health system so that preparations can be made for the referred patient. Community involvement can and should be enlisted in having pre-arranged transport mechanisms for emergency situations. Creative approaches have to be sought related to the costs and means of emergency transport. The following strategic action points targeting health facilities, health workers, information, community and emergency response should be implemented.

<u>Improving health facilities</u>

- Improving the health posts in terms of required facilities and necessary inputs.
- Administrative rules and regulations governing referral have to be worked out.
- There is a need to improve the quality of secondary care at the referral health facilities in order to improve compliance of referred patients. The referral health facilities should be able to provide a wide range of quality services that are not available at the health post level. Thus, strengthening the referral health

facilities in terms of human resources and services including diagnostic capabilities and availability of essential drugs and medical supplies is critical for establishing a functioning referral system.

Training of health personnel in making referrals

- HEWs have to be trained to recognize illnesses that cannot be satisfactorily handled at their level of care
- Enforcing referral guidelines and education of health personnel in their use would encourage compliance with the pyramidal referral design.

Information and referral forms

- The flow of information concerning the referral patient should be bi-directional, i.e. from the referring facility to the referral center and back to the former.
- There is a need to develop an efficient information system for patient referrals, including a constant supply of referral forms.

Community awareness

- Educate the community on the most efficient use of health services, and ensure the community is aware of the referral system and readily follows its rules.

Emergency referrals

- Better attendance and quick decisions mechanisms regarding emergency referral should be developed.
- Fast dependable transportation means should be designed.
- Active supervision and monitoring to ensure the functionality of the referral system.

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