HEWs AND HEALTH POST PERFORMANCE

AND

COMMUNITY SATISFACTION AND PERCEPTION

HEP EVALUATION

RURAL ETHIOPIA,

2010

EXECUTIVE SUMMARY

In 2004, Ethiopia launched Health Extension Program (HEP), to expand the national health program to include community based health interventions as a primary component of the HSDP. Rapid expansion of HEP services, which is a core component of the broader health system, is one of the strategies adopted with a view to achieving universal coverage of primary health care to the rural population by 2009, in a context of limited resources. The government of Ethiopia recognizes that HEP will not be sustainable if infrastructures and health systems including human resources, management and support needed are not addressed. To ensure effective function of the HEP program, expansion of primary health care units, strengthening the health system and procurement of drugs and supplies have been emphasized in the design and implementation of HEP.

HEP services are provided by two female Health Extension Workers (HEWs) deployed in each Kebele and stationed at the health post. In a country that has more than 80 ethnic groups, languages and cultures, essential services need to be delivered with community participation in ways acceptable and appropriate to each community. To address this complex situation and ensure local ownership of the program, the community is involved in the recruitment of candidates for training. One of the distinctive strategies in the implementation of HEP is the recruitment of female high school graduates from their respective villages, where possible, and nearby villages. After recruitment from their respective villages, the female high school graduates receive one year intensive theoretical and practical training on 16 health service packages, and become employee of the government with regular monthly salary and other benefits.

Upon deployment to their respective communities, HEWs divide their time between providing services at the health post and undertaking community promotion program at the household level. The success of HEP in achieving its set goals and objectives could be affected by a number of complex factors. The quality of HEP services depends on the human resource capacity; ownership, access to infrastructure, utilities and other services; availability of medical equipments, drugs, and other supplies; availability of client friendly health service infrastructure; and strength of health systems. Combined with community generated demand and utilization for the services, these are all critical factors that can affect the successful implementation of the program.

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 HEWs and health posts. The HEWs and health post performance survey was undertaken along with the household survey in 2010. The study design and sampling methodology for this study was linked with the household level HEP survey, thus health posts and HEWs in kebeles sampled for the household survey were automatically included for this study. Although 312 kebeles were sampled for the household level HEP survey, 293 kebeles were covered by HEP and included for this study. The major findings of the study and recommendations are summarized as follows.

CHARCATERISTICS OF SAMPLE KEBELES AND HEWS

For the evaluation of HEP, a random sample of 312 kebeles was selected from rural areas of the country. Assessment of outcome measures through household survey was undertaken from households sampled from all kebeles. However, the assessment of HEP implementation process, which includes health post performance, HEWs performance and community perception towards HEP, was undertaken in 293 kebeles where HEP has been implemented. Among the 293 kebeles, 71, 60, 54, 43, and 28 kebeles were drawn from Oromia, Amhara, Gambela, SNNP, and Tigray regions. The remaining were from Somali, Benshangul Gumuz, Afar, Harari and Dire Dawa regions. Majority (86.3%) of the sample kebeles were agrarian community, whereas regions such as Afar and Somali had communities with a mixed (pastoral and agrarian) settlement pattern in 49.8% and 45% of kebeles, respectively

A total of 399 health extension workers (HEWs) drawn from Tigray (35), Afar (4), Amhara (75), Oromia

(100), Benshangul Gumuz (14), Southern Nations and Nationalities Peoples (SNNP) (64), Gambela (82), Dire Dawa (1), Harar (2) and Somali (22) regions participated in the survey. The sample size taken varied from region to region and users of this document should take note of this when interpreting 100% coverage for regions with small sample size such as Dire Dawa and Harari.

Most (73%) of the HEWs were young between the ages of 20-24 years. The majority (94.4%) of interviewed HEWs were females. The prospect of job opportunity (45.2%) and desire to help the community (44.3%), which is an important factor for the success of the program, were the main reasons that motivated the HEWs to join the HEP program. Most of the HEWs belonged to either the present kebele they are working in (52.1%) or another kebele within the woreda (39.2%) during initial recruitment for HEWs training. The length of time after completion of pre-service training does not correspond with the length of service in their current kebele for regions such as Tigray and SNNP. This implies that some HEWs working in the current kebele were transferred from another kebele. The fact that some of the HEWs were recruited from another kebele might have necessitated transfer to the kebele where they resided during initial recruitment.

HEALTH POST PERFORMANCE

Characteristics of health posts

Majority (82.3%) of kebeles have health post infrastructure specifically built for the provision of HEP, which were built by the government and/or the local communities. Overall, 83.6% of the health posts had at least 3 rooms and 68.6% had a separate delivery room. Majority (81.2 %) of HPs were staffed with two HEWs. About 71.3% of the health posts had medical waste disposal mechanism, and 73.8% had toilet facility with access to patients. About two-thirds of the HPs had access to safe water source, and 73.5% had access to mobile (53.6%) and/or landline (28.6%) telephone services. Access to other important services such as electricity (10.6%) and means of transportation (33.5%) was generally low. More than a half of the health posts were connected by dry season road, while nearly a third were connected by all weather road to the nearest health center and district health office.

Service availability and organization

Over half (52%) of the health posts opened for at least five days a week. About 62% of the health posts opened on Saturdays and/or Sundays. In the three months preceding the survey, immunization (89.7%), family planning (87.7%), and antenatal care (86%) services were provided by majority of health posts, while delivery services (45.1%), and outpatient treatment program (33.2%), and management of childhood illnesses (31.7%) were render in less than 50% of the health posts. Two-thirds 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 delivery and newborn care such as blood pressure apparatus, foetoscope, and delivery bed were available in about two-thirds of health posts. Home delivery bag or kit was available in half of the health posts, while neonatal resuscitation mask and bag was available in only 15.4% of the health post. Overall, 58%% of health posts were equipped with 60% of the minimum set of medical equipments necessary for delivery and newborn care services.

Among equipments and supplies required for childcare, only baby weighing scale was available in more than half (57.6%) of the health posts. Other equipments such as measuring board (29%), graduated measuring jar (33%) and tap (40.3%), and spoons (30.9%) were not widely available. Thus, none of the health posts were equipped with the necessary minimum set of medical equipments for childcare. While only 20% were equipped with 80% of the minimum set of medical equipments, a third (34%) of the health posts had 60% of the minimum set of medical equipments.

Majority of health posts (75.9%) had vaccine carriers. Icebox and refrigerator were available in 63.4% and 29.2% of health posts, respectively. Taken as a whole, 65% of health posts were equipped with 60% of the minimum set of equipments required to provide static immunization services at the health posts. About a quarter (24%) of the health posts were equipped with all the necessary minimum set of medical equipments

for provision of static immunization services at the health post as well as outreach services. However, only 11.1% of the health posts were regularly monitoring the temperature and the temperature was between 2-8°C at the time of the survey.

Availability of drugs: Anti-malarial drug, coartem was available in stock in 46.8% health posts during the day of the visit, and 61.3% of the health posts reported stock-outs of coartem in the three months preceding the survey. Oral rehydration salts (ORS) were available in 65.1% of the health posts during the visit. About 45% of the health posts reported stock-outs of ORS during the three months preceding the survey. About 82.7% of the health posts had at least one of the contraceptive methods - oral contraceptives (75.9%) and/or Depo-Provera injections (73%). There were stock outs of oral contraceptive and Depo-Provera injections in 35.4% and 38.4% of the health posts, respectively in the three months preceding the survey.

Availability of micronutrients: Micronutrient supplements such as Vitamin A and Iron tablets were available in about half of the health posts, while folic acid was available only in 8.3% of the health posts. 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 three-quarters of the health posts. Mixing syringes, non-AD syringes, gauze, and condoms were available in more than half of the health posts. However, other supplies such as HIV Test Kit, disinfectants, RDTs, and cord ties were available in less than half of the health posts.

Availability of vaccines: Among the sample health posts, 29.2% had functional refrigerator, however, DPT-HEPB-HIB, OPV, BCG, measles, and TT vaccines were available in 12.8%, 11.7%, 12.4%, 12.4% and 12.7% of the health posts, respectively.

Drug supply system: HEWs working in 45.8% of the health posts reported that the drugs supplied to the health posts are usually less than the requested quantities. In 58.7% of health posts drugs are usually supplied as need arises, and it took less than a week from request to delivery in majority (65.2%) of health posts.

Productivity of health posts

Family planning: Majority (92.5%) of the health posts rendered family planning service in the year preceding the survey. A quarter (24.1%) of the health posts had between 1 and 50 new FP clients, 18% had between 51-100, and 50.4% 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 153 clients per health post. The distribution of health posts by the number of re-visit family planning clients was similar to that of new clients with an average of 157 re-visits per health post. Health posts in Amhara performed better with an average of 245 new and 253 re-visit clients per health post in the year preceding the survey, which supports the finding of high contraceptive prevalence rate in Amhara from the HEP household survey.

Antenatal care (ANC) services: Majority (86.7%) of the health posts provided ANC service in the year preceding the survey. About 17% of health posts had between 1 and 25 new clients, 22% had 26-50 new clients, while 48.1% of health posts had more than 50 new clients in the year preceding the survey. The average number of ANC clients in the year preceding the survey was 80 pregnant women per health post. Majority (77.5%) of health posts did not have re-visit clients, and the average number of re-visit ANC clients was very low (5 clients).

Delivery care: Less than a third of the health posts provided delivery service at the health post in the year preceding the survey – 19.5% less than 10 deliveries. On the other hand, HEWs in 64.1% of the health posts assisted deliveries at home of the mothers. The average number of deliveries at the health posts and at home in the year preceding the survey was 8 and 17 per health post. A 24-hour delivery service access was available in 37.3% of health posts.

Postpartum care: About 66% 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 53 per health post.

Immunization: Majority (91.7%) of the health posts provided immunization service in the year preceding the survey. A quarter of the health posts (25.1%) immunized 50 or fewer children against measles, and another 23.6% of health posts immunized between 51 and 100 children, while 45% of health posts immunized more than 100 children against measles in the year preceding the survey. The average number of children immunized against measles in the year preceding the survey was 107 children per health post.

Support and supervision

Supervision: Majority (72.4%) of the health posts were supervised during the three months preceding the survey, and 57.1% received feedback from supervisors. Nearly half of the health posts were supervised by HEW-supervisor (or someone from the woreda health office), while 17.9% and 15.2% of health posts were supervised by the nearest health center and zonal health office, respectively.

Training of health personnel: HEWs working in 10% to 40% of the HPs reported that at least one of the HEWs attended trainings in the year preceding the survey in one of the HEP services. The most frequently attended were training on OPT therapeutic program (40%), family planning (34.6%), and clean delivery and newborn care (34.4%).

Guidelines and standard procedures: The availability of the different guidelines and standard procedures was variable. About half of the HPs had national HEP implementation manual (56%) and HEP package modules (47.3%), and a little over a third of HPs had model-family standard (38%), malaria guideline (38%) and HEP service standards (35.5%). Quarter of the HPs had diarrheal management guideline. IMCI, obstetric, and referral guidelines were not commonly available.

Referral system

Majority (86.3%) of the health posts refer patients to nearest health centers. The average distance of the referral health facilities was 12.6Kms from the health posts, and in 42.8% of the health posts stretcher was the main means of transporting referral cases, followed by animals (14.8%). Relatives (48.4%) and community (28.1%) were responsible for the arrangement of transportation. HEWs in 67.1% of the kebeles reported that all/majority of the referred patients were usually willing to go to referral health facilities. However, there were still patients who were not willing to go to referral health facilities due to lack of financial capacity. About 22% of the health posts received feedback from the referral health facilities about the patients they referred, and 29.5% of the health posts reported that the referral health facilities referred patients who are residents of the village for follow-up of treatment at the health posts.

According to HEWs the major obstacles that affect the referral system were cost of transport (50.2%), lack of transportation (50.2%), distance to referral facilities (49.7%), poor road infrastructure (41.8%), lack of awareness by the community (33.6%), and fee for service and/or drugs at the referral facilities (29.5%).

Recommendations

The priority areas that need particular attention include: (1) Health posts should be equipped with minimum essential medical equipments and supplies by strengthening the 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; (2) strengthen supportive supervision by creating well equipped (including means of transportation) and technically qualified supervisory staff; (3) strengthening the referral system, which requires improving HEWs' skill to identify cases necessitating referral, support for transportation and cost at referral facilities, and support and regular feedback from referral facilities; and (4) provision of basic amenities and services such as water and power supplies, and ensuring privacy for delivery service. These are priority measures thought to improve the quality and availability of a wide range of HEP services thereby increasing utilization by the community and productivity of the health posts.

HEW PERCEPTION AND SATISFACTION

Living and working conditions

A third of the HEWs expressed satisfaction about their housing condition. Over two-thirds of HEWs live outside the compound of the health post, and 75% of the HEWs live either in the premises or within one-kilometer distance from the health post. Majority of HEWs had access to usable latrines (86.5%) and were located within a reasonable distance to safe water source (79%). Access to electricity was 23.4%. Over half of the HEWs live within 10km distance to public transportation. Majority of HEWs owned household assets such as bed (64%), radio (64%), and table (47%).

In general, majority (79%) of the HEWs were unsatisfied with their monthly salary. Majority of HEWs collect their salary either from the district town (82%) or the nearest health center (8%). Only, 3.4% and 30% of HEWs feel that their monthly salary is commensurate with the workload and level of training they received, respectively. Majority (75.5%) of HEWs also feel that their salary level was lower compared to other government employees with similar educational background.

The main means of transportation within the village (70%), and to the district health office (94%) for HEWs was by foot. HEWs feel that the best means of transportation within the village and to the district health office would be motorcycle and bicycle.

Overall, 71% and 55% of HEWs feel that the physical working conditions such as the kebele and health post, respectively were comfortable, while only 39% and 14% of HEWs feel that their housing and transportation were comfortable.

Execution of HEP activities

The performance management system was satisfactory. Majority (78%) of the HEWs had a work plan. Majority of HEWs reported that they prepare their work plan with HEW-supervisors, kebele council, and CHWs/vCHPs. Although majority of HEWs submit their progress report on a monthly basis, only 45.5% of HEWs receive regular feedback about their progress reports from the DHMO. Nearly 90% of HEWs reported that there was performance evaluation, and about 70% of believed that it was useful to improve their work performance. HEWs reported that the performance evaluation impacted their promotions (33%), in-service training (30%), annual confidential report (27%), and transfers (22%).

Majority of HEWs work as per government standard and appropriately allocate their time between the health post and the community. Nearly 95% of HEWs work for at least 6 hours per day. Although, about 58.5% of HEWs reported that they have a standard manual on time allocation, its availability was confirmed in 37% of HEWs. About half of the HEWs spent 25% or less of their time at the health post.

Time allocation pattern to specific HEP services was unbalanced, and mainly focused on few HEP services. Generally, HEWs spend most of their time on construction, use and maintenance of sanitary latrines, family planning, vaccination services, solid and liquid waste management, and malaria prevention and control. The main reasons cited by HEWs include high demand and level of the problems, and HEWs feel that they have more skills and feel comfortable working in these areas. On the other hand, HEWs generally spend less time on adolescent reproductive health, first aid, registration of vital statistics, control of insects, rodents and other biting species, and tuberculosis prevention and control. The main reasons cited were due to low demand by the community, not a major problem in the village, and less skill and knowledge on these service packages.

Majority of HEWs feel that the workload is too much, and requires more skill. About 75% of HEWs believed they were overloaded with assigned tasks. Moreover, 78.6% of HEWs claimed that the type of duties and responsibilities assigned to them require more training than the training they had received.

About 84% of HEWs claimed that all or majority of the community generally use HEP services. However, the demand of the community was mainly on family planning, immunization, and treatment of illnesses.

HEWs and Community based voluntary health workers (CHWs)

HEWs have more positive than negative perceptions on CHWs with regard to implementation of HEP. Nearly 90% of HEWs indicated the presence of CHWs in the kebele. Majority (96%) of HEWs thought that CHWs are important for the success of HEP, and 87% attested that CHWs fully participate in the implementation of HEP. On the other hand, majority (86%) of HEWs felt that community acceptance of CHWs is better than that of HEWs', and 40% of HEWs think that CHWs feel threatened by the presence of HEWs in the village. One in five HEWs complained that CHWs don't work under them.

Support and continuing education

About 60% of HEWs participated in refresher courses in the year preceding the survey, however only one third of HEWs in Somali region attended refresher courses. Among the HEWs who attended refresher courses, only 41% expressed satisfaction about the course. The preference of majority (51%) of HEWs on any one future refresher course was to be on delivery service, followed very remotely by other maternal and child health services (9%).

Majority (78%) of HEWs were supervised at least once in three months. Only 61% of HEWs were supervised regularly. The method of supervision employed was, mainly, person-to-person discussions (88%).

Majority (90.5%) of HEWs reported that the supervision they received prior to the survey was supportive. Majority also received guidance on technical aspects of services (93.4%) and feedback (71.7%), although the feedback was either written or oral. About half of HEWs reported that more constructive comments were given during supervision. Generally, HEWs had a positive perception about their supervisors.

The focus of the supervisions was around construction of latrines, vaccination services, planning and reporting, model-family, and solid and liquid waste management.

The relationship and level of support HEWs received from key partners was satisfactory. Specifically, HEWs reported to have the required support and good relationship with community (93%), CHWs/vCHPs (85%), kebele council (84%), agriculture workers (77%), teachers (77 %), and supervisors (76%). Over half (58%) of the HEWs were also members of kebel cabinet. The relationship and support from health center (62%) was moderate.

Challenges and constraints

The major technical challenges in the implementation of HEP according to HEWs were lack of means of transportation, irregular supply of vaccines and absence of storage and carriage for vaccines, irregular/no supply of drugs, and lack of adequate skill. Poor roads, working in remote areas, and poor communication systems were among the social obstacles identified by HEWs that need improvement. Moreover, lack of promotion and refresher courses, and low remuneration were among the organizational constraints in the implementation of HEP. Over half of HEWs feel that between 21%-50% of their professional inputs were not utilized because the constraints.

The measures suggested by HEWs to improve the quality of HEP services, in order of priority, were 1) upgrading/promotion of HEWs, 2) solve stock-outs of drugs and other supplies; 3) salary increment for HEWs; 4) provision of transportation; and 5) regular supportive supervision.

HEW COMPETENCE

ANC: Knowledge on uses of antenatal care was relatively high - preparation for birth and preventing disease (68%), to promote safe delivery (59.8%), detection of existing diseases and management of complications (52.2%), ensure women has an individualized birth plan (51.1%), and breast feeding promotion (17.4%).

Complication during pregnancy: The comprehensive knowledge on how to assess vaginal bleeding during

pregnancy was low. The signs to look for in a pregnant woman with vaginal bleeding stated by HEWs include signs of anaemia (35%), signs of shock (23.8%), abdominal tenderness (15%), and amount of external bleeding (15%). About one in ten HEWs did not know what signs to look for. The knowledge on how to handle a pregnant woman with vaginal bleeding was generally good - 85% of HEWs would refer the patient. However, the percent of HEWs who would do vaginal examination and speculum examination, and admit for observation and review was not negligible.

Knowledge on the signs of severe anemia was moderate; with 74% and 46% of HEWs stating marked pallor and shortness of breath. More than half of the HEWs were in position to make the correct decision (refer the patient). Comprehensive knowledge on signs of severe malaria in pregnancy was very low. The only sign stated by majority (71.5%) of HEWs was high temperature. The other signs of severe malaria specific responses of HEWs were confusion/coma (16.3%), pallor (10.3%), and jaundice (9.3%).

Labor: Comprehensive knowledge in establishing labor was low on the HEWs. Cervical dilatation and regular uterine contraction were the only signs of labour stated each by about half of the HEWs. Comprehensive knowledge on observations made to monitor progress of labor was low. Monitoring of cervical dilatation, foetal hear rate and maternal blood pressure were stated each by about half of the HEWs. Monitoring of decent of head and uterine contraction were stated by only 33.3% and 25.7% of HEWs, respectively. Knowledge on diagnosis of obstructed labour was generally low. The key signs of obstructed labor such as no descent of presenting part, no change in cervical dilatation, prolonged first and second stages of labor were not stated by more than a quarter of the HEWs. Once obstructed labor is diagnosed, majority (90%) of HEWs stated that they would refer the woman to higher facility, which is encouraging.

The comprehensive knowledge on assessing a mother with vaginal bleeding following delivery was very poor. Not more than a third of the HEWs knew anyone of the key signs they should look to identify the cause or assess the severity of the bleeding. However, majority (83%) of HEWs reported that they would immediately refer the woman.

Newborn care: The comprehensive knowledge on immediate care to newborn was low. The key newborn care activities such as wiping face after birth of head, ensuring baby is breathing, cord care, thermal protection, and initiating breastfeeding within one hour were each stated by about half of the HEWs.

IMCI: Knowledge of HEWs on IMCI was moderate. About 55% of HEWs mentioned that they would check the child for presence of cough, diarrhea and fever, and about a third would check for danger signs. Integrating vaccination services, nutritional counseling and growth monitoring were only stated by a quarter or less of the HEWs. The level of knowledge on danger signs was also moderate. The danger signs stated each by less than half of the HEWs.

Childhood illnesses: The level of knowledge of HEWs in identifying indicative signs of ARI, in the management of children with diarrhea and knowledge on the signs and symptoms of uncomplicated malaria was satisfactory. Nearly two-thirds of HEWs mentioned cough, fever and fast/difficulty breathings as signs of ARI. Majority of HEWs stated that they would give more fluids (80%) and continue to feed the child (64%) in the management of diarrhea. The signs and symptoms of malaria mentioned by majority of HEWs in order of frequency were high temperature (82%), headache (80%), chills/ shivering (78%), poor appetite (63%), vomiting (52%), and joint pain (48%).

Family planning and immunization: Knowledge on counseling family planning was high. Majority of HEWs would provide information about all methods (76%), benefits (63.3%), risks (57%), and effectiveness (57%) of family planning methods.

COMMUNITY PERCEPTION ABOUT HEP

Data on community satisfaction and perception about HEP was collected from over 10,000 people. One

woman, from each sample household and one man from every other household were interviewed for this assessment. Priority was given to housewives and heads of household whenever possible. About 45% of the respondents were heads of their household ranging between 44.3% in Afar to 59.7% in Gambella, and 40.5% of the respondents were housewives, while 14.2% of the respondents were other members of the household such as adult children.

Among respondents who reside in kebeles that had implemented HEP, 81.2% had heard about HEP mainly from HEWs (73.4%). Majority (90.8%) knew that HEWs were working in their village. The three top services known by respondents to be given by HEWs were family planning (61.9%), immunization (41.2%) and health education (38.4%).

About a third (37.3%) of respondents stated that they or their household members had visited the HEWs. The five leading reasons stated by respondents were family planning (36%), health advice/counseling (20.8%), immunization (17.8%), treatment of malaria (16%), and treatment of other diseases (13.9%). On the other hand, 43.3% of respondents reported that their household was visited by HEWs in the month preceding the survey. The five leading services reported were Health education (49.1%), family planning (48.3%), water and sanitation activities (32.8%), HIV/AIDS education (24.7%) and immunization (24.4%). The least frequently reported services were micronutrient supplementation (3.3%), training of model-family (6.1%), first aid (6.6%), and growth monitoring (6.7%).

More than 60% of the respondents rated all components of the HEP services as very satisfactory or satisfactory, and family planning got the highest score (76.5%). Majority of respondents had good attitude towards the performance and social behavior of HEWs. About 42% of respondents have heard about vCHPs, and half (49.6%) of them were visited by vCHPs. The most common service received from vCHPs was health education (43.8%).

Information displayed outside the health post was used to locate HEWs by 62.1% of respondents. Health post was the place where people commonly find the HEWs. Most respondents said they got HEP service easily, and 79.1% had received the service they wanted.

Majority (84.8%) of respondents rated the overall HEP service as excellent or good, and 66.3% believed that the service was better than that of two years ago. Majority also reported that they would visit the health post again and would recommend it to other people.

About 61.4% feel that all/most of their health issue need were addressed by HEP. The major constraints of HEP that the respondents felt were inadequate skill of HEWs and inadequate supply of equipments and medicines. The main recommendations to improve HEP stated by respondents were having HEWs with better skill (27.3%) and highly skilled health worker (20.6%).

The key recommendations include improving community awareness on HEP, giving attention to all components of HEP, and building the capacity of HEWs.

HEWs AND HEALTH POST PERFORMANCE
AND
COMMUNITY SATISFACTION AND PERCEPTION

HEP EVALUATION

RURAL ETHIOPIA,
2010

Table of contents

List of Tables

1. BACKGROUND AND STUDY METHODOLOGY

1.1. HEALTH EXTENSION PROGRAM

2.1.1. HEP implementation strategy

In 2004, Ethiopia launched Health Extension Program (HEP), to expand the national health program to include community based health interventions as a primary component of the HSDP. HEP is "a package of basic and essential promotive, preventive and curative health services targeting households in a community, based on the principle of Primary Health Care (PHC) to improve the families' health status with their full participation". Rapid expansion of HEP services, which is a core component of the broader health system, is one of the strategies adopted with a view to achieving universal coverage of primary health care to the rural population by 2009, in a context of limited resources. The overall goal of HEP is to create a healthy society and reduce maternal and child morbidity and mortality rates.

The government of Ethiopia recognizes that HEP will not be sustainable if infrastructures and health systems including human resources, management and support needed are not addressed. To ensure effective function of the HEP program, expansion of primary health care units, strengthening the health system and procurement of drugs and supplies have been emphasized in the design and implementation of HEP.

HEP services are organized along geographic lines (kebeles): construction of a comprehensive network of "primary health care units (PHCU)" throughout the country with one health post in every rural kebele of 5000 people linked to referral health center. The HC and five HP surrounding the HC make a PHCU thereby making the service package and referral system linked to each other.

A health post is a two room structure of most peripheral health care unit and the first level for the provision of healthcare for the community, emphasizing preventive and promotive care. They 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.

HEP services are provided by two Health Extension Workers (HEWs) deployed in each Kebele and stationed at the health post. In a country that has more than 80 ethnic groups, languages and cultures, essential services need to be delivered with community participation in ways acceptable and appropriate to each community. To address this complex situation and ensure local ownership of the program, the community is involved in the recruitment of candidates for training. One of the distinctive strategies in the implementation of HEP is the recruitment of female high school graduates from their respective villages, where possible, and nearby villages. After recruitment from their respective villages, the female high school graduates receive one year intensive theoretical and practical training on 16 health service packages. A total of about 30,000 HEWs are being trained to be deployed in about 15,000 villages. The

female Health Extension Workers become employee of the government with regular monthly salaries and other benefits.

The services provided under HEP include 16 essential health packages under four major program areas.

1. *Hygiene and environmental sanitation: a)* proper and safe excreta disposal system; b) proper and safe solid and liquid waste management; c) water supply safety measures; d) food hygiene and safety measures; e) healthy home environment; f) arthropods and rodent control; and g) personal hygiene.
2. *Disease prevention and control:* a) HIV/AIDS prevention and control; b) TB prevention and control; c) Malaria prevention and control; and d) first aid.
3. *Family health services:* a) maternal and child health; b) family planning; c) immunization; d) adolescent reproductive health; and e) nutrition.
4. *Health Education and Communication:* Cross cutting

Upon deployment to their respective communities, HEWs divide their time between providing services at the health post and undertaking community promotion program at the household level. At the health post, HEWs spent 25% of their time providing services which include immunizations, injectable contraception, and limited basic curative services such as provision of anti-malaria treatment, first aid, management of diarrheal diseases and intestinal parasites.

The community promotion program is centered on volunteer community health promoters (vCHPs), working under the supervision and guidance of the HEWs. During the domiciliary care, the HEWs and vCHPs provide support to households for behavioral change and motivate to utilize primary health care services. Along with the volunteer community promoters, each HEW will select 50-60 households for frequent visiting for about 96 hours of training in 3 to 4 months. The training includes, basic health action, persuasion, motivation, negotiation, encouragement, demonstration, provision of health services and transforming households to clean and safe home environment and healthy life style. Household adopting and applying more than 75% of the 16 packages of HEP get certificate of completion.

2.1.2. Challenges

The success of HEP in achieving its set goals and objectives could be affected by a number of complex factors. The quality of HEP services depends on the human resource capacity; ownership, access to infrastructure, utilities and other services; availability of medical equipments, drugs, and other supplies; availability of client friendly health service infrastructure; and strength of health systems. Combined with community generated demand and utilization for the services, these are all critical factors that can affect the successful implementation of the program.

There is a perceived risk that Health Extension Workers (HEWs) may not be equipped with the necessary skills and competence to properly implement 16 health service packages with one year of training. Quality of training has been cited as a determining factor in the performance and effect of health programs. The multitasking of HEWs, as well as unbalanced allocation of time among the service packages may also lead to inefficiencies of HEP services. Although, salary level is an important determinant of morale and retention of health personnel in the field, HEWs' perception and satisfaction with their living and working environment, supportive

environment such as recognition of skills, performance based promotion, and presence of functional infrastructure including referral systems are also important. Moreover, the assistance from stakeholders and voluntary community health workers and continuing education they receive are important factors that may affect the quality of HEP services. Hence there is a potential concern that the delivery of poor-quality and inefficient services may in turn lead to bypassing of the services by users.

The impact of such a large number of new health professionals will be a challenge to the capacities of the already understaffed and under-budgeted health system. Although supervision and support is a key for success of a program, supervisors are often poorly resourced and lack supervision techniques leading to none systematic and supportive supervision, which may affect quality of services and job satisfaction. The consensual participation of supportive health staff at the management level as well as at health centers is critical for successful implementation of health programs.

HSDP implementation was decentralized to the regions. Regional variation in implementation capacity may lead to differences in achieving a fully functioning HEP. Based on anecdotal evidence, the implementation of HEP in pastoralist areas in Afar, Benishangul-Gumuz, Gambella and Somali has been less satisfactory comparing to HEP in the rest of Ethiopia. This is partially due to the fact that HEP started almost two year later in these regions compared to the larger regions, the overall health system is weaker and there are limited trained human resources. Also the HEP package was not adequately adapted to the pastoralist setting with its nomadic lifestyle.

Community participation, which is critical for the success of program implementation, is recognized as the backbone in the implementation of HEP. Understanding the community in terms of perception on the program, degree of participation and utilization of services is an important step to improve implementation strategies and approaches in community based programs.

The policy-makers and health workers need scientific evidence to improve the implementation of HEP, and to determine the impact of the huge investment on the health of the people. The implementation of nation-wide HEP, which is considered the most important institutional framework for achieving the Millennium Development Goals (MDGs), should be accompanied by monitoring of the implementation process of HEP.

2.1.3. Prior surveys

Along the 2007 household survey, the implementation process of HEP, which included health post's and health extension workers' performance surveys were also undertaken in a sample of kebeles selected from Amhara, Oromia, and SNNP regions. The finding from the health post and HEWs performance surveys showed that majority of health posts were not adequately equipped with the necessary medical equipments, drugs and supplies, and the technical skills of HEWs particularly in some key HEP services was not up to the standard. Moreover, some of the health posts were staffed with one HEW. These findings could be due to the fact that the follow-up survey was undertaken during the infancy stage of HEP and early implementation process of the program. The study provides a baseline assessment for prioritizing and deciding how to invest resources into the HEP.

1.2. EVALUATION METHODS AND DESIGN

2.1.4. Objectives of the HEP survey

The study targeted all rural kebeles and health posts including pastoralist communities. The regions include Tigray, Afar, Amhara, Oromia, SNNR, Harare, Dire Dawa, Somalia, Gambella and Benshangul. This study would enable us to track the trend of change relative to the prior surveys undertaken. Although the duration of implementation of HEP may vary from kebele to kebele due to the phased implementation of HEP, given the speed of implementation of the program during the past four years, it was expected that all villages would have been covered by HEP by 2010. Moreover, most regions and districts have had adequate time to implement the HEP as per the standard, in particular to supply each health post with the basic medical equipments, drugs and other supplies. Most health posts would have been staffed as per the standard. The main objectives of the survey were 1) to assess HEP implementation process and the change in implementation status in Amhara, Oromia, and SNNR relative to 2007 baseline levels; 2) to determine baseline HEP implementation process and status in pastoralist communities; and 3) identify specific health service areas that require further strengthening, and provide recommendations. The specific objectives include:

(a) HEWs' performance survey

- To assess perception and satisfaction of HEWs in the living and working conditions;
- To assess the performance, skills and technical capacity of HEWs in the various HEP components;
- To determine baseline levels on HEWs' performance in the four DRS;

(b) Health posts' performance

- To assess existing the institutional capacity of the health posts relative to baseline
- To assess improvement in the availability of the 16 HEP service packages
- To assess improvement in readiness of health posts to provide quality HEP services
- To determine baseline levels on health posts' performance in the DRSs.

(c) Household survey

- Assess the perception, demand, utilization and satisfaction of the community on the HEP services in the DRSs;

2.1.5. Study design

The assessment of HEP implementation processes included the assessment of the health post performance, the HEWs performance, the support and management system of HEP, and the demand and perception of the communities. The assessment of HEP implementation would enable us to compare the implementation process between the different regions as well as between the agrarian and pastoralist communities. Moreover, the information on the HEP implementation process would be used to determine the influence of the HEP implementation environment on the effect of HEP on health outcome measures. To determine the influence of HEP implementation environment on the effect of HEP, the two components of the study were linked to each other by design. The study used the same sample kebeles used to generate household data for the HEP evaluation study. Among the kebeles sampled for the household survey, kebeles that have been covered by HEP at the time of the survey were considered for the health post and HEWs performance, as well as for the community perception towards HEP study.

Thus, the assessment of the HEP implementation process was undertaken at different levels of the health system serving the communities where sample households were selected for health outcome determination. Health posts located in the sample villages, HEWs working in these health posts, respective referral health centers, respective HEW supervisors and district health management responsible for the supervision and management of HEP were automatically sampled for the assessment of the implementation process.

The study design and sampling methodology for the evaluation of the HEP has been described in detail under the household survey report of the HEP evaluation. 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 amd HEWs 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.

2.1.6. Sample size and sampling design

The country level sample size was estimated to be 7128 households. After determining the overall sample size requirements in terms of number of households, we determined the number of clusters that needs to be sampled. Based on cluster sampling practice, it was decided that one cluster would contribute 25 households. By dividing the total number of sample households by 25, we determined the number of clusters by region. The exception was in Gambela region, where the number of clusters (kebeles) was determined by dividing the sample households by 13 in order to increase the number of kebeles by twofold (by increasing the number of kebeles, the sample health posts was increased). These procedures resulted in 312 kebeles. The number of districts to be sampled to contribute kebeles (clusters) was based on the assumption that the selection of four clusters from one district would result in fairly representative number of districts. The use of four kebeles per district resulted in 71 districts. The selection of more kebeles from a district would result in inclusion of few districts that might not represent the target districts. Similarly, selection of very few kebeles from a district would result in large number of districts that could be difficult to manage logistically.

Table 1.1: Sample households, kebeles, and districts by region

Region	Number of districts	Number of kebeles
Tigray	7	28
Afar	2	8
Amhara	15	60
Oromia	18	72
SNNP	12	48
Gambella	7	56
Benshangul-Gumuz	4	16
Harar	1	4
DireDawa	1	4
Somali	4	16
Total	**71**	**312**

A multi-stage cluster sampling method with kebele as the cluster unit was used to select sample kebeles and households. The multi-stage sampling method involved three stages: (1) systematic-random selection of districts (first stage sampling units) from each region with probability-proportional-to-size (PPS); (2) random selection of kebeles (clusters) within each selected district. Selection of clusters (second stage sampling units) was based on equal probability with the assumption that they have similar population size (average of 5,000 people); and (3) random selection of a constant number of households from each cluster at the third stage.

2.1.7. Study procedure

Survey tools and instruments

Data collection was undertaken through personal interviews using structured questionnaires and in some cases through observation. Questionnaires that were used for the baseline surveys were employed. At the health post level: 1) HEW perception and satisfaction module, 2) HEW competence module, and 3) health post performance module were used to collect information from the HEWs and health posts to assess the institutional capacity and performance of the health system. At the household level community perception module was used to collect data from women and men household members. All the questionnaires were translated into local languages.

Data collectors

The same survey team involved in the household survey was involved in the HEW and 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 kebele that has implemented HEP. 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 provided support on technical and administrative issues to the supervisors.

Questions that require direct observation were filled by the data collectors after permission was granted by HEWs. Questions from the health post performance module 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. HEWs perception module and HEWs competence module on the other hand were filled by each HEW, thus two questionnaire could be completed per health post.

Consent and confidentiality of study data

Recruitment of study subjects was carried in person by approaching health posts and households (community perception) selected for inclusion in the study. The purpose of the study and general procedures was explained to the HEWs and household head, who would be asked if interested in participating. They were informed of the objectives of the study, the length of the interview, risks associated with the study, any discomfort and inconvenience associated with it, as described on the consent forms. Oral consent was then obtained from study subjects.

The information gathered in the interview is kept confidential and will not be shared with any persons or agencies not affiliated with this study. The answers of the respondents were combined with the answers of other respondents in such a way that it is not possible to associate particular responses with particular health post and household. All health posts and households were assigned a code, and this code is stored separately from the responses to the survey. Individual responses are thereafter referred to by codes alone.

2.1.8. Data processing

Upon completion of the data collection and editing, data entry clerks having competency and experience were hired. The data managers at CNHDE recruited and trained the data clerks. The survey data was entered in CSPro. To ensure quality of data, double data entry was done. Data was cleaned and analyzed with STATA. Additional data manager were hired for about 5 months to work with the existing data manager at the CNHDE. The data managers, a biostatistician and an epidemiologist were involved to undertake the statistical analysis. The analysis involved determination of pooled estimates of indicators and by region (for bigger regions). The statistical analyses for estimation of pooled estimates involved appropriate weights to address the complex design of multi-stage sampling design. Four consultants were hired for five months to help with interpretation of results and report writing. The key indicators measured include:

Health Posts' performance survey

Characteristics of health facilities

- Percent of health posts staffed as per the HEP standard
- Percent of HPs with access to water and sanitation facilities
- Percent of health posts with a clear timetable displayed on the outside of the HP where HEW indicate where they will spend the different days of the week and when the HP is open for visits

Readiness of health posts to provide HEP services

- Percent of HPs equipped with the minimum medical equipments
- Percent of health posts with basic drugs and supplies per the HEP standard
- Percent of HPs with no stock-outs of supplies in the 3 months preceding the survey

Productivity of health posts

- Number of clients who received services per HP in the year preceding the survey (average)

Quality of HEP service delivery and support systems

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

HEWs' performance survey

HEWs' perception and satisfaction

- Percent of HEWs satisfied with living and working conditions
- Percent of HEWs who initiated model household package service
- Percent of HEWs who received re-fresher courses
- Percent of HEWs who received clean and safe delivery training
- Percent of HEWs supervised

Time use

- Percent of HEWs working per the standard number of days per week
- Percent of HEWs time spent at the health post

HEWs knowledge and skills

- HEWs who correctly describe signs and management of obstetric and neonatal problems
- HEWs who can correctly state schedules for vaccination

- HEWS who can correctly state and describe signs and treatment for malaria
- HEW who can correctly state and describe signs and management of children with fever
- HEWS who can correctly read expiry date on the drugs
- HEWs with a weekly or monthly schedule/plan to reach their monthly targets
- HEWs who observed can demonstrate how to correctly prepare a delivery bed and place a mother ready for delivery

Household survey

Community perception and satisfaction on HEP

- Percent of people who use HEP services
- Percent of people who demand HEP services
- Percent of people satisfied with HEP services

CHARCATERISTICS OF KEBELES AND HEWs

HEP EVALUATION

RURAL ETHIOPIA

2011

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

CHW	Community based health workers
DHO	District health office
HC	Health Center
HEP	Health Extension Program
HP	Health post
HEW	Health Extension Worker
SNNP	Southern Nations and Nationalities Peoples Region
VHP	Volunteer health promoter

2. BACKGROUND CHARACTERISTICS OF KEBELES AND HEWS

2.1 CHARACTERISTICS OF KEBELES

For the evaluation of HEP, a random sample of 312 kebeles was selected from rural areas of the country. Assessment of outcome measures through household survey was undertaken from households sampled from all kebeles. However, the assessment of HEP implementation process, which includes health post performance, HEWs performance and community perception towards HEP, was undertaken in 293 kebeles where HEP has been implemented. Among the 293 kebeles, 71, 60, 54, 43, and 28 kebeles were drawn from Oromia, Amhara, Gambela, SNNP, and Tigray regions. The remaining were from Somali, Benshangul Gumuz, Afar, Harari and Dire Dawa regions. The findings of this survey showed that the majority (86.3%) of the sample kebeles were agrarian community, whereas regions such as Afar and Somali had communities with a mixed (pastoral and agrarian) settlement pattern in 49.8% and 45% of kebeles, respectively.

Table 2-1: Percent distribution of kebeles by the settlement pattern of the community and availability of HP

Region	Settlement of the community				Total Number
	Agrarian	Pastoralist	Mixed	Not stated	
Tigray	84.1	0	8	8	28
Afar	50.2	0	49.8	0	7
Amhara	97.9	0	2.1	0	60
Oromia	88.6	10	1.4	0	71
Benshangul	78.1	0	7.2	14.7	9
SNNP	86.7	1.9	5.4	6	43
Gambela	85.8	10.7	3.6	0	54
Dire Dawa	66.7	33.3	0	0	3
Harari	75	0	25	0	4
Somali	38.9	12.7	45	3.5	14
Total	**86.3**	**5.1**	**6.5**	**2.1**	**293**

2.2 CHARACTERISTICS OF HEWS

Nearly three fourths (73.0%) of HEWs were between the age of 20-24 years. There was variation across regions in Oromia (84.8%), Afar (75.0%) and Amhara (71.5%). A little over one seventh (14.7%) of respondents were in the 25-29 age group. Almost three fourths (71.0%) of interviewed HEWs were Christians and 26% were Muslims. Most respondents in Tigray, Amhara, Oromia, Benshangul Gumuz, SNNP, and Gambela were followers of Christianity whereas respondents from Afar, Dire Dawa, and Somali were followers of Islam. The majority (94.4%) of interviewed HEWs were females. HEWs who participated in the survey were entirely males in Afar and entirely females in Tigray, Amhara, Oromia, Dire Dawa, Harar and Benshangul Gumuz. More than half (56.4%) of the interviewed HEWs were single. This was found to vary among regions - Afar (75.0%), Benshangul Gumuz (64.1%) and Oromia (59.4%).

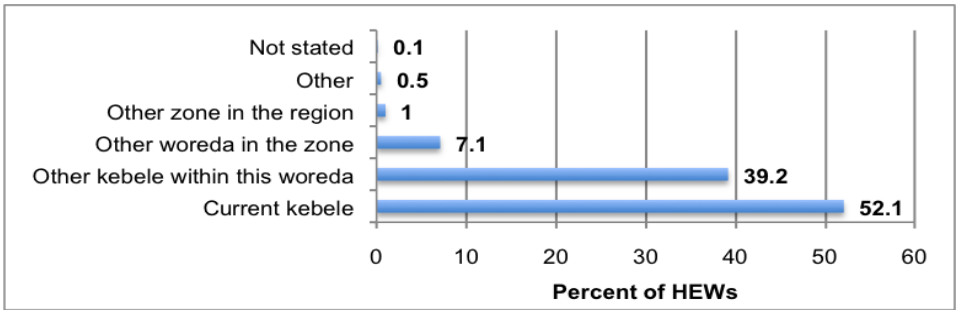
Forty one percent of respondents were married (22.7% with children and 18.6% without children). However, a majority of respondents (73.8%) in Gambela were married with children.

Table 2-2: Percent distribution of HEWs by background characteristics, rural Ethiopia 2010

Characteristics	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Age											
18-19	0.0	25.0	4.1	11.6	16.5	8.8	3.3	0.0	0.0	22.4	**9.5**
20-24	49.8	75.0	71.5	84.8	73.8	70.9	50.6	100.0	0.0	32.2	**73.0**
25-29	34.8	0.0	21.9	3.6	4.9	18.9	39.2	0.0	100.0	28.9	**14.7**
30+	15.5	0.0	0.0	0.0	4.9	1.5	6.9	0.0	0.0	13.7	**2.1**
Not stated	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	2.9	**0.7**
Religion											
Christianity	100.0	0.0	88.0	60.9	60.6	87.0	99.0	0.0	50.0	5.8	**71.0**
Islam	0.0	100.0	12.0	35.1	39.5	7.2	1.0	100.0	50.0	94.2	**26.1**
Others	0.0	0.0	0.0	4.0	0.0	5.7	0.0	0.0	0.0	0.0	**3.0**
Sex											
Male	0.0	100.0	0.0	0.0	0.0	2.2	64.8	0.0	0.0	50.7	**5.6**
Female	100.0	0.0	100.0	100.0	100.0	97.8	35.2	100.0	100.0	49.3	**94.4**
Marital status											
Married with children	38.2	0.0	22.4	12.8	19.4	31.5	73.8	0.0	50.0	40.0	**22.7**
Married without children	12.3	25.0	23.3	24.8	8.2	9.2	5.5	0.0	0.0	5.8	**18.6**
Single	40.9	75.0	52.2	59.4	64.1	58.6	19.7	100.0	50.0	54.1	**56.4**
Widowed	3.3	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	**0.2**
Divorced	3.3	0.0	2.1	1.3	0.0	0.7	1.0	0.0	0.0	0.0	**1.3**
Not stated	2.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	**0.8**
Number of HEWs	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

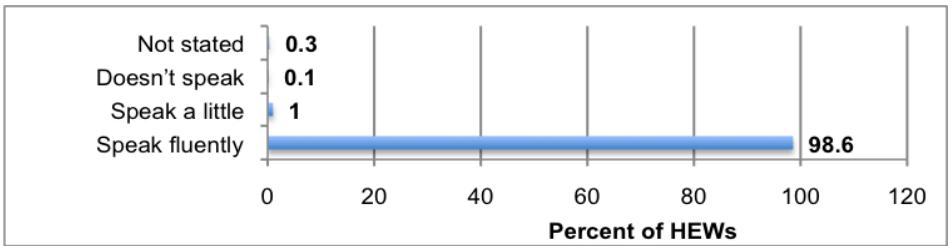
Most (91.3%) of the HEWs resided in their present kebele or other kebele within the woreda during initial selection for HEW training. Half (52.1%) of HEWs were selected for training from the current kebele they are working in while 39.2% were selected from another kebele within the woreda. However, 7.1% were selected from other woreda in the zone.

Figure 2-1: Percent distribution of HEWs by place of residence prior to becoming HEW, rural Ethiopia 2010



Majority (98.6%) of respondents fluently spoke the language spoken in the kebele. There were a very small proportion of HEWs who did not speak fluently or did not speak the local language at all, mainly in Benshangul Gumuz and Gambela.

Figure 2-2: Percent distribution of HEWs by the level of local language spoken, rural Ethiopia 2010



Reason for joining HEP

The HEWs were asked to state the reasons for becoming HEWs. Job opportunity was stated as the main reason for joining the HEP by 45.2% of HEWs. Another 44.3% attributed their desire to help the community as the prime reason for joining the program. Their interest to work in their own village (4.4%) and attractive salary offered (1.5%) were other responses given by HEWs. Nearly 80.0% of HEWs in Amhara, 52.6% in Tigray and 47.0% in Oromia attributed job opportunity as their main reason for joining the HEP. Ninety five percent of respondents in Benshangul Gumuz, 83.7% in Somali and 75% in Afar attributed their desire to help the community as the main reason for joining the HEP.

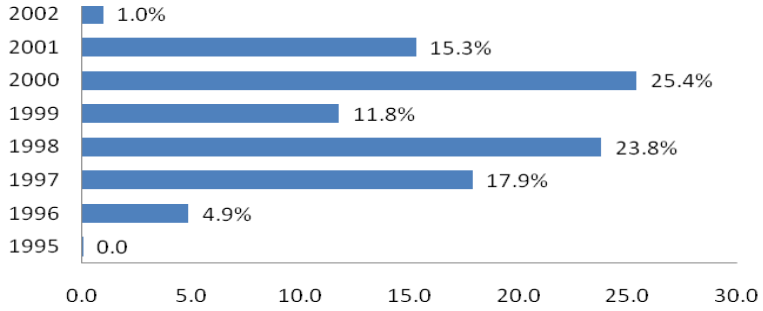
Table 2-3: Percent distribution of HEWs by the main reason for joining HEP, rural Ethiopia 2010

Reason	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNPR	Gambela	Dire Dawa	Harari	Somali	Total
Job search	52.6	0.0	79.8	47.0	0.0	23.6	26.7	0.0	50.0	8.2	**45.2**
To help the community	41.8	75.0	15.7	42.3	95.2	60.1	70.9	100.0	50.0	83.7	**44.3**
Attractive salary	0.0	0.0	1.8	1.0	0.0	2.9	0.0	0.0	0.0	0.0	**1.5**
Relatively short training	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.5**
Attracted to work in own village	3.2	0.0	0.0	5.2	0.0	9.1	0.0	0.0	0.0	0.0	**4.4**
Other	0.0	25.0	0.3	3.6	4.9	4.4	2.4	0.0	0.0	8.2	**3.5**
Not stated	2.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.5**
No. of HEWs	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

2.3 YEAR OF PRE-SERVICE TRAINING AND LENGTH OF SERVICE

In general, 78.9%% of HEWs received their pre-service training between the years 1997-2000. About 25% of HEWs received pre-service training in the year 2000. Nearly 24% received pre-service training in 1998.

Figure 2-3: Percent of HEWs who received pre-service training by year, rural Ethiopia 2010



Most (85%) of the HEWs have been engaged in HEP service for more than a year after completion of the pre-service HEW training. There were, however, differences among regions with HEWs in Tigray (87.4%), Amhara (53.9%) and SNNP (25.8%) engaged in service for more than 48 months. On the other hand, HEWs in Gambela (67.1%), Benshangul Gumuz (59.1%) and Oromia (30.8%) have been in service for 12-23 months since completion of the pre-service training. About 78.5% of HEWs have been engaged in service in their current village for more than 1 year. The length of time after completion of pre-service training does not correspond with the length of service in their current kebele. The variation is particularly significant in Tigray, Amhara, Oromia and SNNP regions, where majority of the HEWs were trained three to four years prior to the survey. This implies that some HEWS working in the current kebele were transferred from another kebele. The fact that some of the HEWs were recruited from another kebele might have necessitated transfer to the kebele where they resided during initial recruitment.

Table 2-4: Percent distribution of HEWs by length of service (overall vs. current kebele), rural Ethiopia 2010

Length of service	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
After completion of initial training											
1-11	3.2	100	13.1	18.2	40.9	5.1	24.6	0.0	0.0	24.6	**15.0**
12-23	0.0	0.0	7.5	30.8	59.1	27.3	67.1	0.0	0.0	42.8	**24.0**
24-35	0.0	0.0	9.4	19.6	0.0	23.4	8.3	0.0	0.0	26.8	**17.2**
36-47	9.4	0.0	16.0	17.9	0.0	18.4	0.0	0.0	0.0	5.8	**15.9**
48+	87.4	0.0	53.9	13.4	0.0	25.8	0.0	100.0	100.0	0.0	**27.9**
Total	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**
Length of service in current kebele											
1-11	19.1	100	14.1	27.2	40.9	11.8	27.8	0.0	100.0	24.6	**21.2**
12-23	5.6	0.0	15.7	34.6	59.1	29.3	63.9	0.0	0.0	42.8	**28.0**
24-35	5.2	0.0	8.3	20.2	0.0	24.0	8.3	0.0	0.0	29.7	**17.8**
36-47	19.7	0.0	21.3	10.3	0.0	16.5	0.0	0.0	0.0	2.9	**13.9**
48+	50.4	0.0	39.1	7.8	0.0	18.4	0.0	100.0	0.0	0.0	**18.7**
Not stated	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.3**
Total	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

HEALTH POST PERFORMANCE

HEP EVALUATION

RURAL ETHIOPIA

2010

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

WHO	Woreda Health Office
ACT	Artemisinin-based Combination Therapy
ANC	Antenatal Care
BCG	Bacille Calmette Guerin
CBRHA	Community based reproductive health agents
CHWs	Community Health workers
CV	Community Volunteers
DHS	Demographic Health Survey
DPT	Diphtheria, Pertussis (whooping cough) and tetanus toxoids
EOC	Emergency Obstetric Care
FMOH	Federal Ministry of Health
FP	Family planning
HEP	Health Extension Program
HEWs	Health Extension Workers
HP	Health Post
HSDP	Health Sector Development Program
IMCI	Integrated childhood Illness Management
MIS	Malaria Indicator Survey
OPV	Oral Polio Vaccine
ORS	Oral rehydration salts
OTP	Outpatient therapeutic program
PHCU	Primary Health Care Unit
RDT	Rapid Diagnostic Test
RHBs	Regional Health Bureaus
SNNP	Southern Nations Nationalities and Peoples
TBA	Traditional Birth Attendants
TT	Tetanus Toxoid
TTBA	Trained Traditional Birth Attendants
TTC	Tetracycline
VHP	Volunteer Health Promoters

3. HEALTH POST PERFORMANCE

3.1. CHARACTERISTICS OF THE HEALTH POSTS

According to the guidelines of the FMOH, health posts (HPs) need to meet standard design requirements to be functional. These include, convenient physical infrastructure that ensures privacy to clients, particularly to women receiving delivery services, have sanitary facilities (latrine and waste disposal pits), clean water, electricity, telephone service, and adequate human resources. The above are key factors in influencing the convenience of the health post to clients, thus affect access to health services. In the present survey, the characteristics of health posts in terms of quality of the health posts physical infrastructure, access to facilities and utilities, and availability of human resources was assessed.

3.1.1. Physical infrastructure of the health posts

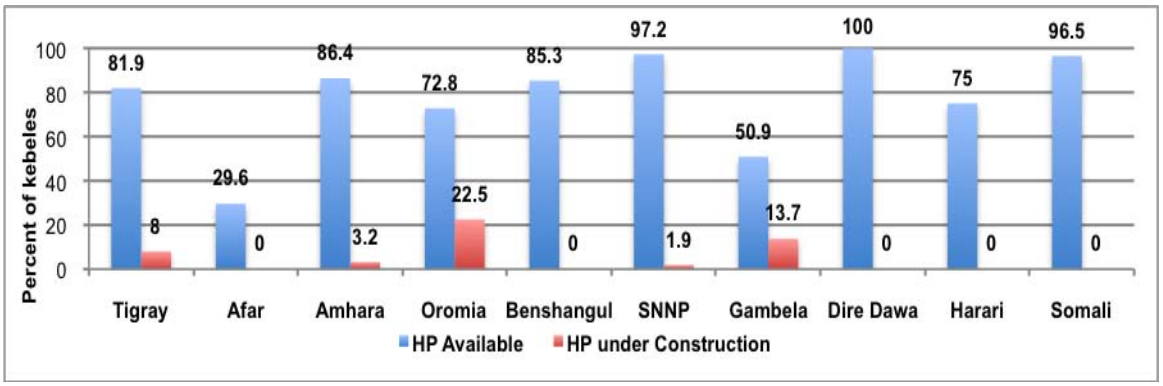
According to HEWs interviewed in 293 kebeles from ten regions, health post building was available in 82.3%, while it was under construction in 10.4% of the villages. The percent of kebeles with HP infrastructure was the lowest in Afar (29.6%). The government constructed three-quarters of the HPs, and the community and NGOs were involved in 39.7% and 12.8% of the HPs, respectively. The majority (83.6%) of the HPs had at least 3 rooms, and 68.6% of the HPs had separate delivery room. The main materials used for construction of the HPs were bricks/stone with cement for wall (39%), corrugated iron sheets for roof (95.7%), and cement for floor (85.6%).

Among the kebeles that did not have health post (n=52); low commitment of the woreda and kebele were cited as the main reasons for the lack of HP infrastructure. In these kebeles, HEWs work from their own homes (14.7%), from kebele administration office (13.2%), from the health center (7.4%) and had no place to work from (8.8%). HEWs in 79% of these kebeles felt that the lack of infrastructure compromised the provision of health service, in particular, provision of ANC (69%), delivery services (33%), and difficulty in proper storage of medicine (33%).

Table 3-1: Characteristics of health posts, rural Ethiopia 2010 (n=293)

Characteristics of health post		Percent of health posts
Health post infrastructure	Building available	**82.3**
Number of rooms	3+	83.6
Delivery room	Separate room available	**68.6**
Health post built by	Community	**39.7**
	Government	**75.4**
	NGOs	12.8
Main material of wall	Bricks/stone with cement	**39.1**
Main material of roof	Corrugated iron sheets	**95.7**
Main material of floor	Cement	**85.6**

Figure 3-1: Percent of kebeles by availability of HP infrastructure and region, rural Ethiopia 2010



3.1.2. Access to facilities, utilities and infrastructures

Facilities and utilities

Good proportion of the HPs (73.8%) provided patients with access to toilet. About (69%) and (71.3%) of health posts had access to safe water and mechanism for waste disposal, respectively. And interestingly 73.5% of health posts had access to mobile telephone (53.6%) and/or landline (28.6%) services and only quarter of the kebeles did not have access to either mobile or land line telephone services. However, access to other facilities such as electricity (10.6%) and transport (33.5%) were low. HEWs in about 30% of the HPs had access to water and soap, but only in 17% of the HPs, patients had access to these facilities.

Table 3-2: Percent of health posts with access to facilities and utilities, rural Ethiopia 2010 (n=293)

Facilities and utilities	Description	Percent of HPs
Access to toilets	Access to patients	73.8
Soap and water	Available for HEWs	30.2
	Available for Patients	17
Source of water	Safe water	68.8
Electricity	HP has access	10.6
Telephone service	Access to mobile	53.6
	Access to land line	28.6
	No access	26.5
Waste disposal	Have the mechanism	71.3
Transportation	Have means	33.5

Road connecting HPs

Type of road and the distance to nearest referral health facilities or woreda health office are among the limiting factors in accessing health services. This survey captured that majority of the roads connecting kebele (HPs) to the referral cluster center (54.7%) and the woreda health offices (55.6%) were dry weather road. It is worth noting that 14% and 11.1% of the HPs had no road connecting to the referral cluster center and to the woreda health office, respectively.

In addition, the distance to the woreda health office can hamper the performance of the HPs by making supply of basic consumables very difficult. The present study has shown that 56.1% and 30.4% of the kebeles are within 10km distance to the nearest health center and woreda health office, respectively. The distance of 11% of kebeles from the health center is greater than 20km, while a third of the kebeles were more than 20km away from the woreda health office.

Figure 3-2: Percent distribution of kebeles by type of road connecting to district health office and referral health center, rural Ethiopia 2010

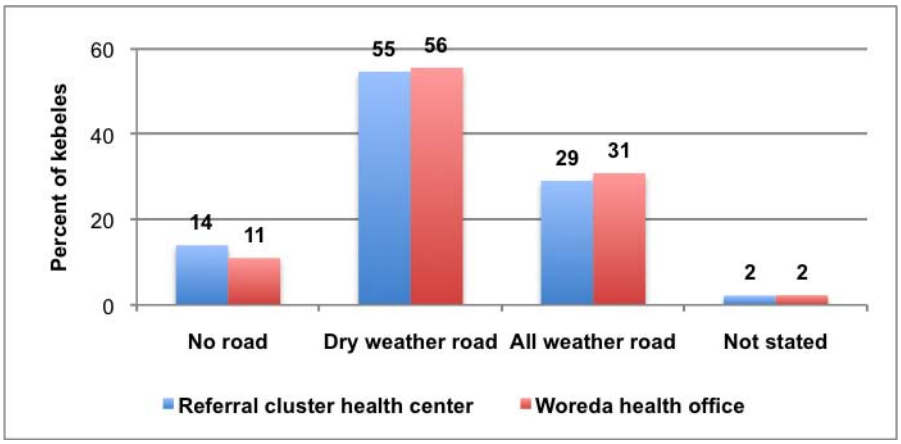


Table 3-3: Percent distribution of HPs by distance to nearest health facility and woreda health office, rural Ethiopia 2010

Region	Percent of HPs by distance to any nearest health center			Percent of HPs by distance to woreda health office			No. of HPs
	1-10Km	11-20Km	>20Km	1-10Km	11-20Km	>20Km	
Tigray	59.0	25.0	6.5	25.3	25.7	45.0	28
Afar	70.0	30.0	0.0	29.6	50.2	20.2	7
Amhara	60.7	21.6	13.6	21.7	27.0	49.4	60
Oromia	48.1	32.9	12.3	25.7	42.8	29.8	71
Benshangul	19.4	31.7	34.2	12.2	31.7	41.4	9
SNNP	75.5	22.6	1.9	55.3	25.6	19.2	43
Gambela	47.4	32.0	19.1	47.4	21.3	28.2	54
Dire Dawa	0.0	66.7	0.0	0.0	33.3	33.3	3
Harar	75.0	25.0	0.0	50.0	50.0	0.0	4
Somali	11.5	39.0	37.4	8.0	34.4	45.5	14
No. of HPs	**56.1**	**27.7**	**11.3**	**30.4**	**33.7**	**33.7**	**293**

3.1.3. Human resources at the health post

As expected, majority (81.2 %) of HPs were staffed with two HEWs. In very few proportions (7.3%) nurses work at HPs. Even though there were variations among the regions, volunteers such as volunteer health promoters (61.8%), TBA/TTBA (74.4%), community health workers (38.1%), community based reproductive health agents (45.4%) work with the HEWs.

Table 3-4: Percent distribution of health posts by the type and number of health personnel, rural Ethiopia 2010

Type of personnel	Number	Percent of kebeles										
		Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
HEWs	1	30.1	9.9	9.4	10.2	7.2	10.9	19.3	100.0	0.0	61.7	14.3
	2	65.9	60.1	81.3	89.8	92.8	83.4	73.0	0.0	75.0	38.3	**81.2**
	3	4.0	30.0	9.3	0.0	0.0	5.7	7.8	0.0	25.0	0.0	4.5
Nurses	0	87.4	70.4	97.2	92.3	70.8	96.1	74.6	66.7	75.0	84.4	92.8
	1+	12.6	29.6	2.8	7.7	29.2	3.9	25.4	33.3	25.0	15.6	**7.3**
VHP	0	12.0	100.0	33.1	53.3	36.4	2.9	100.0	66.7	75.0	87.4	38.2
	1-10	4.0	0.0	6.0	34.7	48.9	20.4	0.0	0.0	0.0	3.5	20.1
	11-20	16.9	0.0	23.8	6.2	0.0	51.2	0.0	33.3	0.0	9.1	21.0
	21-30	29.6	0.0	19.1	4.3	14.7	10.7	0.0	0.0	0.0	0.0	10.4
	30+	37.6	0.0	18.0	1.5	0.0	14.8	0.0	0.0	25.0	0.0	10.3
	At least 1											**61.8**
TBA/TTBA	0	30.2	60.1	37.1	22.0	80.6	15.1	73.0	0.0	0.0	12.1	25.5
	1-10	61.8	39.9	55.5	75.9	19.4	78.6	27.0	100.0	50.0	88.0	69.9
	11+	8.0	0.0	7.4	2.1	0.0	6.4	0.0	0.0	50.0	0.0	4.5
	At least 1											**74.4**
CHWs	0	25.0	79.8	65.5	62.5	56.1	54.8	93.3	33.3	0.0	89.5	61.4
	1-10	33.9	20.2	29.4	31.7	43.9	41.2	6.7	66.7	75.0	7.0	31.8
	11+	41.1	0.0	5.1	4.7	0.0	4.0	0.0	0.0	25.0	0.0	6.3
	At least 1											**38.1**
CBRHA	0	51.1	100.0	56.5	60.7	100.0	23.2	100.0	100.0	100.0	100.0	54.6
	1-10	38.1	0.0	43.5	39.3	0.0	76.8	0.0	0.0	0.0	0.0	44.8
	11+	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
	At least 1											**45.4**
No. of HPs		**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

*TBA/TTBA: Traditional Birth Attendants /Trained Traditional Birth Attendants; CBRHA: community based reproductive health agents; CHW: community health workers; VHP: Volunteer health promoters

3.2. SERVICE AVAILABILITY AND ORGANIZATION

The HEWs give services at community level covering sixteen health extension packages. While giving these services, they are required to spend 75% of their time making house to house visits, training model families, or community groups. Organization of HPs in terms of operational hours is the major key factor affecting service availability. The operation hours of health posts should be favorable in promoting accessibility of services during working hours, after hours and on weekends. Thus, such information should be posted on the HPs for clients.

3.2.1. Operational days of the HPs

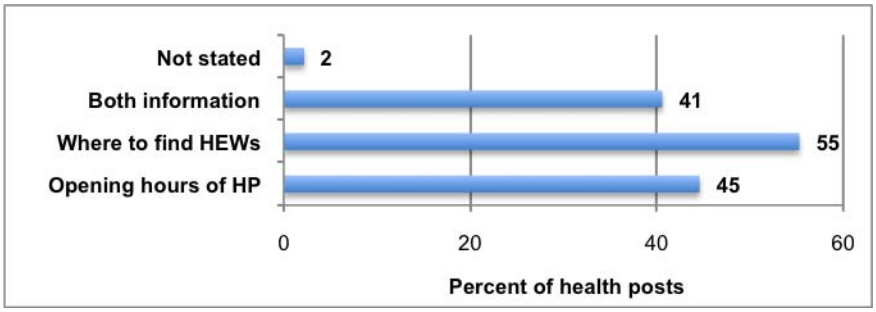
Overall half of the HPs (51.9%) were open 5-7 days a week for at least 2 hours a day. There was variability among the regions with 100% in Harari and Dire Dawa followed by Benishangul-Gumuz (78.1%) and SNNPR (72.2%). In contrast, HPs in Amhara (37.5%) and Gambella (33.3%) were open only 1-2 days per week. The findings also showed that 61.9% of the HPs were open at least one day during weekend. It was also observed that information about the operational hours was

posted at the HPs - 44.6% posted about opening hours of the HPs, 55.3% posted where the HEWs could be found if not at the HPs, and 40.6% posted both informations. Among the regions, Amhara performed better in provision of information.

Table 3-5: Percent distribution of health posts by the number of operational days per week, rural Ethiopia 2010

	No. of days open for at least 2hrs			Open on weekends					
Region	1-2 days	3-4 days	5-7 days	Open Saturday only	Open Sunday only	Open Saturday & Sunday	Closed on Saturday & Sunday	Not stated	No. of HPs
Tigray	23.4	36.4	33.2	11.9	0	70.6	14.5	3.1	28
Afar	0	0	39.5	9.9	0	9.9	60.1	20.2	7
Amhara	37.5	19.5	40	23.1	5.6	49.4	17.3	4.6	60
Oromia	28.2	12.2	43.8	18.1	7.6	33.8	30.2	10.4	71
Benshangul	0	14.7	78.1	12.2	0	36.7	43.9	7.2	9
SNNP	19.7	5.4	72.2	27.1	0	27.2	41.9	3.7	43
Gambela	33.3	12.9	44.6	1.5	1.5	19.8	74.1	3.1	54
Dire Dawa	0	0	100	0	0	66.7	33.3	0	3
Harari	0	0	100	0	0	0	100	0	4
Somali	0	0	96.5	4.5	0	39	53	3.5	14
No. of HPs	**25.8**	**12.8**	**51.9**	**19.8**	**4.3**	**37.8**	**31.3**	**6.9**	**293**

Figure 3-3: Percent of health posts with information notice posted outside the health post, rural Ethiopia 2010



3.2.2. Type of HEP services rendered at the HPs

HEWs are expected to provide 16 packages of basic preventive, promotive and curative services. In the present findings the type of the services rendered by HPs three months preceding the survey was documented. Among the services provided by majority of the HPs, the top three services were immunization (89.7%), family planning (87.7 %), and antenatal care (86%). Normal delivery services (45.1%), and outpatient treatment program (OTP) (33.2%), management of childhood illnesses (31.7%), and child health day (17.1%) were among the least provided services.

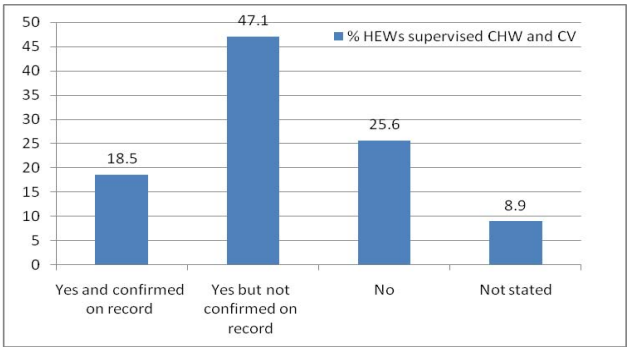
Table 3-6: Percent of HPs that offered HEP services in the 3 months preceding the survey, rural Ethiopia 2010

HEP services	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Immunization	90.7	29.6	94.9	86.3	78.1	97.2	78.7	100	75	88	**89.7**
Family Planning	84.3	19.8	90.2	88	73	94.7	61.7	100	75	83.4	**87.7**
Antenatal care	80.2	0	86.9	91.6	58.6	91.3	29.6	66.7	100	75.4	**86**
Postnatal care for babies	53.3	0	60.8	59	43.9	80.4	14.5	66.7	50	58.8	**62.1**
Growth promotion & nutrition screening	71.7	9.9	62.2	51.8	36.7	77.4	19.9	100	25	55.3	**60**
Postpartum care for mothers	59.4	0	56.3	56.8	48.9	77.6	9.3	66.7	50	50.8	**59.4**
Management of diarrhea	50.4	49.8	63.3	50.7	38.9	68.5	46.3	66.7	25	58.2	**58**
First aid services	48.4	30	73.2	44	63.3	73.1	26.3	66.7	50	50.6	**57.9**
Diagnosis & treatment of malaria	58.6	29.6	49	37.3	26.6	66.1	50.2	0	25	38	**47.5**
Normal delivery services	66.4	0	54.1	30.8	43.9	66	14.9	0	0	25.4	**45.1**
Deworming	35.7	29.6	31.4	28.7	31.7	50.7	21.4	100	25	50.8	**36**
OTP	18.1	0	32.4	32.1	7.2	51.5	0	33.3	0	9.1	**33.2**
Management of childhood illness	24.3	19.8	40.1	14.4	19.4	48	20.4	0	0	67.3	**31.7**
Child Health Days	21.2	0	24.3	5.2	0	21	4.6	0	0	59.3	**17.1**
Number of HPs	28	7	60	71	9	43	54	3	4	14	**293**

3.2.3. Supervision of community health volunteers

Among other responsibilities of the HEWs, training and supervising community volunteers are one of them. They plan and organize activities such as environmental management, drainage of swampy areas with the volunteers. The HEW uses all the available assistance through volunteers and other sector servants (school teachers) to educate and mobilize the community. The figure bellow shows that HEWs in 65.6% of the kebeles reported to have supervised community health workers, with 18.5 % confirmed with records.

Figure 3-4: Percent of health posts that provided supervision to CHWs, rural Ethiopia 2010



3.3. READINESS OF HEALTH POSTS TO PROVIDE HEP SERVICES

Service provision at the health post depends on the availability and adequate supply of essential equipment such as furniture, medical equipment and drug supplies. Assessment of the availability of such supplies was undertaken in the sampled health posts.

3.3.1. Availability of medical equipment

The minimum set of medical equipment and supplies necessary to undertake some of the key HEP services, ANC and delivery, childcare, immunization, and first-aid need to be in place to perform the respective services. As shown in the table, no medical equipment was universally available.

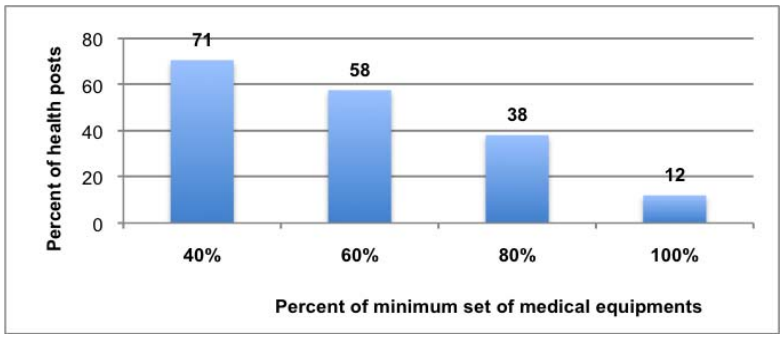
Table 3-7: Percent of health posts with medical equipment and supplies for HEP services, rural Ethiopia 2010

HEP service	Equipment	Total percent
ANC and delivery	Blood pressure apparatus	69.7
	Adult weighing scale	62
	Foetoscope	65.3
	Delivery bed	62.9
	Neonatal resuscitation mask and bag	15.4
	Home delivery bag or kit	51
General services	Examination bed	48.9
	Thermometer	60.3
	Stethoscope	69.8
	Gowns	41.6
	Stretcher	32.3
Child care	Baby weighing scale	57.6
	Measuring board	29.1
	Measuring tape (1.5M)	40.3
	Graduated measuring jar (1LITER)	32.9
	Spoons (ORS)	30.9
First Aid Care	First aid kit	50.1
	Basic dressing tray	49.2
	Kidney dishes	63.1
	Sterilization set/ autoclave	46.1
Immunization	Refrigerator	29.2
	Vaccine carriers	75.9
	Ice box	63.4
Others	Spatula	18.8
	Torch light	19.4
	Salter scale	46.7
	MUAC tape	74.7

Delivery and newborn care services

Blood pressure apparatus, adult weighing scale, foetoscope, delivery bed, neonatal resuscitation mask and bag, home delivery kits are the minimum medical equipment and supplies for provision of delivery and newborn care services. About 71%, 58%, 38% and 12% of the HPs were equipped with 40%, 60%, 80% and 100% of the minimum set of medical equipments for delivery and newborn care services, respectively. Among the regions, HPs in Tigray were better equipped with the minimum set of equipment.

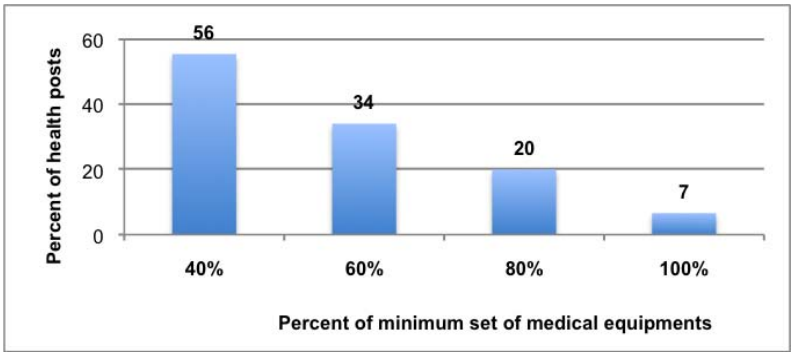
Figure 3-5: Percent of HPs by percent of medical equipment available for delivery and newborn care, rural Ethiopia 2010



Childcare service

Baby weighing scale, measuring board, measuring tape, graduated measuring jar, and spoons were considered as the minimum set of equipment and supplies needed for provision of childcare services. Majority of the HPs were not equipped sufficiently to provide childcare services. Only 27% of the HPs possessed at least 80% of the minimum set of equipment and supplies. More HPs in Tigray (65%) possessed at least 80% of the minimum set of equipment and supplies.

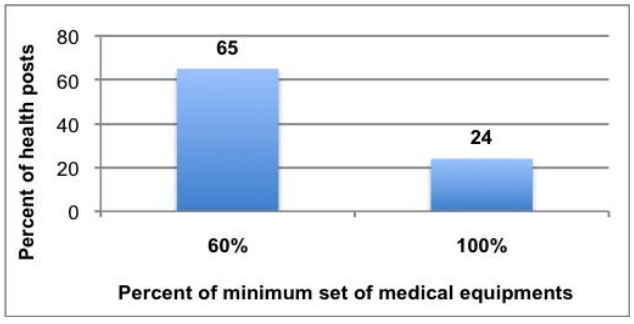
Figure 3-6: Percent of HPs by percent of medical equipments available for childcare service, rural Ethiopia 2010



Immunization

Refrigerator, Vaccine carriers and Icebox were considered as the minimum set of medical equipment for immunization. About 65% and 24% of the HPs had 60% and 100% of the minimum set of medical equipment for immunization, respectively.

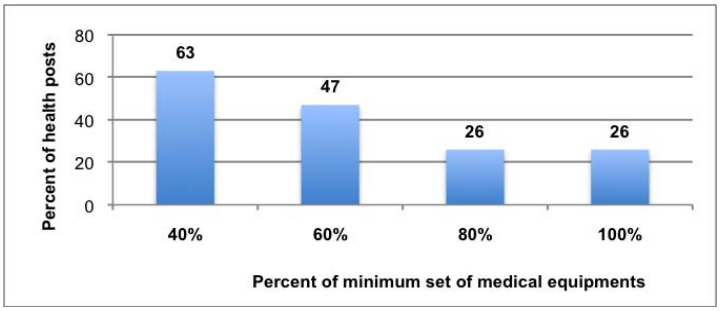
Figure 3-7: Percent of HPs by percent of medical equipments available for immunization, rural Ethiopia 2010



First aid care

First aid kit, basic dressing tray, kidney dishes and sterilization set/ autoclave were considered as the minimum set of medical equipment for first aid care service. Among the HPs surveyed, 52.4% had at least 80% of the minimum set of medical equipment for first aid care service.

Figure 3-8: Percent of HPs by percent of medical equipments available for first aid care, rural Ethiopia 2010



3.3.2. Availability of drugs and medical supplies

Availability of Drugs

Contraceptives such as oral (75.9%) and Depo-Provera injection (73%) were widely available followed by ORS (65%) and Vitamin A capsule (55.2%). Other essential drugs such as coartem and chloroquine were found in less than 50% of the HPs. In Afar among the 16 drugs assessed, seven were not available at the time of the survey.

Table 3-8: Percent of health posts with essential drugs at a time of the survey, rural Ethiopia 2010

Medicine	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Asprin/Paracetamol	38.4	39.5	18.1	18.9	22.0	7.8	32.4	100.0	50.0	92.0	**22.2**
Coartem (ACT)	67.9	19.8	47.3	45.0	53.9	43.4	31.9	66.7	25.0	61.5	**46.8**
Chloroquine	25.8	9.9	10.7	16.5	22.0	6.7	38.0	0.0	0.0	3.5	**12.7**
Vit-A Capsul 100,000 Iu	75.2	9.9	58.0	40.7	0.0	75.7	6.1	100.0	75.0	70.7	**55.2**
ORS	78.3	29.6	84.6	50.6	61.1	65.4	47.3	100.0	75.0	82.8	**65.1**
Oral Contraceptives	85.0	9.9	74.0	74.9	46.4	88.1	25.0	100.0	100.0	69.7	**75.9**
Depo-Provera Injections	81.5	0.0	89.3	72.6	68.3	77.7	17.6	100.0	50.0	16.1	**73.0**
Any contraceptives	92.2	9.9	89.3	80.2	80.6	90.2	30.1	100	100	69.7	82.7
Ergometrine-500mg	8.0	0.0	5.2	0.0	0.0	8.0	1.5	0.0	0.0	12.1	**4.2**
Oral Misoprostol	20.1	0.0	2.6	0.0	7.2	13.6	1.5	33.3	0.0	21.2	**6.1**
Iron Tablets	72.5	0.0	69.1	22.0	58.6	59.8	48.3	33.3	75.0	62.2	**46.8**
Folic Acid	29.6	0.0	8.7	3.1	0.0	7.1	1.5	33.3	0.0	29.8	**8.3**
TTC Eye Ointment	21.4	9.9	23.8	9.6	27.0	26.0	14.9	66.7	75.0	48.9	**19.9**
Plumpy Nut/RutfBp 100	43.9	0.0	36.1	27.6	0.0	37.7	1.5	33.3	0.0	25.8	**31.7**
Amoxycillin	3.9	0.0	3.2	3.6	7.2	10.0	8.1	0.0	0.0	12.6	**5.4**
Baby Lotion	6.5	9.9	2.2	1.7	0.0	3.6	1.5	0.0	0.0	0.0	**2.6**
No. of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

Majority of the HPs were out of stock of the necessary drugs such as coartem (61 %), Chloroquine (88.7%), essential micronutrients, folic acid (91%), Plumpy nuts (77.6%), Vitamin A (54%) and analgesics (81%) in the three months prior to the survey.

Table 3-9: Percent of health posts with stock-outs of medicine in three months preceding the survey, rural Ethiopia 2010

Medicine	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Asprin/Paracetamol	61.6	100.0	81.9	83.4	85.3	97.3	86.8	0.0	75.0	20.7	**81.7**
Coartem (ACT)	32.1	100.0	59.8	62.7	70.5	65.2	81.8	33.3	100.0	50.5	**61.3**
Chloroquine	77.6	100.0	90.5	87.1	92.8	89.2	69.6	100.0	100.0	96.5	**88.7**
Vit-A Capsul 100,000 Iu	32.2	100.0	46.9	65.6	100.0	42.5	100.0	33.3	50.0	50.0	**54.4**
ORS	29.1	100.0	25.7	58.5	70.5	42.8	71.6	33.3	75.0	25.3	**44.7**
Oral Contraceptives	29.3	100.0	34.0	35.7	78.1	29.4	85.7	33.3	50.0	30.3	**35.4**
Depo-Provera Injections	22.5	100.0	21.5	45.4	56.1	27.3	85.5	33.3	100.0	87.4	**38.4**
Ergometrine-500mg	92.0	100.0	94.8	100.0	100.0	92.4	100.0	100.0	100.0	96.5	**96.4**
Oral Misoprostol	88.0	100.0	97.5	100.0	92.8	88.4	100.0	66.7	100.0	87.3	**95.3**
Iron Tablets	40.8	100.0	42.4	83.4	85.3	67.0	61.2	66.7	75.0	37.8	**65.2**
Folic Acid	74.5	100.0	91.3	96.9	100.0	88.9	100.0	100.0	100.0	70.2	**91.1**
TTC Eye Ointment	82.0	100.0	84.5	91.2	85.3	80.7	86.7	66.7	75.0	51.2	**84.6**
Plumpy Nut/RutfBp 100	63.1	100.0	73.6	77.2	100.0	83.4	98.5	66.7	100.0	74.2	**77.6**
Amoxycillin	96.1	100.0	96.8	96.4	100.0	88.9	93.4	100.0	100.0	92.0	**94.7**
No. of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

3.3.3. Availability of medical supplies

Gloves (75.4%) and AD syringes and needles (74.4%) were among the widely available medical supplies. Disinfectants such as GV and alcohol, and HIV Test Kits were among the least available supplies found in less than 30% of HPs.

Table 3-10: Percent of health posts with essential supply at a time of the survey, rural Ethiopia 2010

Medical supplies	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Non-AD syringes & needles	37.3	29.6	38.2	48.3	63.3	64.3	19.6	66.7	100	83.4	**50.4**
AD syringes	64.6	29.6	82.3	77.3	43.9	67	11.7	100	75	86.9	**74.4**
Mixing syringes	53	19.8	77.7	52.3	39.2	44.5	0	66.7	100	75.3	**56.9**
Gloves	92	29.6	78.1	64.8	92.8	86.1	55.8	100	100	96.5	**75.4**
Gauze	81.8	29.6	72.6	55.3	80.6	62.2	32.4	100	75	96.5	**64.3**
Alcohol	44.3	19.8	24.5	31.8	19.4	24.9	16.6	66.7	75	47.9	**29.8**
Savlon	69.9	39.5	68.3	34.6	61.1	48.3	21.8	100	75	62.1	**49.7**
Iodine	73.3	0	41.7	28.8	46.4	43.3	41.9	100	50	71.8	**39.7**
GV	58	0	15.1	25.6	7.2	14.5	15.2	100	50	62.7	**23.8**
Cord ties	77.7	0	50.2	20.3	14.7	54.8	35	100	75	58.8	**40.3**
Condoms	73.2	0.0	64.7	54.8	27.0	69.3	43.9	66.7	50.0	25.7	**58.2**
HIV Test Kit	32.8	0.0	27.1	1.7	0.0	3.6	0.0	66.7	50.0	8.5	**10.4**
Baby Lotion	6.5	9.9	2.2	1.7	0.0	3.6	1.5	0.0	0.0	0.0	**2.6**
RDT Test	34.8	19.8	37.2	33.7	31.7	49.1	22.8	100.0	75.0	66.1	**39.6**
No. of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

Majority of the HPs were out of stock of the necessary supplies such as RDTs for malaria diagnosis (68.9%), HIV test Kit (97.2%) and disinfectants-GV (80.3%) and alcohol (79.3%).

Table 3-11: Percent of health posts with stock-outs of supplies in three months preceding the survey, rural Ethiopia 2010

Medical supplies	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Non-AD syringes & needles	66.2	100	72	54.9	100	58.8	85.1	33.3	25	21.1	60.1
AD syringes	51.5	100	39	37.1	92.8	51.4	88.3	0	50	21.1	42.8
Mixing syringes	59.4	100	43.9	58.9	85.3	71.7	100	66.7	50	37.3	58.3
Gloves	34	90.1	31.6	46.9	43.9	49	54.9	0	25	16.1	42.2
Gauze	39.9	100	37.9	49	56.1	51.8	78.4	0	50	16.1	45.9
Alcohol	67.8	100	80.9	77.1	92.8	83.4	86.5	33.3	50	73.8	**79.3**
Savlon	54.6	90.1	42.1	74.7	63.3	57.6	86	0	75	42.5	60.3
Iodine	49.3	100	58.3	73.1	78.1	58.6	72.1	0	75	36.3	63.5
GV	54.1	100	90.6	79.1	92.8	85.5	93.9	0	50	41.8	**80.3**
Cord ties	42.5	100	51.3	83.5	85.3	54.7	78.9	0	50	53.9	65.6
Condoms	30.9	100.0	52.9	49.2	85.3	49.0	66.7	66.7	75.0	74.4	52.1
HIV Test Kit	72.2	100.0	83.8	100.0	100.0	92.4	100.0	33.3	50.0	91.5	92.2
Baby Lotion	93.5	100.0	97.8	98.3	100.0	94.2	100.0	100.0	100.0	100.0	97.2
RDT test	72.5	100.0	69.3	73.4	92.8	63.5	84.8	33.3	25.0	38.5	**68.9**
No. of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

3.3.4. Vaccines

Among the 293 HPs surveyed, only 29.2% of the HPs had functional refrigerator. With regard to the availability of specific vaccines - DPT-HEPB-HIB, OPV, BCG, Measles and TT were available in 12.8%, 11.7%, 12.4%, 12.4%, and 12.7% of health posts, respectively, at the time of the survey. Among the regions, health posts in Somali were better equipped with functional refrigerator and essential vaccines. None of the health posts in Afar and Benshangul Gumuz, and only 3% of the health posts in Gambela were found to have the essential vaccines.

Table 3-12 : Percent of health posts with essential vaccines at the time of the survey, rural Ethiopia 2010

Region	Functional refrigerator	DPT-HEPB-HIB	OPV	BCG	MEASLES	TT	Total No.
Tigray	25.5	16.5	16.5	16.5	16.5	16.5	28
Afar	39.5	0.0	0.0	0.0	0.0	0.0	7
Amhara	32.2	7.0	7.0	9.3	9.3	9.3	60
Oromia	24.9	9.6	9.6	7.2	7.2	9.6	71
Benshangul	27	0.0	0.0	0.0	0.0	0.0	9
SNNP	19.8	7.0	4.5	7.0	7.0	4.5	43
Gambela	23.5	3.0	3.0	3.0	3.0	3.0	54
Dire Dawa	100	100.0	100.0	100.0	100.0	100.0	3
Harari	50	25.0	25.0	25.0	25.0	0.0	4
Somali	79.4	83.4	74.9	83.4	83.4	83.4	14
No. of HPs	**29.2**	**12.8**	**11.7**	**12.4**	**12.4**	**12.7**	**293**

3.3.5. Drug supply system

HPs are expected to receive adequate essential drugs and supplies at least every month. In the present survey, HEWs working in 47.4% of health posts were supplied with at least the requested quantities. About 45.8% of the HPs reported that the drugs supplied to the HPs were usually less than the requested quantities. In the majority (58.7%) of health posts, HEWs reported that drugs were usually supplied as need arises, and in 17.4% of health posts, drugs were supplied monthly.

The drugs were delivered in less than a week from requested date in 65.2% of health posts, while it took a month in 12.5% of HPs, mainly in SNNP, Gambella and Tigray regions.

Table 3-13: Percent distribution of health posts by drug supply pattern to health posts, rural Ethiopia 2010

Description	Tigray	Afar	Amhara	Oromia	Benshangul	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Quantities supplied											
More than requested	0	0	3.9	14.2	0	1	0	0	0	12.7	**7.3**
Requested quantities	81.5	0	51.1	37.8	78.1	26.8	16.9	100	75	33.4	**40.1**
Less than requested	14.5	79.8	43.4	39.1	22	65.4	77	0	25	41.8	**45.8**
Not stated	4	20.2	1.7	8.9	0	6.8	6.2	0	0	12.1	**6.7**
Frequency of supply											
As need arises	55.9	29.6	76.4	51.8	7.2	53.8	49.7	33.3	75	71.9	**58.7**
Weekly	3.9	0	5.5	9.2	12.2	6.8	0	0	0	4.5	**6.9**
Bi-weekly	0	0	3.2	4.9	0	4	0	0	0	0	**3.5**
Monthly	12	9.9	7.5	19.2	73.4	26.7	19.4	33.3	25	11.5	**17.4**
Others	24.2	40.3	5.1	3.8	7.2	6	23.3	33.3	0	0	**6.6**
Not stated	4	20.2	2.3	11.1	0	2.8	7.6	0	0	12.1	**6.9**
Time from request was made to delivery											
< 1 Week	38.6	19.8	68.1	75.9	85.6	55.7	21.0	66.7	100.0	63.3	**65.2**
1 Week	30.1	9.9	11.9	4.9	0.0	8.6	5.1	0.0	0.0	9.1	**9.1**
2 Weeks	8.0	0.0	12.2	3.4	0.0	1.0	8.1	0.0	0.0	12.1	**5.6**
3 Weeks	0.0	0.0	0.0	0.8	0.0	0.0	4.6	0.0	0.0	0.0	**0.3**
4 Weeks	23.3	9.9	7.8	7.5	7.2	26.0	36.5	0.0	0.0	3.5	**12.5**

3.3.6. Availability of furniture and equipment

Generally majority of the HPs were poorly equipped with basic furniture and no HP was equipped with all the necessary furniture and equipment. Only table (70.3%) and chair (71.9%) were found in most of the HPs. Benches (53.5%), selves in (46.8%), dustbin (37.4%) and hand wash apparatus (26.4%) were available in half or less of the HPs. Only a minority of the HPs was equipped with motorcycle, bicycle, megaphones and notice board.

Table 3-14: Percent of health posts with furniture and equipment, rural Ethiopia 2010

Furniture and equipment	Total Percent (n= 293)
Table	**70.3**
Chair	**71.9**
Drawer	29.5
Benches	53.9
Filing cabinet	21.4
Shelves	46.8
Notice board	**7**
Dust bins	37.4
Megaphone	**19**
Motorcycle	1.2
Bicycle	8.9
Hand wash apparatus with tap	26.4
Water tank without catchment mechanism	9.5
Water tank roof catchment mechanism	11.9

3.4. PRODUCTIVITY OF HEALTH POSTS

Health service coverage in Ethiopia has improved over the past five years where the expansion of health extension program has played a vital role. While increasing health coverage is critical, ensuring utilization by the clients is challenging as it is affected by various factors. In the present study, the productivity of the HPs was examined using data from the sample HPs on selected HEP services provided to clients/patients in the year 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 as follows.

3.4.1. Family planning

Majority of the HPs rendered family planning services. On average, 153 new and 157 revisit clients received family planning service per health post per year. Interestingly about a quarter of the HPs served 100-200 new clients. Among regions, Amhara (245), Tigray (146), SNNPR (138) and Oromia (136) had served more new clients.

Table 3-15: Percent distribution of HPs by the number of family planning clients in the year preceding the survey, rural Ethiopia 2010

Type of client	No. of clients	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
New family planning clients	None	0.0	80.2	1.7	8.1	7.2	2.5	73.3	0.0	25.0	16.6	**7.5**
	1-50	42.2	0.0	12.8	23.8	73.4	21.6	20.4	66.7	0.0	70.7	**24.1**
	51-100	14.8	0.0	15.0	21.5	7.2	19.7	3.0	33.3	75.0	12.7	**18.0**
	101-200	13.7	9.9	24.7	25.4	0.0	32.8	1.7	0.0	0.0	0.0	**24.1**
	201-300	13.0	0.0	12.3	10.1	12.2	16.8	1.5	0.0	0.0	0.0	**11.4**
	301-400	3.1	0.0	16.8	4.5	0.0	1.9	0.0	0.0	0.0	0.0	**6.4**
	>400	13.3	9.9	16.7	6.5	0.0	4.7	0.0	0.0	0.0	0.0	**8.5**
	Average	146	52	245	136	40	138	12	33	52	14	**153**
Revisit family planning clients	None	3.1	100.0	10.9	20.2	7.2	26.3	76.5	0.0	25.0	20.1	**20.5**
	1-50	42.2	0.0	14.4	15.8	80.6	14.8	18.9	100.0	0.0	79.9	**20.5**
	51-100	12.3	0.0	12.5	14.8	12.2	14.1	0.0	0.0	75.0	0.0	**12.7**
	101-200	15.5	0.0	18.9	22.1	0.0	21.0	4.6	0.0	0.0	0.0	**18.6**
	201-300	13.3	0.0	8.7	18.1	0.0	11.0	0.0	0.0	0.0	0.0	**12.2**
	301-400	4.0	0.0	10.2	5.6	0.0	6.1	0.0	0.0	0.0	0.0	**6.2**
	>400	9.7	0.0	24.4	3.4	0.0	6.7	0.0	0.0	0.0	0.0	**9.2**
	Average	139	0	253	135	20	160	9	19	60	7	**157**
Number of HPs		28	7	60	71	9	43	54	3	4	14	**293**

3.4.2. ANC services

In kebeles with a population of about 5,000 people, it is expected that there will be about 200-250 pregnant women each year. On average, 80 new and 5 re-visit ANC clients were served in each health post per year. The small number of re-visits shows most pregnant women did not come for second ANC care. About 28% of the HPs provided the service to more than 100 new clients. Among the region, SNNPR performed better with 37.9% of HPs providing services to >100 clients.

Table 3-16: Percent distribution of HPs by the number of ANC clients in the year preceding the survey, rural Ethiopia 2010

Type of client	No. of clients	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
New ANC clients	None	0.0	90.1	4.0	15.3	7.2	11.5	90.9	0.0	25.0	20.1	**13.3**
	1-25	36.0	9.9	21.4	14.9	78.1	4.5	7.6	100.0	25.0	29.2	**16.6**
	26-50	32.6	0.0	30.4	18.8	14.7	24.9	1.5	0.0	25.0	0.0	**22.0**
	51-100	3.1	0.0	27.6	18.0	0.0	21.2	0.0	0.0	0.0	38.1	**20.6**
	>100	28.4	0.0	16.6	33.2	0.0	37.9	0.0	0.0	25.0	12.7	**27.5**
	Average	58	1	63	98	10	95	2	8	40	42	**80**
Re-visit ANC clients (>=4 visits)	None	78.4	100.0	80.0	85.5	21.6	55.5	98.5	100.0	75.0	93.0	**77.5**
	1-25	14.8	0.0	14.0	6.9	78.4	22.7	1.5	0.0	25.0	7.0	**12.9**
	26-50	0.0	0.0	2.3	3.5	0.0	15.2	0.0	0.0	0.0	0.0	**5.3**
	51-100	0.0	0.0	3.7	1.7	0.0	5.7	0.0	0.0	0.0	0.0	**2.8**
	>100	6.8	0.0	0.0	2.4	0.0	1.0	0.0	0.0	0.0	0.0	**1.5**
	Average	0	0	2	3	5	12	0	0	4	1	**5**
No. of HPs		28	7	60	71	9	43	54	3	4	14	**293**

3.4.3. Immunization

Majority (89.7%) of the HPs provided immunization service in the year preceding the survey. The number of children immunized against measles over one year was compiled from the HPs register. The average number of children immunized was 107 children per HPs. It was higher in SNNPR (131 children) followed by Oromia (114 children) and Amhara (108 children). Gambella and Benshangul were among the regions that provided measles vaccine to small number of children with only 6 and 7 children per HPs, respectively. A quarter of the HPs (26.4%) immunized between 1 and 50 children and another 23.6% of HPs immunized between 51 and 100 children against measles in the year preceding the survey.

Table 3-17: Percent distribution of health posts by the number of one year children immunized against measles in the year preceding the survey, rural Ethiopia 2010

No. immunized	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
None	0.0	60.5	1.7	10.1	21.6	4.2	74.6	33.3	25.0	16.6	**8.3**
1 -50	49.6	9.9	20.3	21.6	78.4	21.0	21.9	33.3	25.0	62.2	**25.1**
51-100	11.7	19.8	37.7	25.1	0.0	16.6	3.6	0.0	25.0	0.0	**23.6**
101-150	22.0	9.9	21.8	18.8	0.0	26.3	0.0	33.3	0.0	8.5	**20.3**
>150	16.8	0.0	18.5	24.4	0.0	32.0	0.0	0.0	25.0	12.7	**22.7**
Average	77	35	108	114	7	131	6	52	83	49	**107**
No. of HPs	28	7	60	71	9	43	54	3	4	14	**293**

3.4.4. Delivery and postpartum care

Generally provision of delivery and postpartum care at the surveyed HPs were very low. In this study it was observed that provision of ANC service was better when compared to delivery and postpartum care services. Even though HPs provided ANC service to an average of 80 new clients per year, only 8 and 17 deliveries were assisted at the health post and home, respectively.

Table 3-18: Percent distribution of HPs by number of deliveries and postpartum care provided in a year, rural Ethiopia 2010

Type of service	No. of clients	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Assisted deliveries at health post	None	47.1	100.0	54.6	81.3	92.8	55.5	89.2	100.0	75.0	87.3	**68.2**
	1-10	27.3	0.0	22.9	10.5	7.2	33.9	7.8	0.0	25.0	12.7	**19.5**
	11-20	17.6	0.0	6.3	1.5	0.0	5.2	3.0	0.0	0.0	0.0	**4.2**
	21-30	8.0	0.0	4.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	**1.7**
	31+	0.0	0.0	12.0	5.9	0.0	5.4	0.0	0.0	0.0	0.0	**6.3**
	Average	6	0	13	8	0	6	1	0	1	1	**8**
Home deliveries assisted by HEWs	None	11.4	100.0	23.1	54.9	14.4	17.8	68.0	33.3	25.0	27.6	**35.9**
	1-10	61.6	0.0	41.0	23.2	58.6	18.8	24.2	66.7	25.0	47.0	**29.7**
	11-20	17.9	0.0	23.7	6.6	27.0	17.6	6.2	0.0	25.0	0.0	**13.4**
	21-30	6.6	0.0	4.9	6.1	0.0	11.5	0.0	0.0	0.0	12.7	**7.2**
	31+	2.5	0.0	7.2	9.2	0.0	34.3	1.5	0.0	25.0	12.7	**13.8**
	Average	7	0	10	16	8	31	3	2	30	15	**17**
Postpartum care	None	27.6	100.0	23.7	46.9	36.4	17.3	90.9	100.0	25.0	29.2	**34.2**
	1-11	22.4	0.0	7.4	6.4	48.9	5.0	4.6	0.0	0.0	32.8	**8.8**
	11-20	4.1	0.0	12.1	4.9	14.7	6.8	0.0	0.0	0.0	25.4	**8.1**
	21-30	7.5	0.0	6.0	4.6	0.0	12.2	4.6	0.0	0.0	0.0	**6.4**
	31+	38.4	0.0	50.8	37.2	0.0	58.7	0.0	0.0	75.0	12.7	**42.6**
	Average	34	0	45	62	4	70	1	0	55	17	**53**
Number of HPs		28	7	60	71	9	43	54	3	4	14	**293**

3.4.5. Acute respiratory infection

Acute respiratory infection is one of the top ten causes of mortality in children under the age of five. HEWs are expected to refer such cases to the next level of health faculty for diagnosis and treatment. In the current survey, records from the HPs were assessed for number of suspected ARI cases referred to health facility. Majority (60%) of the health posts did not referred any ARI cases. Generally referral service was very low, on average 22 ARI cases and 20 non-ARI cases were referred to higher health facilities per HP.

Table 3-19 Percent distribution of HPs by number of referred cases in one year by region, rural Ethiopia 2010

Type of case	No. of cases	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
ARI cases	None	49.4	100.0	69.7	56.3	73.0	64.8	64.3	66.7	50.0	15.6	**60.0**
	1-30	33.3	0.0	20.3	27.4	27.0	25.2	19.0	33.3	50.0	80.9	**27.8**
	31+	17.4	0.0	10.0	16.4	0.0	10.0	16.7	0.0	0.0	3.5	**12.2**
	Average	19	0	10	42	1	10	20	1	3	12	**22**
Any case	None	22.4	90.1	43.0	47.4	46.4	31.3	78.2	33.3	50.0	25.7	**41.3**
	1-30	63.8	9.9	49.8	35.8	53.6	42.8	17.2	66.7	25.0	27.7	**41.3**
	31+	13.9	0.0	7.2	16.7	0.0	25.9	4.6	0.0	25.0	46.6	**17.4**
	Average	27	0	14	18	2	27	5	2	21	45	**20**
No. of HPs		28	7	60	71	9	43	54	3	4	14	**293**

3.4.6. Malaria diagnosis and treatment services

The number of suspected malaria cases tested with RDT and malaria cases treated were compiled from the registers in the year preceding the survey. The average number of RDTs performed was

74 and number of cases treated was 129 per HPs. This data shows that majority of cases were treated with antimalarial drugs without performing RDT, which could be due to lack of RDT supply. Higher number of RDTs was performed in SNNPR (180) followed by Afar (90). Similarly SNNPR and Afar treated higher number of malaria cases.

Table 3-20: Percent distribution of health posts by the number of malaria cases treated in a year, rural Ethiopian 2010

Type of service	No. of cases	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
RDT performed	None	34.2	70.4	43.2	64.5	51.1	36.1	76.7	33.3	75.0	33.8	**49.7**
	1-50	34.2	0.0	32.2	14.7	36.7	5.4	10.6	66.7	25.0	53.5	**20.0**
	51-100	4.1	0.0	7.7	6.6	12.2	16.4	7.6	0.0	0.0	12.7	**9.1**
	101-200	25.0	9.9	10.2	8.8	0.0	18.6	3.6	0.0	0.0	0.0	**11.6**
	>200	2.5	19.8	6.8	5.4	0.0	23.5	1.5	0.0	0.0	0.0	**9.6**
	Average	68	90	48	39	15	180	27	8	1	23	**74**
Malaria cases treated	None	14.4	60.5	30.4	46.2	14.4	30.1	46.0	66.7	75.0	28.1	**36.2**
	1-50	32.7	0.0	26.2	21.6	12.2	10.6	16.8	33.3	0.0	50.6	**21.9**
	51-150	12.0	9.9	17.9	9.1	53.9	18.1	27.0	0.0	25.0	21.2	**14.5**
	150-350	31.2	19.8	18.9	13.9	12.2	14.5	8.6	0.0	0.0	0.0	**15.5**
	>350	9.7	9.9	6.6	9.3	7.2	26.8	1.5	0.0	0.0	0.0	**12.0**
	Average	160	133	103	113	112	205	63	7	25	30	**129**
No. of HPs		**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

3.4.7. Other HEP services

Number of children provided with other services such as management of diarrheal cases, nutritional and promotional services and outpatient therapeutic provided in a year preceding the survey were collected from the registry. Four in ten (39%) health posts did not manage any diarrheal cases over one year period. Over a third (36%) of HPs managed 1-50 diarrheal cases, while a quarter of HPs managed more than 50 diarrheal cases. About 40% of HPs provided nutritional and promotional services to more than 31 children. Majority (60%) of health posts did not provide outpatient therapeutic program, while 26.5% HPs provided outpatient therapeutic program to 1-30 children.

Table 3-21: Percent distribution of health posts by the number of clients in a year, rural Ethiopia 2010

Type of service	No. of cases	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Management of diarrhea cases	0	12.1	60.5	28.1	51.2	7.2	40.9	49.5	33.3	75.0	20.1	**39.3**
	1-50	61.8	0.0	40.3	27.4	46.4	41.1	36.9	66.7	25.0	46.0	**36.1**
	>50	26.1	39.5	31.7	21.5	46.4	18.1	13.7	0.0	0.0	33.9	**24.6**
Nutritional and promotional services	0	8.1	90.1	30.0	50.7	58.3	26.9	95.3	0.0	75.0	19.1	**37.5**
	1-30	48.4	0.0	25.9	21.6	41.6	18.6	4.7	33.3	25.0	21.6	**23**
	31+	43.4	9.9	44.1	27.6	0.0	54.6	0.0	66.7	0.0	59.3	**39.5**
Outpatient therapeutic program (OTP)	0	50.6	100.0	54.3	69.1	63.3	43.9	68.1	66.7	100.0	74.9	**60.0**
	1-30	46.3	0.0	39.3	15	29.4	31.5	1.5	33.3	0.0	25.1	**26.5**
	31+	3.1	0.0	6.4	15.9	7.2	24.6	30.4	0.0	0.0	0.0	**13.5**
No. of HPs		28	7	60	71	9	43	54	3	4	14	**293**

3.5. QUALITY OF HEP SERVICE DELIVERY AND SUPPORT SYSTEMS

3.5.1. Quality of delivery services

Among the HPs that were providing delivery service, 37.3% provided the service for 24hrs. HEWs were asked how they treat the umbilical cord. About 51% apply nothing to the umbilical cord and another 26% only wrap the umbilical cord with dry dress. Only a quarter reported to apply antiseptics, alcohol or salty water. Newborn care services was moderate with 42.4% providing suction and 69% dry and wrap the newborn in a warm and clean cloth. In 52.9% of HPs newborns were weighted, and in nearly half of the HPs newborns received OPV and BCG vaccines.

Table 3-22: Among HPs who provide delivery service, percent who provided specific care, rural Ethiopia 2010

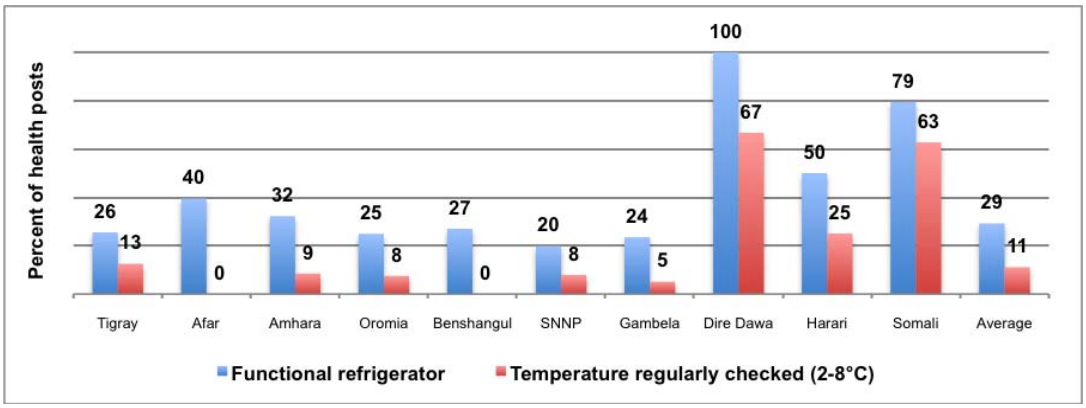
Description		% (n=293)
24 hrs Delivery service at the HPs		37.3
How HEWs treat the umbilical cord	Apply salty water	2.5
	Apply alcohol	10.8
	Apply other antiseptics	14.3
	Apply nothing	51.3
	Wrap with dry dress	25.9
New born care services	Suction of newborn	42.4
	Weigh newborns	52.9
	Dry and wrap newborn in a warm and clean cloth	69
	Give newborn OPV	48.3
	Give newborn BCG	43.1

3.5.2. Quality of immunization services

In order to prevent the potency of a vaccine, it should be held with standard safety. These include maintaining proper vaccine temperatures during storage. According to the HEP standard, each health post will be equipped with the necessary cold chain equipment. The refrigerators need to be monitored through regular maintenance of temperature chart, which is important in initiating timely action in case of a breakdown. To assess the quality of immunization services rendered to beneficiaries at the HP level, the functionality of refrigerator, if temperature was between 2-8 degrees, and regularly checked.

About 29% of the health posts had functional refrigerator, but only 11.1% of the health posts were regularly monitoring the temperature and maintained it between 2-8°C at the time of the survey. The availability of functional refrigerator was relatively higher in Somali (79%) and Amhara (32%). None of the health posts in Afar and Benshangul Gumuz had a refrigerator with optimal temperature, while Somali (63%) remotely followed by Tigray (12.5%) had functional refrigerator with optimally maintained temperature.

Figure 3-9: Percent of HPs with functional refrigerator and optimally maintained temperature, rural Ethiopia 2010



3.5.3. Immunization services

Immunization service was available in majority (94.9%) of the kebeles. In 18.9% of the HPs, HEWs provided the service daily at the HP, where as in 55.2% and 22.9% of the kebeles, outreach services was provided by HEWs and staff from HC/HP/WHO, respectively. In majority (79%) of the kebeles outreach services was provided monthly. HEWs played significant role for efficient provision of the outreach services through identification of children and mother (66.9%), mobilization of community (55.5%), registration of immunized children and mothers (63.8%), administration of vaccine (78.7%), filing the tally sheets (66.8%) and preparing diploma (35.6%).

Table 3-23: Availability and characteristics of immunization service provision, rural Ethiopia 2010

Characteristics of immunization services		%
Immunization service available in kebele		94.9
How immunization is provided (n=248)	Service provided daily at HP by HEWs	18.9
	Outreach service provided by HEWs	55.2
	Outreach service provided by staff from nearest HC/HP/WHO	22.9
	Not stated	3.0
Frequency of outreach services (n=167)	Monthly	79.1
	Every two or more months	6.2
	Irregularly/ other	12.4
	Not stated	2.3
Mode of HEWs participation (n=158)	Identification of children and mother	66.9
	Mobilization of the community	55.5
	Registration of children and mothers during immunization	63.8
	Administration of vaccine	78.7
	Preparation/filing the tally sheets	66.8
	Preparing diploma	35.6

3.5.4. Supervision

HEWs function under the supervision of the Woreda Health Office and Kebele administration, with technical support from the nearest health center. Supportive supervision enhances capacity of HEWs and helps to correct any constraints encountered in provision of HE services. In order to ensure quality of services, an ongoing in-service training and regular supportive supervision is

required. The FMOH guidelines outlined the establishment of supervisory team to be drawn from different disciplines at all levels from Federal to Woreda to direct and support HEWs so that they effectively perform their duties. The teams will be involved in all aspects of program management including planning, implementation, monitoring and evaluation. It is expected that the woreda supervisory team will conduct supervisory visit on quarterly bases whereas federal and regional teams will conduct biannually. In the present survey, the authorities that made the supervision, the feedback rates and frequency of supervision were assessed.

A good proportion of HPs (72.4%) had been supervised in the three months preceding the survey, although it was confirmed by record in only 34.3% of the HPs. Among the HPs supervised, 46% had been supervised at least three times. When disaggregated by supervision provider, the worda health office, health center, zonal health office, and the regional health bureau supervised 48.4%, 17.9%, 15.2%, and 7% of health posts, respectively. It is worth noting that there was regional variation where performance of SNNPR was relatively better. Regarding supervision feedback, 30% of the HPs received written feedback while 27% received oral feedback.

Table 3-24: Percent distribution of HPs by supervision and feedback received in the three months preceding the survey, rural Ethiopia 2010

	Tigray	Afar	Amhara	Oromia	Benshangul	SNNP	Gambela	Dire Dawa	Harari	Somali	Average
Recived supevision											
Supervised (on record)	52.7	0	38.6	28	43.9	55.3	16.7	0	50	41.6	**38.1**
Supervised (no record)	21.7	19.8	32	43.8	12.2	27	27.4	66.7	0	30.2	**34.3**
Not supervised	19.1	80.2	24.9	23.2	43.9	13.2	49.6	33.3	0	12.1	**22.2**
Not stated	6.6	0	4.5	5	0	4.5	6.3	0	50	16.2	**5.4**
Frequency of supervision											
1	8	9.9	7.3	5.6	48.9	5.6	3.2	0	0	12.7	**6.9**
2	8	0	6.2	5.5	0	7.5	7.1	0	25	13.6	**6.5**
3+	58.4	0	30.4	52.3	7.2	63.6	25.4	33.3	25	16.2	**46**
Feedback											
Oral	36.5	0	11.1	21.6	12.2	58.9	0	33.3	25	12.7	**27**
Written	30.8	9.9	20.8	41.8	36.7	17.8	37.3	0	25	46	**30.1**
Supervision provided											
WHO	59.7	0	43.2	48.3	0	53.4	16	33.3	50	71.8	**48.4**
Nearest HC	31.6	9.9	16.5	13.2	0	23.4	10.8	66.7	25	25.4	**17.9**
ZHO	0	0	10.2	19.7	0	22.8	10.8	0	25	0	**15.2**
RHO	17.4	0	0	9.6	0	4.7	14.4	33.3	25	21.2	**7**
Number of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

3.5.5. Training

Among the HEWs working in the 293 kebeles, HEWs working in 10% to 40% of the HPs reported that at least one of the HEWs attended trainings in the year preceding the survey in one of the HEP services. The most frequently attended were training on OPT therapeutic program (40%), family planning (34.6%), and clean delivery and newborn care (34.4%). Training on community based integrated management of childhood diseases (C-IMNCI) and infection prevention were

attended by HEWs in 11.2% and 10.6% of HPs, respectively. According to HEWs ratings of importance of the trainings attended, the highest rating of importance was given to training on clean delivery and new born care (87.5%) and lowest rating was given to HIV/TB training (69%).

Table 3-25: Percent of HEWs trained and rating of importance of the training attended, rural Ethiopia 2010

Type of training	Percent attended (n=293)	Importance of training rated by HEWs			
		Very important	Important	Neutral	Not important
OPT therapeutic program	40	76.6	21.1	2.3	0.0
Family planning	34.6	75.8	22.0	2.2	0.0
Clean delivery and new born care	34.4	**87.5**	11.1	1.5	0.0
Integrated refresher training	29.3	77.1	22.5	0.3	0.0
PMTCT of HIV	27.7	74.8	22.9	1.9	0.4
Malaria prevention and control	26.4	72.1	22.3	4.3	1.2
Community based nutrition	22.7	69.9	21.3	7.6	1.2
CLTS (Community led total sanitation)	22.2	71.6	26.7	1.7	0.0
HIV/TB	18.9	68.8	18.5	10.0	2.8
Focused antenatal care	18.1	73.1	24.5	2.4	0.0
EPI	15.1	68.9	24.2	5.8	1.1
Postpartum care	14.3	73.4	21.3	5.3	0.0
Health post kit equipment	12.3	71.1	24.3	3.6	1.0
Counseling and communication	11.4	76.3	20.4	3.3	0.0
C-IMNCI	**11.2**	69.8	24.1	5.6	0.5
Infection prevention	10.6	75.5	19.9	4.6	0.0

3.5.6. Guidelines and standard procedures

About half of the HPs had national HEP implementation manual (56%) and HEP package modules (47.3%), and a little over a third of HPs had model-family standard (38%), malaria guideline (38%) and HEP service standards (35.5%). Quarter of the HPs had diarrheal management guideline. IMCI and obstetric guidelines were only available in 21.2% and 18% of HPs, respectively. Referral guideline and national drug list for HEP were available in 13.2% and 8.4% of the health posts.

Table 3-26: Percent of HPs with latest national and regional guidelines and standard procedures, rural Ethiopia 2010

Guideline	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
HEP implementation manual	60.5	49.8	77	46.3	39.2	64.7	17.4	100	50	0	**56**
HEP package modules	72.6	19.8	64.6	34.2	14.7	55.1	6.2	100	25	25.1	**47.3**
Model family standard	47.4	9.9	39.1	30.4	14.7	59.9	1.6	0	50	9.1	**38**
Malaria case management	59.7	29.6	42.1	20.2	29.2	66.6	16.4	66.7	50	13.6	**38**
HEP service standards	55.5	19.8	54.8	19.3	27	45.1	1.5	33.3	25	17.1	**35.5**
OTP quick reference	38.5	0	45.1	22.1	14.7	52.5	0	0	0	0	**33.3**
Growth monitoring	77.3	19.8	42.3	11.8	29.5	46.2	1.7	33.3	25	0	**30.1**
Diarrheal management	48.7	19.8	36.4	10.7	14.7	37.4	0	33.3	50	17.1	**25.6**
Community TB dots	3.1	19.8	47.6	19.3	14.7	10.8	4.9	0	0	0	**22.1**
IMNCI	37.1	0	35.3	8.5	29.5	31.8	10.9	33.3	0	0	**21.2**
Obstetric care	23.2	0	26.7	18.7	14.7	12.7	4.6	66.7	25	0	**18**
National drugs list for HPs	32.9	0	19.7	10.6	29.5	10.4	1.5	0	0	0	**13.2**
Referral guideline	13.1	9.9	15.6	5.2	29.5	5.7	3.2	0	0	3.5	**8.4**
No. of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

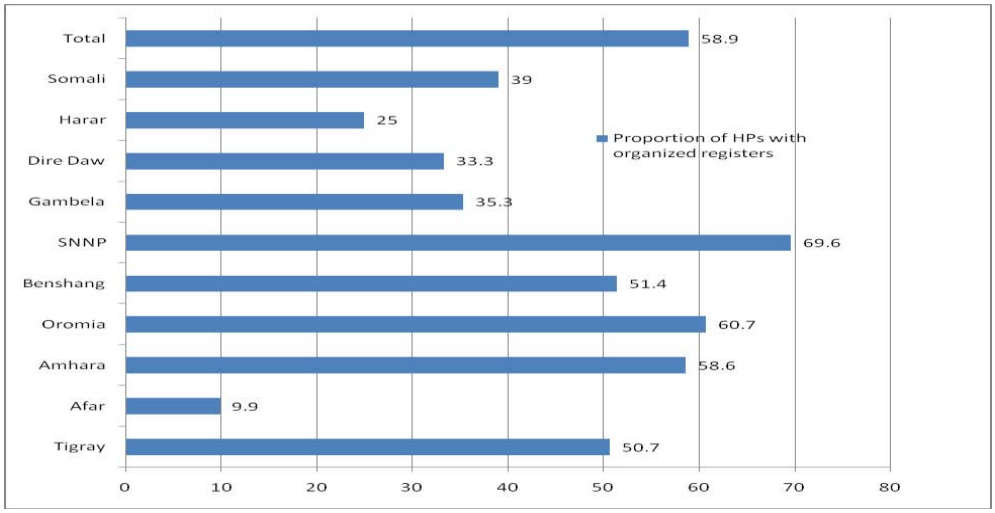
3.5.7. Availability of registers

HPs had essential registers, however registers were well organized only in 58.9% of the HPs. Family planning and ANC register was available in 75.3% and 71.9% of the HPs, whereas drugs and supplies register (45.4%) and outpatient register (47.6%) were less commonly available.

Table 3-27: Percent of health posts with essential registers, rural Ethiopia 2010

Region	ANC register	Delivery register	Postpartum register	FP register	Drugs and supplies register	Outpatient register	Daily tally register	Monthly summary sheet	OTP registration book	No. of HPs
Tigray	85.5	83	80.6	85.5	80.6	85.5	85.5	83	78	28
Afar	29.6	29.6	29.6	39.5	39.5	39.5	29.6	59.7	29.6	7
Amhara	77.8	55.7	58.5	84	51.9	58.3	72.8	59.5	50.2	60
Oromia	74.3	54.7	52.5	78.3	39.1	42.2	58.9	52.2	46.1	71
Benshangul	58.6	46.4	39.2	46.4	39.2	39.2	46.4	46.4	39.2	9
SNNP	69.6	61.7	38.6	70.2	43	34.1	33.6	51.9	54.3	43
Gambela	24.2	27.7	21.2	30.8	22.7	48.5	38.4	24.2	21.2	54
Dire Dawa	66.7	66.7	33.3	100	66.7	100	66.7	66.7	33.3	3
Harari	75	75	75	75	75	75	75	75	75	4
Somali	50.1	46.6	46.6	51	39.4	56.2	50.1	24.7	16.6	14
No. of HPs	**71.9**	**56.9**	**51.3**	**75.3**	**45.4**	**47.6**	**56.7**	**54.1**	**48.5**	**293**

Figure 3-10: Proportion of health posts with well-organized and easily available essential registers, rural Ethiopia 2010



3.5.8. Availability of poster and charts

The most commonly observed poster was family planning poster (60.5%) followed by monthly report summery chart (53.1%) and bed net posters (52.5%). Whereas ANC flip chart (27.6%), therapeutic feeding program chart (27.9) and STD poster/flip chart (21.1%) were among the less commonly available once.

Table 3-28: Percent of health posts with posters and charts displayed in plain view at the health post, rural Ethiopia 2010

Charts/posters	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Family planning	57.9	19.8	64.3	52.2	24.4	85	12.9	66.7	75	32.8	**60.5**
Maternal health	46.9	0	36.1	23.8	0	63.5	11.3	66.7	75	8.5	**35.3**
Breastfeeding	62.5	9.9	49	25.2	7.2	63.4	16.5	66.7	75	0	**39.7**
STD	38.7	0	24.6	21.6	7.2	20.9	9.8	0	0	0	**21.1**
HIV VCT	74.7	19.8	46.4	16	7.2	42.9	7.9	66.7	0	0	**31.7**
EPI	69.6	19.8	62.7	27.9	19.4	61.6	14.3	100	50	65.8	**48.1**
Tuberculosis	27.1	0	26.4	32.3	12.2	49.1	4.9	100	50	19.7	**32.7**
ANC	43.2	9.9	24	12.7	0	60.7	4.6	33.3	50	12.1	**27.6**
Bed net	72.7	0	53.1	44.5	19.4	70.4	15.8	33.3	50	45	**52.5**
Hand wash	74.2	9.9	52.5	38.3	19.4	59	35.7	66.7	50	54.7	**48.5**
Monthly summary	66.3	0	44.9	52.9	12.2	69.8	8.2	100	50	42	**53.1**
Therapeutic feeding program	66.3	0	35.8	21.1	12.2	29.1	9.7	66.7	0	12.7	**27.9**
Screening	70.3	0	32.3	19.1	12.2	30.7	6.5	100	0	12.7	**26.9**
No. of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

3.6. REFERAL SYSTEM

In order to ensure appropriate health care for the community, HEWs are responsible for referral of cases that are beyond their scope of practice to higher health facilities. Patients can be referred for a variety of reasons such as emergency obstetric care, which is critical to prevent maternal mortality. However, there are multiple factors that can affect the referral system. These include knowledge and skills of HEWs to identify cases that need referral services; communication systems between the HPs and the referral facilities; accessibility of the referral health facilities in terms of distance and transportation, and cost of services. In addition quality of services at the referral health facilities could influence the willingness of patients to go to the facilities. Feedback from referral facilities to the HPs could motivate the HEWs as well as patients and ensure the continuity of patient care. In the present survey the above factors are assessed and presented.

3.6.1. Main reasons for referring patients

HEWs were interviewed about their main reasons for referring mothers. In 66% of the HPs, HEWs refer pregnant women due to lack of skill and 47.4% because of shortage of medical supplies and equipment necessary to provide the normal delivery services, respectively. Similarly, the main reasons for referral of other patients were lack of supplies (76.8%) and lack of skills (70.1%).

Table 3-29 Percent of health posts that referred patients due to lack of supplies and skill, rural Ethiopia 2010

Type of cases	Reason for referral	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Average
Mothers in labor	Lack of supplies	67.9	30	51.2	40.7	92.8	49.4	65.1	33.3	50	49.9	**47.4**
	Lack of skill	82.1	70.4	63.9	55	34.2	79.8	52.4	33.3	75	84.4	**66**
Non obstetric cases referred	Lack of supplies	80.7	70	69.3	71.7	61.1	94.6	69.2	100	75	75.3	**76.8**
	Lack of skill	84.5	49.8	68.5	60.4	58.6	88.1	71	100	75	67.2	**70.1**
No. of HPs		**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

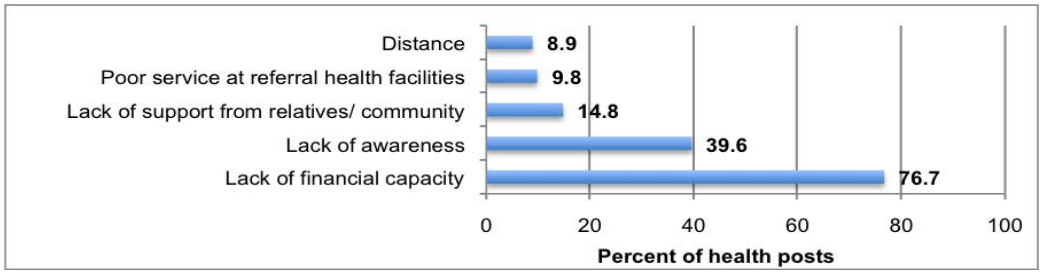
3.6.2. Patient's willingness to go to referral health facilities

HEWs were asked to comment about the willingness of referred patient in the kebele to go to referral health facilities. In 67.1% of kebeles, HEWs reported that all/majority of referred patients were willing to go. Among HEWs who reported that there were patients unwilling to go to referral health facilities, majority stated lack of financial capacity as the main reason for not attending referral health facilities.

Table 3-30: Percent distribution of kebeles by patients' willingness to go to referral health facility, rural Ethiopia 2010

Willingness to go to referral health facility	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
All patients	33	30	44.7	43	24.4	46.2	66.8	100	0	64.4	**44.5**
Majority of patients	31.7	40.3	19.4	22	19.4	28.2	14.4	0	0	4.5	**22.6**
Some patients	11.1	0	12.9	19.6	29.5	15.9	4.8	0	75	15.6	**16**
Few patients	16.1	19.8	20.4	11	0	7	6.3	0	0	3.5	**12.3**
Not at all	8	9.9	2.6	0.7	7.2	1.1	3.1	0	0	0	**1.9**
Not stated	0	0	0	3.6	19.4	1.7	4.8	0	25	12.1	**2.6**
No. of HPs	**28**	**7**	**60**	**71**	**9**	**43**	**54**	**3**	**4**	**14**	**293**

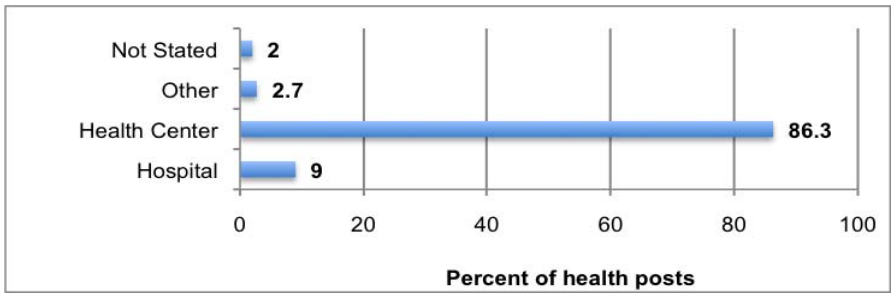
Figure 3-11: Percent of kebeles by main reason of people not willing to go to referral facility, rural Ethiopia 2010



3.6.3. Referral health facilities

Majority (86.3%) of the health posts referred patients to nearest health centers, while 9% of health posts referred patients to nearest hospitals. The average distance of the HPs from the referral health facilities was 12.6Kms.

Figure 3-12: Percent distribution of health posts by type of referral health facilities, rural Ethiopia 2010



3.6.4. Transportation for transfer of referral patients

The main means of transportation system for transfer of obstetric emergency cases from the health posts to the referral health facilities was reported to be using stretcher (42.8%) followed by animals (14.8%). Bus (13.3%) and ambulance (6.7%) were also used in some HPs. The HEWs were also asked as who arrange the transport for transferring mothers to heath facilities. Relatives of the mothers and the community arranged the transport in 48.4% and 28.1% of the health posts, respectively.

Figure 3-13: Percent distribution of HPs by means of transportation for transfer of obstetric emergency, rural Ethiopia 2010

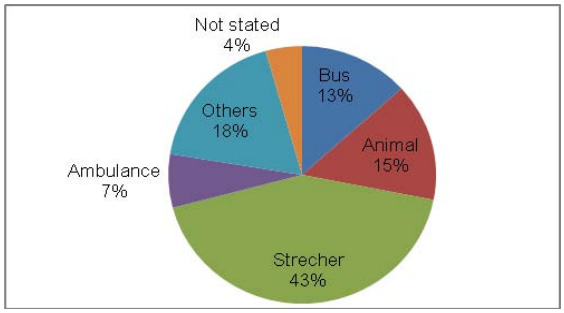
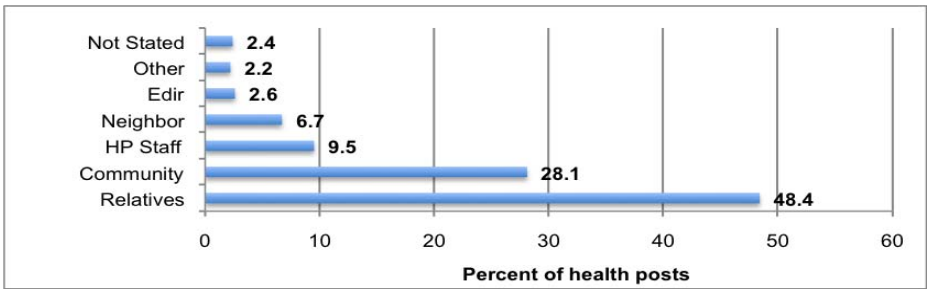


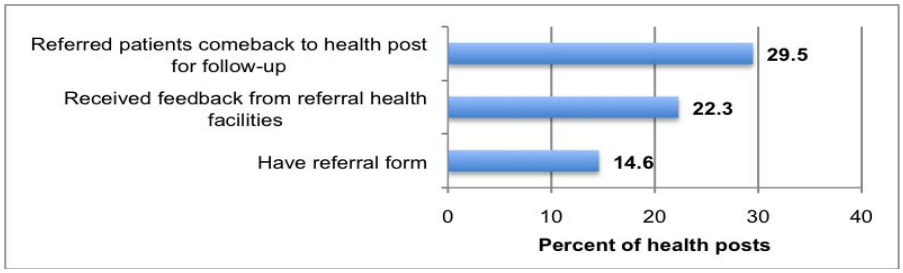
Figure 3-14: Percent distribution of HPs by who arranges transportation for emergency referral of mother, rural Ethiopia 2010



3.6.5. Feedback from referral health facilities

Referral forms were not available in majority of health posts. Follow up and keeping records of the referred patients are among the responsibilities of HEWs. Less than a quarter (22.3%) of HPs reported that they received feedback from the referral health facilities about the patients they referred, and patients in 29.5% of health posts come back to the health posts for follow-up.

Figure 3-15: Percent of health posts that have referral form, received feedback and follow-up patients from referral health facility, rural Ethiopia 2010



3.6.6. Challenges in the implementation of referral system

HEWs working in the sample HPs were asked to identify the major obstacles that affect the referral system. In order of frequency, the main obstacles that affect the referral system were cost of transport (50.2%), lack of means of transportation (50.2%), distance to referral health facilities (49.7%), poor road infrastructure (41.8%), lack of awareness by the community (33.6%), and fee for service and/or drugs at the referral health facilities (29.5%).

Table 3-31: Percent of health posts that stated obstacles affecting the referral system, rural Ethiopia 2010

Challenges	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Lack of transportation	68.4	90.1	34.9	51.8	80.6	50.2	52.8	100	75	62.3	**50.2**
Cost of transportation	68.4	90.1	34.9	51.8	80.6	50.2	52.8	100	75	62.3	**50.2**
Distance	59.2	49.8	44.6	53.3	68.3	54	53.5	66.7	75	16.2	**49.7**
Poor road	41.2	30	32	53.2	48.9	40.5	37.6	33.3	25	16.2	**41.8**
Lack of awareness	51.5	79.8	36.4	29	31.7	31.5	31.4	0	0	26.7	**33.6**
No free service/drug at referral facilities	35.9	39.5	33.2	22.8	19.4	35.6	13.9	0	0	29.7	**29.5**
No feedback from referral facilities	18.6	0	19.1	16.9	12.2	11.1	14.3	33.3	0	17.2	**15.8**
Poor service at referral facilities	31.8	20.2	7	13.5	7.2	18	1.6	0	0	3.5	**13.4**
Long waiting time at referral facilities	12	20.2	7.8	7.3	0	10.9	1.6	0	0	12.7	**9**
Referral facility staff not aware of HEP	22.9	0	7.4	2.5	12.2	7.1	7.8	0	0	9.1	**6.3**
Patients prefer private clinic	12	0	10.4	1.7	12.2	2.5	1.6	0	0	11.5	**5.1**

3.7. DISCUSSIONS AND CONCLUSIONS

3.7.1. Key findings of the 2010 survey

The present study used a questionnaire-based approach to gather data on performance of HPs. Detailed information was obtained on availability of infrastructure and human resources, availability and quality of services, readiness and productivity of the HPs, supervision and referral systems at the HPs. The main results of the survey are discussed below.

Physical infrastructure

Until recently health services were generally very sparsely distributed and limited to urban areas, however recent achievements in construction of HPs and deployment of HEWs at the community level have been encouraging in terms of health service coverage. In the present survey these achievements are evidenced. Majority of kebeles have HPs constructed considerably with good quality by government and community. Moreover, it is very encouraging to see that health posts have access to mobile phone (53.6%) and landline (28.6%) telephone services that will enable easy communication. In terms of the availability of clean water and electricity, soap, and transportation the study identified that there is a shortage that need immediate attention.

In addition the survey depicted that the road connecting the HP to the woreda health office and the nearest health center is mostly dry weather road, which will seriously hamper the accessibility of the HP and patients to referral health facilities. Moreover, it halts the monthly replenishment of

medical supplies from the woreda health office, and affects the regular supervision of the health posts.

Majority of the HPs are staffed with two HEWs in almost all the regions assessed except some HPs in Somali region, which are staffed with one HEW.

Service availability

Despite the provision of ANC and immunization services in majority of health posts, provision of delivery services and child health are not widely available. Similar trend have been observed in the 2007 similar survey. This might be due the lower skill of the HEWs in providing these services.

Readiness of health posts

The survey has shown that the general unavailability of essential medical equipment, drugs, supplies and furniture. Even though HPs have some of the equipment, no single HP has a full set of equipment to provide specific HEP services. Moreover critical stock out of essential drugs such as coartem, chloroquine; and supplies such as RDTs, HIV test kits has also been observed at the HPs. This might be due to problems in the provision of drugs and supplies lower than requested, the distance and the poor road connecting the HPs to woreda heath office, and lack of transport as indicated in the present survey.

Productivity of health posts

Family planning: Health posts in larger regions such as Tigray, SNNP and Oromia, and in particular Amhara region have served more new clients per year, while small number of clients received the service in Somali and Afar regions. This result is consistent with the contraceptive prevalence rate observed from the HEP household survey where Amhara region outperformed the other regions, and the findings of DHS, 2005, which stated that women from Somali and Afar are less likely to use family planning services.

ANC services, Delivery and Postpartum care: The present survey revealed that utilization of ANC is moderate, but utilization of delivery and postpartum care are very low. The main problem with ANC is with number of re-visits, which is very low compared with the new clients. The low utilization of delivery and postpartum care might be due to the lack of skill of HEWs, lack of refresher training and standard national guideline and procedures. Moreover, the absence of the basic medical equipments and supplies for these services and the unavailability of access to 24-hour service in majority of the health posts could contribute to the low utilization of the services by the community. According to the current HEP household survey and DHS 2005, relatives and traditional birth attendants assist majority of deliveries, and only very small proportion of births were assisted by HEWs or health professionals, which is consistent with the low productivity of the health posts.

Immunization: Even though immunization is the second highly provided services next to family planning, the number of children immunized against measles is still low relative to the number of children targeted for immunization. Lack of necessary medical equipment such as functional refrigerator (which was available only in 29% of HPs) and unavailability of vaccines as shown by this study could be the major contributors for the low productivity of the HPs regarding this service.

Malaria Diagnosis and Treatment: The survey presented that higher number of malaria cases are treated compared to RDTs performed. This might be due to the observed RDT shortage in the survey or the general practice by HEWs to treated fever cases clinically without parasitological confirmation. In the last few years, malaria transmission has dramatically decreased, and the malaria-attributed fever case is expected to be low. Thus, it is highly recommended that malaria treatment practice should be based on parasitological confirmation of fever cases.

Supervision

The survey demonstrated that comprehensive and strong supervision was very limited. The involvement of the zonal and regional health bureaus was limited as only one third of the HPs 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 timely feedback on their performance thus enabling HEWs to achieve and sustain desired performance. This might be caused by factors such as lack of transport and communication.

Referral

Majority of pregnant women are referred due to lack of skill followed by shortage of medical supplies and equipment necessary to provide the normal delivery services. As shown in this survey, very small percentage of HEWs had received refresher training in clean delivery and newborn care, and it was the single priority area that HEWs would prefer to attend a refresher course. Thus, it is critical to improve HEWs' skill and equip health posts with the necessary medical equipments and supplies to avoid unnecessary referral of clients who could be attended at health post level. Some HEWs reported that there are patients who are not willing to go to referral health facilities due to financial problems, distance to the referral health facilities and lack of awareness. Lack of transportation is also stated as one of the factors that hinder the use of referral facilities as most of the community use stretcher and animals as the main means of transportation.

3.7.2. Comparison of key indicators in 2007 and 2010 (Amhara, Oromia and SNNP)

Baseline survey on the implementation process of the HEP was conducted in Amhara, Oromia and SNNP regions in 2007 as part of a comprehensive assessment of HEP. The 2010 survey was done in all regions, thus it is the second round of survey in the three regions. In this section, comparison was done between the 2007 and 2010 survey data for the three regions to determine the improvement in the implementation process of HEP over time. Most of the parameters measured have shown improvements.

Indicators that showed improvement

Utilities and facilities: Access to utilities and facilities has improved in 2010 compared to 2007. Access to safe water source increased from 11.3% in 2007 to 41.4% of HPs in 2010. Similarly, the percent of HPs with medical waste disposal mechanisms increased from 54.7% in 2007 to 72.5% in 2010, and HPs with toilet accessible to clients/patients also increased from 64.2% in 2007 to 77.2% in 2010. Percent of HPs with access to electricity (5.6% in 2007 and 11% in 2010) and

telephone service has improved between the survey periods. About 70% of health posts have access to mobile (52.6%) and/or landline (28%) services in 2010, which is a dramatic improvement from the 2007 survey with only 3.8% of HPs accessing telephone services.

Staffing and operational hours: Staffing of the health posts as per the standard of HEP (2 HEWs per health post) has improved over the follow up period. About two-third in 2007 and about 90% in 2010 were staffed as per the HEP standard. The opening hours of the health posts and hence accessibility of the health post services has also improved. Only a quarter of HPs opened for at least five days per week in 2007, which doubled to 50% in 2010.

Readiness of HPs to provide HEP services: With regard to equipping the health posts with the necessary medical equipments to undertake different HEP services, there was improvement in the availability of basic medical equipments for delivery and newborn care as well as for first aid care services. Availability of ORS, iron tablets, and condom has improved to some extent. However, it should be noted that the availability of basic medical equipments is still not up to the standard.

Productivity of HPs: It is also encouraging to see that the productivity of the health posts has remarkably increased over the follow-up period. The average number of clients who received family planning services, ANC, delivery, postpartum care, and number of children immunized against measles per year per health post has increased by more than 100% in 2010 compared to 2007. However, the absolute number of clients who received the various services is still low considering the number of target groups for the various HEP services in a kebele of 5,000 people.

Supervision and referral: Even though supervision and referral services still needs improvement, it has improved over time. For example, the proportion of health posts that referred obstetric patients and also the absolute number of obstetric patients referred increased in 2010 compared to 2007, but it is still low.

Indicators that remained the same

Readiness of HPs to provide services: Availability of basic medical equipments necessary to undertake child care and immunization remained the same. The availability of contraceptive methods such as oral contraceptives and injections was more or less similar during both the 2007 and 2010 surveys. Overall, the availability of any modern contraceptive methods was the same, where 86.8% and 85.4% of the health posts had any contraceptive methods in 2007 and 2010, respectively.

Indicators that declined over time

Readiness of HPs to provide services: Availability of drugs such as coartem (64.2% in 2007 and 45.3% in 2010) and folic acid (18.9% in 2007 and 5.8% in 2010) has shown some decline over the follow-up period. Similarly, the proportion of health posts with the various vaccines on day of the survey has decreased remarkably. The availability of the various vaccines ranged from 23% to 34% in 2007, while none of the vaccines were available in more than 10% of the health posts in 2010. This finding is related with the small proportion of health posts that had correct cold chain management practice in 2010 (6.8%) when compared with 2007 survey (30.2%).

Table 3-32: Comparison of results of 2007 and 2010 surveys in three regions, Oromia, SNNPR and Amhara

INDICATORS	(n=53)	(n=174)
A. CHARACTERISTICS OF HEALTH FACILITIES	**2007**	**2010**
Percent of HPs with the following characteristics	**% of HPs**	
HPs with at least two room infrastructure	98	79.3
HPs with a separate room for delivery service	81.1	72
HPs staffed as per the HEP standard	64.2	89.9
HPs supported by CHWs/vCHPs	80.1	75.6
HPs with toilet accessible to clients/patients	64.2	77.2
HPs with access to safe water source	11.3	41.4
HPs with medical waste disposal mechanisms	54.7	72.5
HPs with electricity	5.6	11
HPs with access to telephone (mobile/landline)	3.8	69.6
% with access to mobile phone	-	52.6
% with access to land line	-	28
B. SERVICE PROVISION AND ORGANIZATION	**2007**	**2010**
Percent of HPs open for service	**% of HPs**	
HPs opened at least five days per week	26.5	50.1
HPs opened on Saturdays and /or Sundays	56.6	63.4
C. READINESS OF HEALTH POSTS TO PROVIDE HEP SERVICES	**2007**	**2010**
1) Percent of HPs equipped with at least 60% of medical equipment for	**% of HPs**	
Delivery and newborn care	22.6	57.3
Child care	30.2	33.2
Immunization	67.9	64.4
First aid care	32.1	46.7
2) Availability of drugs and supplies on day of survey	**% of HPs**	
Oral contraceptives	79.3	78.1
Depo-provera injections	81.1	78.6
Condoms	56.6	61.4
Any contraceptive drugs	86.8	85.4
Coartem (ACT)	64.2	45.3
ORS	58.5	64.2
Iron tablets	24.5	45.3
Folic acid	18.9	5.8
3) Percent of HPs with no stock-outs in 3 months preceding the survey	**% of HPs**	
Oral contraceptives	67.9	66.4
Depo-provera injections	62.3	66.2
Coartem (ACT)	45.3	37.5
ORS	47.2	53.9
4) Percent of HPs where vaccine was available on day of survey	**% of HPs**	
BCG	26.4	7.7
DPT-HEPB-HIB	34	8.2
OPV	34	7.5
Measles	28.3	7.7
TT	32.1	8.2
All vaccines	23	6.5

INDICATORS	(n=53)	(n=174)
D. PRODUCTIVITY OF HEALTH POSTS	**2007**	**2010**
1) Percent of HPs that rendered services in the year preceding the survey	**% of HPs**	
Family planning	92.4	90.4
Antenatal care	88.5	90.2
Normal delivery services	43.4	46.7
Postpartum care for mothers	62.3	62.1
Immunization	83.1	91.6
2) No. of clients who received service over one year (average per HP)	**Average number**	
Number of new FP clients	73	167.3
Number of new clients who received ANC services	38	87.1
Number of assisted deliveries by HEWs (HP and home)	13.8	26.5
Number of clients attending postpartum care	11	59.1
Number of under 1 year children immunized against measles	38	116.6
E. QUALITY OF HEP SERVICE DELIVERY AND SUPPORT SYSTEMS	**2007**	**2010**
Percent of HPs practicing the following	**% of HPs**	
HPs using partograph to monitor labor	3.8	5.6
HPs with correct cold chain management practices	30.2	6.8
HPs supervised at least once in the 3 months preceding the survey	67.3	74.2
F. REFERRAL SYSTEM	**2007**	**2010**
Percent of HPs with the following referral characteristics	**% of HPs**	
Percent of HPs within acceptable distance from referral health facilities (<20km)	81.1	82
Percent of HPs with access road to health center/ DHMO	83.1	86.1
Percent of HPs that referred obstetric patients in the year preceding the survey	60.4	77.1
Percent of HPs that receive feedbacks from the referral health facility	54.7	21.4
Number of obstetric patients referred over one year (average per HP)	**Average number**	
Average number of obstetric clients referred out	3.2	6.3

3.8. RECOMMENDATIONS

Coverage of HE services has shown a remarkable improvement when compared to similar survey done in 2007. However, the ultimate success will relay on the quality of services that will be provided to the health beneficiaries, the people at the grass root level. The results of the survey demonstrated that there are gaps in the overall performance of the HPS. Therefore, a significant effort should be made to maintain the commitment and encouraging results by filling the gaps identified in this survey. The following are the recommendations forwarded based on the results.

Priority recommendations

1. **Supportive supervision** should be strengthened to effectively build the capacity of HEWs. This requires hiring of adequate numbers of HEW-supervisors as per the established HEP standard, and equipping the supervisors with the skills, supervision guidelines and supervisory checklists necessary to undertake quality supportive supervision. Moreover, provision of appropriate means of transportation for supervisors will be critical to ensure regular and frequent supervision.
2. Health posts should be equipped with **minimum essential medical equipments** to efficiently provide the services that they are intended to do. Particular focus should be given to medical equipments necessary to undertake delivery and immunization services.
3. Health posts should receive regular supplies of **drugs and vaccines** to ensure continuity of quality services. A critical factor to improve the availability and decrease the rate of stock-outs is to strengthen the drugs and supplies procurement and distribution system.
4. As the work load is increasing with additional responsibilities being placed up on the HEWs shoulder, scaling-up the training and utilization of **volunteer community health promoters** will be highly valuable.
5. **In-service refresher trainings** and onsite supportive supervision should be provided to improve skills of the HEWs in the area of IMNCI, delivery, postpartum care, postnatal care and cold chain management system.
6. Health posts should be provided with appropriate **means of transportation** to improve delivery of health services in the community.

Additional recommendations

7. Separate delivery rooms should be constructed to improving the delivery services at HPs.
8. Although access to utilities and facilities such as toilet to clients/patients, safe water source for the health post, medical waste disposal mechanisms in the health post, electricity, and telephone (mobile/landline) has improved, there is still a need to further improve access and ensure all health posts have access to all the important utilities and facilities.
9. In places where the population is sparsely settled or population is very high; HEWs couldn't reach the clients who are far from the HPs. Therefore, more than two health extension workers

should be deployed and a work place nearer to the population should be sought to meet the demand.

10. Based on the demand of the services provided at the HPs such as delivery and immunization services; the operational hours of the health posts should be increased. This can be done by alternatively assigning one HEW at the health post while the other provides the health services at the household level.
11. Checklist for the monitoring of the volunteer community health workers should be developed to improve recording of evaluation.
12. To have a mechanism for the health extension workers to get all drugs and supplies from the health center instead of the woreda health office.
13. Guidelines and supportive documents such as register, posters and cards should be made available for proper recording and reference.
14. There needs to be a timely feedback from the referral facilities for follow up of the patients for better care and encouragement of the HEWs.

HEWs PERCEPTION AND SATISFACTION

HEP EVALUATION SURVEY

RURAL ETHIOPIA

2010

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

CHW	Community based health workers
DHO	District health office
HC	Health Center
HEP	Health Extension Program
HP	Health post
HEW	Health Extension Worker
SNNP	Southern Nations and Nationalities Peoples Region
VHP	Volunteer health promoter

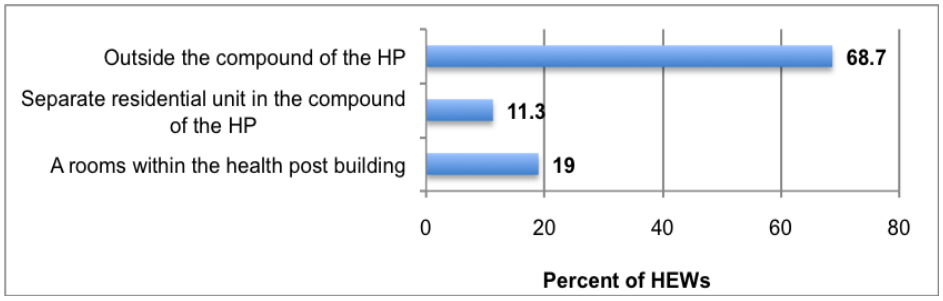
4. PERCEPTION AND SATISFACTION OF HEWS

4.1. LIVING AND WORKING CONDITIONS

4.1.1. Housing conditions

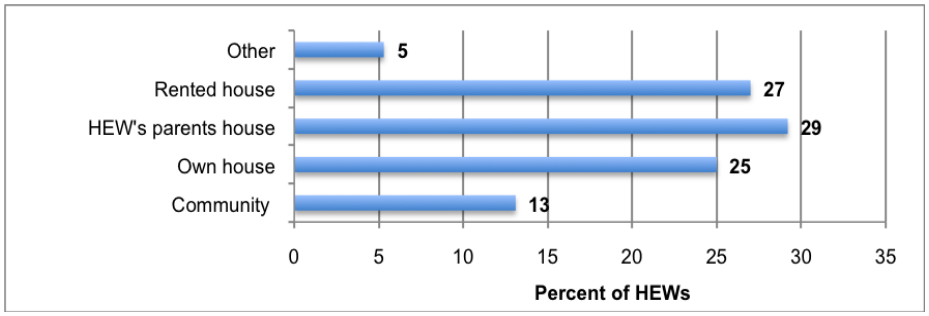
Majority (68.7%) of HEWs reside outside the compound of the health post. The remaining 30.3% reside within the premises of the health post. Nineteen percent reside in one of the rooms in the main building of the health post while 11.3% live in a separate residential unit in the compound of the health post.

Figure 4.1: Percent distribution of HEWs by the location of their house by region, rural Ethiopia 2010



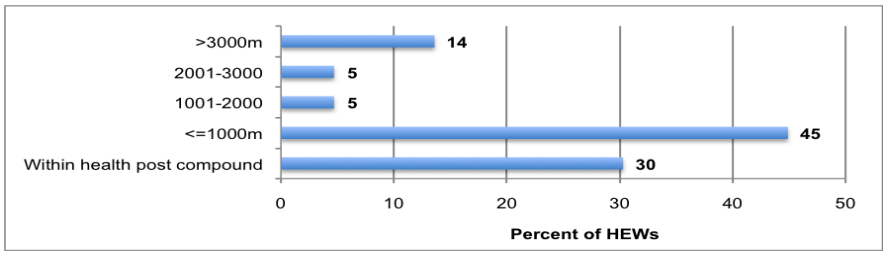
HEWs who lived outside the premises of the health post either owned or rented the houses they lived in or were provided by the community. 54.2% of HEWs owned the house they lived in (25.0%) or lived in their parents' house (29.2%). Another 27% lived in housing they rented from others. However, 13% resided in housing provided by the community.

Figure 4.2: Percent distribution of HEWs living outside the compound of the health post by the source of housing, rural Ethiopia 2010



About 30% of HEWs reside within the premises of the health post, and 45% of HEWs' houses were located at a distance of 1,000 meters or less from the health post. Around 14% of HEWs lived in houses located more than 3,000 meters away from the health post.

Figure 4.3: Percent distribution of HEWs by distance of their house from the health post, rural Ethiopia 2010



House building characteristics and access to utilities

Only 15% of HEWs indicated that the wall of their houses was made of burnt bricks. Eighty three percent stated that their houses are roofed with iron sheets. On the other hand, 76.6% lived in houses with no access to electricity and 63.1% lived in houses with uncemented floor. Majority (86.5%) of HEWs stated that their house has a usable latrine. About 79% of HEWs' houses were located within 6km distance from the nearest source of safe water. About 55% of HEWs reported that their house was located within 10km distance to the nearest area where they can access public transportation.

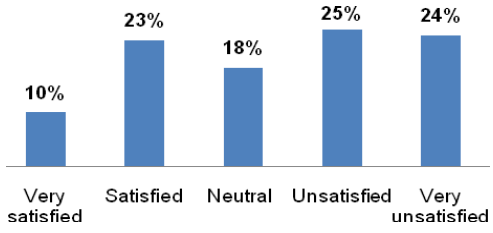
Table 4.1: Characteristics of housing conditions of HEWs, rural Ethiopia 2010

Characteristics of houses	Percent of HEWs's houses
Wall made of burnt bricks	15.0
Roofed with iron sheet	83.0
Cemented floor	36.9
Has usable latrine	86.5
Has electricity	23.4
Located within 6km of a water source	79.3
Located within 10 km of access to public transportation	55.1
Number of HEWs	**399**

HEWs' satisfaction on housing condition

Around 49.3% of HEWs were unsatisfied/very unsatisfied with the housing conditions. On the other hand, 32.9% of HEWs were satisfied/very satisfied with housing conditions. Most HEWs (61.3%) in Gambela were unsatisfied with current housing conditions.

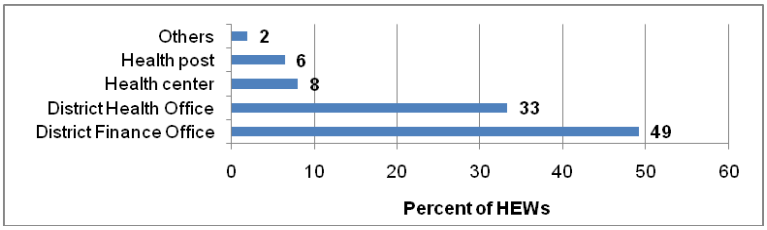
Figure 4.4: Level of satisfaction of HEWs about their housing, rural Ethiopia 2010



4.1.2. Salary of HEWs

Nearly 50% of HEWs collected their salary from the district finance office (DFO) while 33.2% received their salary from the district health office (DHO). Another 8% obtained their salary at the nearest health center (HC) while a few (6.4%) collected it at the health post (HP).

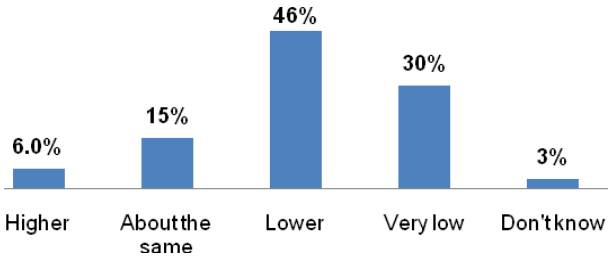
Figure 4.5: Percent distribution of HEWs by salary collection sites, rural Ethiopia 2010



Perception of HEWs on their monthly salary

Nearly 30% of HEWs believed they are paid fairly well for the level of professional training they received. However, majority (96.6%) of HEWs believed that they are underpaid considering their heavy workload. Majority of HEWs (75.5%) considered the salary they received to be very low or lower than other government employees with similar educational back ground. Fifteen percent believed that it was more or less the same. However, a few (5.9%) believed it was higher than other government employees.

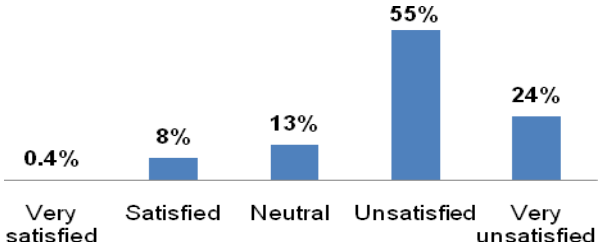
Figure 4.6: Percent distribution of HEWs by their attitude towards their salary, rural Ethiopia 2010



Satisfaction of HEWs on monthly salary

Most of the HEWs (78.3%) were unsatisfied/very unsatisfied with the salary they receive. Around 17% reported being satisfied/very satisfied with the salary they obtain.

Figure 4.7: Percent distribution of HEWs by level of satisfaction about their salary, rural Ethiopia 2010



4.1.3. Ownership of assets

About eight percent of HEWs reported to own farmlands. Some HEWs possessed livestock (cattle (7.7%) and sheep/goats (6.2%), camel (0.6%) and horse/mule (1.7%). Sixty four percent of HEWs reported owning a bed and radio. Almost fifty percent of HEWs possessed a table in their house. A television set was owned by only 6.3% of respondents. There was variation among regions with higher ownership of farmland in Gambela (49.1%). The least proportion of

radio ownership was observed in Benshangul Gumuz (19.6%). Nearly 2% of HEWs indicated they have other sources of income such as bee keeping and remittance.

Table 4.2: Percent of HEWs who own household assets and livestock, rural Ethiopia 2010

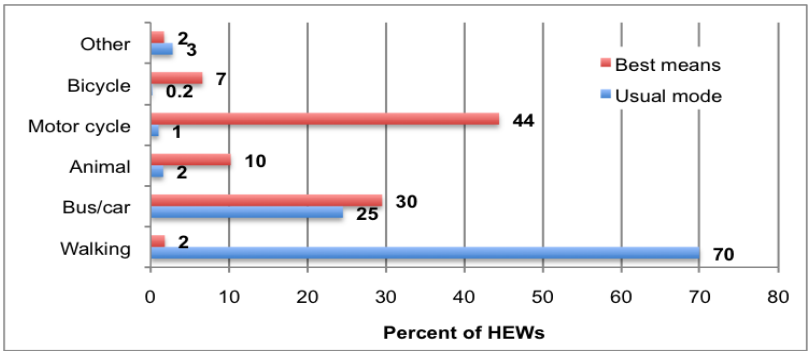
	Bed	Radio	Table	Television	Farmland	Cattle	Sheep/Goat	Camel	Horse/mule	Total
Tigray	83.5	78.3	58.7	4.9	2.5	7.9	2.7	0	9.2	35
Afar	75	50	25	0	50	75	75	25	0	4
Amhara	70	65.8	53.8	3.4	1	6	1	1	4.1	75
Oromia	59.6	68.8	42.7	3.9	2.2	7.2	5.6	0	0.8	100
Benshangul	14.6	19.6	14.6	0	0	4.9	4.9	0	0	14
SNNP	77.5	57.7	51.1	14.2	15.4	7.5	7.1	0	0	64
Gambela	17.6	51.3	23.2	0	49.1	26.7	22.5	1	0	82
Dire Dawa	0	0	0	0	0	0	0	0	0	1
Harari	0	0	0	0	0	0	0	0	0	2
Somali	10.4	51	39.3	5.8	26.8	0	10.4	0	0	22
No. of HEWs	**63.9**	**64**	**47.2**	**6.3**	**7.6**	**7.7**	**6.2**	**0.6**	**1.7**	**399**

4.1.4. Transportation

Means of transportation between kebele and health center/district health office

Nearly 70% of the HEWs walked to and from the health center or district health office. A little less than a quarter (24.5%) of HEWs used the bus or other public transport facilities while a few (1.6%) used animals for transportation, mainly in Oromia and SNNP. About 1% of HEWs used motorcycles, mainly in Somali region. Almost 74% of HEWs in Somali used bus or other public transport. HEWs were asked to state the best means of transportation to travel to and from the health center/district health office. About 44% of HEWs personally felt motorcycles would be the best means of transportation. Bus/car (29.5%), mule/horse (8.0%) and bicycle (6.6%) were also considered as best means of transportation.

Figure 4.8: Usual mode and best means of transportation between kebele and health center or district health office for HEWs, rural Ethiopia 2010

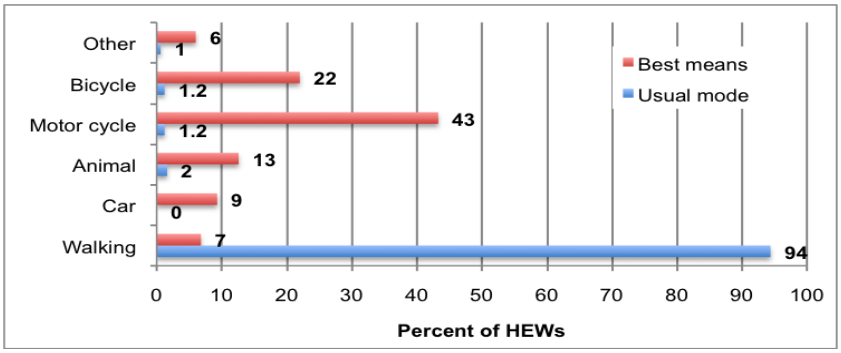


Means of transportation within kebele

The majority of HEWs (94%) walked on foot to perform their work within the kebele. Very few (2.4%) HEWs used motorcycles and bicycles as usual mode of transportation. Bicycles were mainly used in Benshangul Gumuz (9.9%) while motorcycles were used mainly in Somali (8.2%) as the usual mode of transportation for work in their respective. Two percent of HEWs used animals as usual means of transportation. Forty three percent of HEWs preferred to use

motorcycles as the best means of transportation within the kebele. The other preferred means of transportation include bicycles (22.0%), animals (12.6%) and bus/car (9.3%).

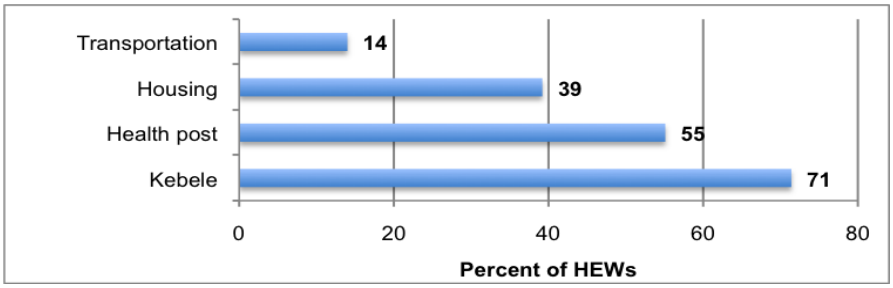
Figure 4.9: Usual mode and best means of transportation for HEWs within kebele, rural Ethiopia 2010



4.1.5. Perception on physical working and living conditions

Most (71.4%) of the HEWs believed that the kebele was a good place to work. According to 55.1% of HEWs, the physical working conditions at the health post were comfortable. However, percent of HEWs who found the working conditions to be comfortable in terms of housing and transportation facilities were only 39.2% and 14.0%, respectively. Majority of HEWs in Benshangul Gumuz consider the physical working conditions as uncomfortable.

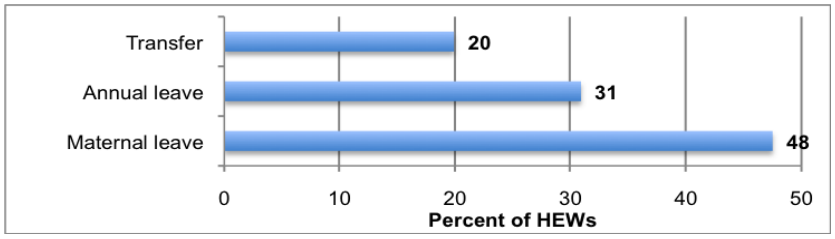
Figure 4.10: Percentage of HEWs who believe physical working and living conditions are comfortable, rural Ethiopia 2010



4.1.6. Satisfaction on leave and transfer

Around 47.5% of HEWs reported being satisfied/very satisfied with the way they are treated upon requesting maternal leave. 30.9% indicated their satisfaction of the treatment they receive upon requesting annual leave. However, only 20% of HEWs were satisfied/very satisfied with the treatment they receive upon requesting transfer.

Figure 4.11: Percent of HEWs who are satisfied with the way they are treated upon requesting maternal leave, annual leave and transfer, rural Ethiopia 2010

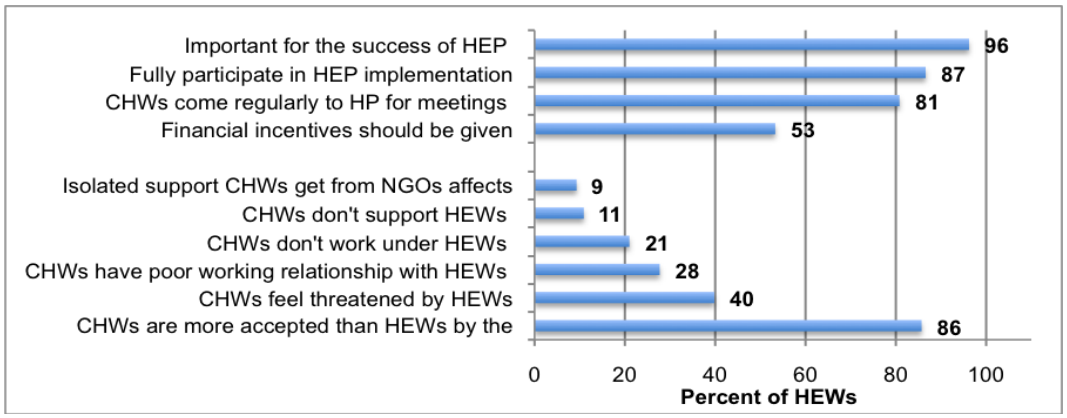


4.1.7. Perception of HEWs towards community health workers

Majority of HEWs (89.8%) indicated the presence of community based health workers (CHW) in their kebele. HEWs who reported the presence of CHWs in the kebele was asked what they perceived were true about community based health workers. Majority (96.2%) of the HEWs considered CHWs to be important for the success of HEP. Most (86.6%) of the HEWs believed that CHWs fully participate in the implementation of HEP. About 80.8% of the HEWs stated that CHWs regularly attend meetings related to HEP. Slightly more than half (53.3%) of HEWs believed that financial incentives should be provided to CHWs.

However, 85.7% of HEWs believed that CHWs gained wider acceptance by the community compared to HEWs. Almost 40% believed that CHWs felt threatened by HEWs. Close to 28% of HEWs believed that CHWs have poor working relations with HEWs while 21% were of the opinion that CHWs did not work under HEWs. About 11% of HEWs believed that CHWs did not provide support and assistance to HEWs. About 9% of HEWs perceived that the isolated support that CHWs received from NGOs affected their work relations.

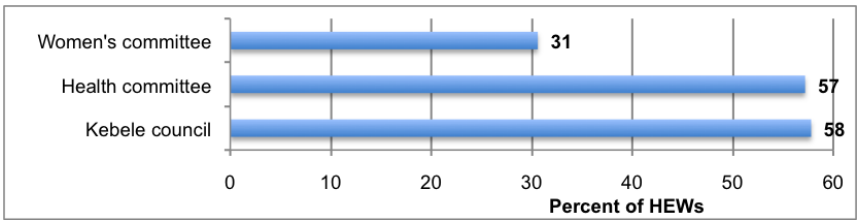
Figure 4.12: Percent of HEWs who stated their perception about CHWs, rural Ethiopia 2010



4.1.8. HEWs' involvement in local committees

Majority of the HEWs were found to be members of local committee or kebele council. However, majority of respondents in Benshangul Gumuz (78.7%), Gambela (82.1%) and Somali (70.7%) did not belong to either a local committee or kebele council. Kebele council (57.8%), health committee (57.2%), and women's committee (30.6%) were the most frequently stated committee that HEWs belonged.

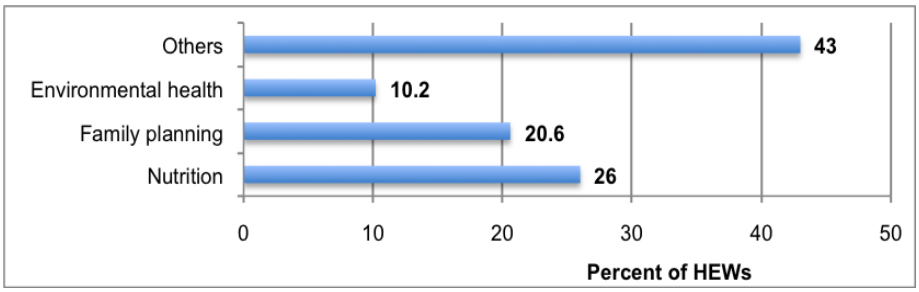
Figure 4.13: Percent of HEWs belonged to local committee, rural Ethiopia 2010



4.1.9. HEWs' involvement with NGOS

More than a third (35.23%) of HEWs indicated the existence of NGOs working on health in their kebele. According to HEWs who indicated the presence of NGOs working in their kebele, the top three health program areas of NGOs were nutrition (26.0%), family planning (20.6%) and environmental health, hygiene and sanitation (10.2%). Most (84.3%) of the HEWs participated in the activities of the NGOs in their kebele. HEWs who participated in the activities of NGOs operating in their kebeles were asked whether their involvement put a strain on their work schedule. About eighteen percent of HEWs indicated that this additional task strained their existing work schedule.

Figure 4.14: Among HEWs who reported the existence of NGOs in the kebele, percent of distribution of HEWs by the NGO's program area of engagement, rural Ethiopia 2010



4.2. EXECUTION OF HEP ACTIVITIES

4.1.10. Job description and work plan

Overall, 58.9% of HEWs indicated they had received job description. It is to be noted that only 49% of HEWs in SNNP and 40% in Gambela region received their job description upon starting service. HEWs who reported to have received a job description were asked to list the specific duties of HEWs as outlined in the job description. These included: conducting home visits to provide HEP service packages (80.1%), providing HEP service packages from HP (73.4%), collecting baseline information of the community (59.8%), training model households (56.5%), training voluntary health promoters (39.4%), planning and reporting (36%) and registration of vital statistics (28.7%).

Table 4.3: Percent of HEWs who received job description with specific duties, rural Ethiopia 2010

Region	Collect baseline data	Provide service from HP	Home visits to provide service	Train model family	Train vCHPs	Registration of vital statistics	Planning and reporting
Tigray	71.6	80.1	76.2	75.4	33.3	20.2	30.8
Afar	100	100	50	50	0	50	0
Amhara	60.8	65.5	82.3	49.9	43.9	39.1	26
Oromia	63.3	83.2	91.8	54.8	34.1	19.8	37.5
Benshangul	69.9	93.1	69.9	81.5	46.6	69.9	76.7
SNNP	49	61.3	68.6	56.5	45.2	34.6	47.2
Gambela	69.1	84	69.9	17.3	17.3	20.3	39.1
Somali	45.8	59.7	46.1	68.3	54.8	32.3	32.3
Total	**59.8**	**73.4**	**80.1**	**56.5**	**39.4**	**28.7**	**36**

It is worth noting that a considerable number of HEWs have scheduled their daily tasks. This was indicated by more than three fourths (78.0%) of the HEWs. Majority of respondents from Tigray, Oromia, Benshangul Gumuz, SNNP and Somali reported preparing work plan to execute their daily activities. HEWs reported preparing the work plan in consultation with their supervisors and other stakeholders. Nearly two fifths of HEWs reported the participation of HEW supervisors (39.9%) and kebele officials (39.8%) in the preparation of work plan. Community based health workers/volunteer health promoters (VHPs) (30.0%), kebele health committee (29.4%), district health office (DHO) (26.9%), the community (11.6%), and NGOs (1.2%) were reported to contribute to preparation of the work plans. Seventy three percent and 50.5% of respondents in Tigray indicated that HEW supervisors and kebele council, respectively participated in preparation of work plan, which is higher compared to other regions. The participation of the community in Somali (40.9%) is much higher relative to other regions.

Table 4.4: Percent of HEWs who prepare work plan with consultation of stakeholders, rural Ethiopia 2010

Region	HEW supervisor	Kebele officials	CHWs/ vCHPs	Kebele health committee	DHO	Community	NGOs	Other	Total
Tigray	73.7	50.5	34	30.3	39.6	9	0	2	34
Amhara	12.3	35.1	37.7	19.4	32.5	6.1	0	5.6	44
Oromia	50.2	44.7	31.2	43.1	25.1	11.8	0.7	5.6	79
Benshangul	8.6	45	48.3	57	0	27.7	8.6	10.2	13
SNNP	37.1	35.3	26	14.4	26.3	6.4	1.6	7.8	57
Gambela	25	23.9	11	28.3	33.4	22	0	2.7	34
Dire Dawa	100	0	0	0	0	0	0	100	1
Harari	100	0	0	0	0	0	0	0	2
Somali	34.9	32.3	15.1	26.5	17.5	40.9	6.2	8.6	21
Total	**39.9**	**39.8**	**30**	**29.4**	**26.9**	**11.6**	**1.2**	**6.3**	**285**

4.1.11. Working hours and time allocation

Working hours

Nearly 48% of HEWs reported spending more than 8 hours on average at work on a daily basis. Another 47.1% worked between 6-8 hours on average while few (3.6%) spent between 1-5 hours at work.

Table 4.5: Percent distribution of HEWs by number of hours spent daily at work, rural Ethiopia 2010

Average no. of hours	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
1-5	0.0	25.0	1.3	4.8	4.9	2.3	20.9	0.0	0.0	5.5	**3.6**
6-8	21.3	75.0	50.2	36.4	80.4	67.4	65.8	100.0	100.0	34.8	**47.2**
>8	78.7	0.0	48.4	58.1	14.8	30.3	5.6	0.0	0.0	37.9	**47.5**
Not stated	0.0	0.0	0.0	0.8	0.0	0.0	7.7	0.0	0.0	21.8	**1.7**
No. of HEWs	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

Manual for time allocation

Nearly 40% of HEWs confirmed the availability of a standard manual that guided allocation of time for the 16 packages of HEP. On the other hand, 40% of HEWs had no such manual. Twenty one percent stated they have a standard manual though they were not able to confirm

its availability. It is worth noting that 57.5% of HEWs in Oromia and 64.7% in Gambela had no standard manual that provided them on how to apportion their time.

Table 4.6: Percent distribution of HEWs by availability of a manual for time allocation, rural Ethiopia 2010

Availability of a manual	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Confirmed availability	67.1	50.0	40.5	29.8	42.8	45.4	7.7	100.0	0.0	13.9	**37.1**
Available, not confirmed	14.6	0.0	38.1	11.0	34.4	18.8	26.6	0.0	0.0	46.5	**21.4**
Not available	12.4	50.0	21.4	57.5	22.8	32.9	64.7	0.0	100.0	39.6	**39.9**
Not stated	5.9	0.0	0.0	1.8	0.0	2.9	1.0	0.0	0.0	0.0	**1.7**
No. of HEWs	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

Time spent at the health post

About 50% of HEWs spent 25% or less of their time at the health post. Around 8% reported spending more than 50% of their time at the health post.

Table 4.7: Percent distribution of HEWs by average percent of time spent at health post, rural Ethiopia 2010

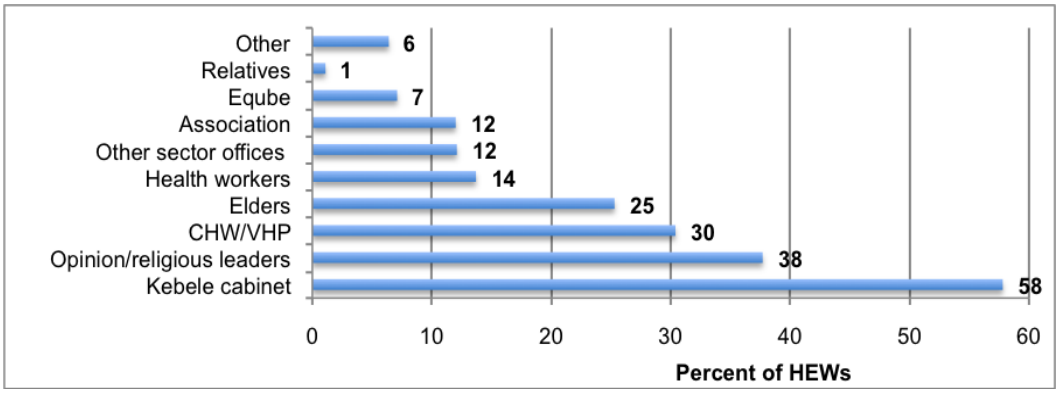
Average % of time	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
<=25	25.9	0.0	68.3	36.3	72.2	64.6	18.1	0.0	0.0	23.0	**48.4**
26-50	60.6	0.0	28.5	43.5	23.0	30.1	65.2	100.0	0.0	49.2	**37.5**
50+	13.5	0.0	2.1	12.6	0.0	1.3	13.6	0.0	0.0	16.8	**7.6**
Not stated	0.0	100.0	1.1	7.6	4.9	4.0	3.1	0.0	100.0	11.0	**6.5**
No. of HEWs	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

4.1.12. Strategies used by HEWs to gain acceptability by community

Use influential groups as entry point to the community

Prior to implementation of HEP, HEWs were asked with whom they held discussions as an entry point to the community. The following responses, in order of frequency, were obtained: kebele cabinet (57.8%), opinion/religious leaders (37.7%), CHW/VHP (30.4%), elders (25.3%), health workers (13.7%), association and sector offices (12.1%) and eqube (7.1%).

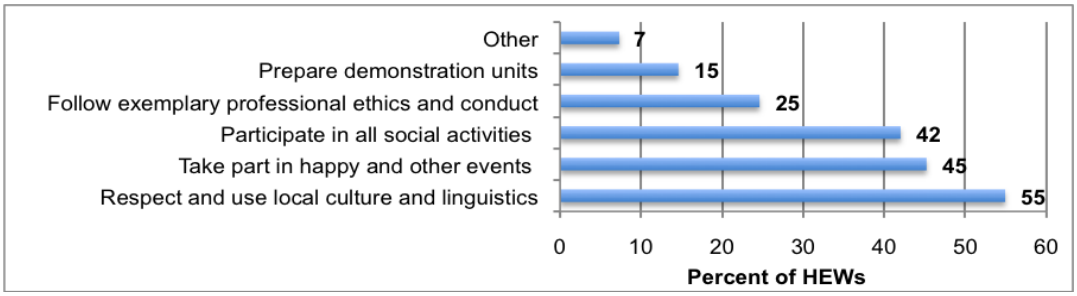
Figure 4.15: Percent of HEWs who use influential groups as entry point to the community prior to implementation of HEP, rural Ethiopia 2010



Respecting social and cultural norms of the community

HEWs were asked what kind of approach they used to gain acceptability by the community and help facilitation of implementation of HEP. HEWs reported using various strategies. Respecting and using local culture and linguistics (54.9%), taking part in happy and other events in the community (45.2%), participating in all social activities in the community (42.0%), following exemplary professional ethics and conduct (24.6%) are some of the strategies used by HEWs to win acceptability by the community.

Figure 4.16: Percent of HEWs who used strategies to gain acceptability by the community, rural Ethiopia 2010



4.1.13. HEP services provided by HEWs

Majority of HEWs performed the basic components of the health extension packages. Under the sanitation and water supply component, water supply safety measures (99.2%), construction, use and maintenance of sanitary latrines (98.8%), and solid and liquid waste management (98.2%) were the most performed activities. The most frequently undertaken activities under the disease prevention and control component was HIV/AIDS prevention and control (95.9%), TB prevention and control (91.0%) and malaria prevention and control (89.9%). Under the family health services, this included health education and communication (99.1%), vaccination services (97.1%) and maternal and child health (96.9%). Under the management and support activities, these included travelling from house to house (99.4%), planning and reporting (95.0%), and campaigns (95.6%). It is only 77.9% that recorded registration of vital statistics and 58% that took part in review meetings with NGOs and other stakeholders. Only 33% of HEWs in Benshangul Gumuz reported participating in review meetings at WHO. Few HEWs in Gambela reported conducting disease outbreak investigation and control (35.1%) and provision of refresher training of CHWs/VHPs (21.2%) as compared to other regions.

Table 4.8: Percent of HEWs who provided HEP service packages and activities, rural Ethiopia 2010

HEP services	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Building and maintaining healthful house	88.6	75.0	90.2	90.5	73.8	98.2	42.3	100.0	100.0	86.4	**91.3**
Construction, use and maintenance of sanitary latrines	100.0	100.0	99.0	98.1	100.0	100.0	88.1	100.0	100.0	97.7	**98.8**
Solid and liquid waste management	100.0	100.0	99.0	96.6	100.0	100.0	91.5	100.0	100.0	97.1	**98.2**
Water supply safety measures	100.0	100.0	98.8	98.8	95.2	100.0	89.2	100.0	100.0	100.0	**99.2**
Food hygiene	100.0	75.0	98.2	96.5	95.2	95.4	86.2	100.0	100.0	97.1	**96.4**
Control of insects, rodents and other biting species	96.9	100.0	85.2	89.3	100.0	96.0	76.8	100.0	100.0	80.9	**90.0**
Personal hygiene	100.0	100.0	98.2	95.9	100.0	97.1	89.4	100.0	100.0	94.2	**96.9**
HIV/AIDs prevention and control	96.7	75.0	94.3	95.0	100.0	100.0	96.8	100.0	100.0	94.8	**95.9**
TB prevention and control	77.4	50.0	81.3	93.1	95.2	99.4	84.6	100.0	100.0	100.0	**91.0**
Malaria prevention and control	100.0	75.0	89.6	82.7	95.2	100.0	96.8	100.0	100.0	91.8	**89.9**
First aid	93.1	25.0	95.3	81.7	95.2	92.5	55.8	100.0	100.0	86.1	**87.3**
Maternal and child health	93.6	75.0	100.0	97.3	95.2	96.0	69.7	100.0	100.0	97.7	**96.9**
Family planning	100.0	50.0	95.0	99.3	100.0	96.0	85.4	100.0	100.0	92.2	**96.4**
Adolescent reproductive health	87.0	50.0	79.9	89.7	86.9	96.6	54.8	100.0	100.0	91.0	**88.4**
Vaccination services	100.0	25.0	99.0	96.2	95.2	100.0	82.0	100.0	100.0	100.0	**97.1**
Nutrition	96.7	25.0	87.9	98.7	91.8	96.0	55.1	100.0	100.0	100.0	**94.3**
Health education and communication	100.0	100.0	100.0	99.3	100.0	100.0	85.3	100.0	100.0	91.9	**99.1**
Registration of vital statistics	85.2	50.0	93.1	62.3	90.3	94.8	41.9	100.0	100.0	60.8	**77.9**
Planning and reporting	100.0	50.0	97.0	92.1	100.0	100.0	70.3	100.0	100.0	94.5	**95.0**
House to house trip	100.0	100.0	100.0	98.6	100.0	100.0	85.1	100.0	100.0	100.0	**99.4**
Campaigns	96.9	100.0	97.0	96.6	100.0	90.7	99.0	100.0	100.0	100.0	**95.6**
Outbreak investigation and control	96.9	75.0	86.9	84.7	95.2	98.9	35.1	100.0	100.0	69.8	**87.9**
kebele cabinet meeting	100.0	50.0	86.5	95.5	100.0	95.8	48.8	100.0	100.0	90.0	**92.6**
Review meeting at WHO	89.0	50.0	83.1	93.1	32.7	85.9	36.1	100.0	100.0	78.6	**86.6**
Review meeting with NGOs	85.9	100.0	63.2	52.0	21.3	71.4	19.3	0.0	0.0	2.9	**58.0**
Meeting with CHWs	96.9	50.0	85.7	72.9	90.3	91.3	31.0	100.0	100.0	15.9	**77.4**
Supervising CHWs	100.0	0.0	79.1	74.1	90.3	100.0	32.3	100.0	0.0	23.6	**78.3**
Refresher training of vCHPs	84.0	50.0	72.1	69.6	95.2	86.6	21.2	100.0	100.0	10.7	**70.9**
Collect drug	79.6	0.0	77.0	81.7	75.7	88.3	50.3	100.0	100.0	48.1	**78.6**
Number of HEWs	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

HEP services allocated more time

HEWs were asked to identify the top 5 activities they spent more time on. These were (1) construction, use and maintenance of sanitary latrines, (2) family planning, (3) vaccination service, (4) solid and liquid waste management, and (5) malaria prevention and control. The reasons attributed to spending more time on these activities were: the fact that it was a major problem in the village, the high demand for the service by the community, and HEWs were more comfortable with the service. These reasons were more or less the same for all 5 activities.

Table 4.9: Percent of HEWs who stated the main reason for spending more time on the top 5 most frequently practiced services of HEP, rural Ethiopia 2010

Top 5 services where HEWs spent more time	There was high demand on the service	Major problem in the village	HEWs have more skills and knowledge	HEWs like to work on it	HEWs were more comfortable with the service	Time consuming	Total
Construction of sanitary latrines	65.8	87.8	14.6	17.8	19.4	11.9	306
Family planning	77.2	91.3	13.9	18.7	21.9	9.3	201
Vaccination services	73.9	89.1	14.5	15.7	16.7	9.4	186
Solid and liquid waste management	62.5	93.3	15.8	12.8	21.3	15.3	168
Malaria prevention and control	66.3	88.3	16.5	14.6	13.4	7.1	130

HEP services allocated less time

The bottom 5 activities that HEWs spent less time on or none were: adolescent reproductive health, first aid, registration of vital statistics, control of insects, rodents and other biting species and TB prevention and control. The most frequently stated reasons for devoting less or no time on these activities were: not a major problem in the village, there was no demand for the service, and HEWs did not enjoy working on the activity.

Table 4.10: Percent of HEWs who stated the main reason for spending less time on the bottom 5 less frequently practiced services of HEP, rural Ethiopia 2010

Bottom 5 components less time spent on	There was no demand on the service	Not a major problem in the village	HEWs have less skills and knowledge	HEWs were not comfortable with the service	Less time consuming	HEWs didn't enjoy working on it	Total
Adolescent reproductive health	55.7	61.1	35.6	8.4	33.5	34.4	199
First aid	45.3	67.4	32.3	5.7	24.5	44.3	181
Registration of vital statistics	41.8	56.6	34.2	7.6	30.9	39.3	169
Control of insects, rodents and other biting species	51.0	69.7	31.6	4.4	31.0	34.0	161
TB prevention and control	47.1	73.1	34.9	4.9	25.1	42.4	116

HEP services enjoyed by HEWs

Overall, family health services program was most enjoyed by HEWs (24.8%) of all the HEP followed by hygiene and sanitation program (24.8%). Vaccination services (24.3%), family planning (23.1%), construction, use and maintenance of sanitary latrines (14.8%), and maternal and child health (9.9%) are activities that are most enjoyed by HEWs. However, it is a small proportion of HEWs in Benshangul Gumuz (4.9%) and Gambela (3.5%) that reported enjoying performing vaccination services compared to other regions. Similarly, a smaller proportion of HEWs in Benshangul Gumuz (4.9%), Gambela (3.5%) and Somali (2.9%) reported enjoying provision of family planning services.

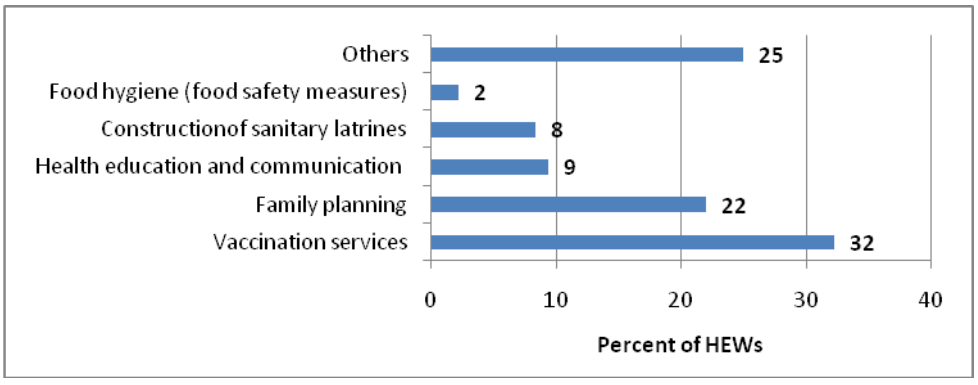
Table 4.11: Percent of HEWs who stated that they enjoyed practicing the HEP service, rural Ethiopia 2010

	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Vaccination services	12.9	0.0	15.8	19.6	4.9	37.5	4.3	100.0	50.0	51.6	**24.3**
Family planning	11.9	0.0	27.5	26.6	4.9	23.5	3.5	0.0	50.0	2.9	**23.1**
Construction of sanitary latrines	29.2	75.0	27.9	11.1	24.5	4.6	36.3	0.0	0.0	2.9	**14.8**
Maternal and child health	25.5	0.0	11.4	8.2	0.0	9.5	0.0	0.0	0.0	8.2	**9.9**
Building & maintaining healthful house	5.2	0.0	10.7	3.5	41.1	5.2	0.0	0.0	0.0	0.0	**5.6**
HIV/AIDs prevention and control	0.0	0.0	1.8	9.1	0.0	2.4	4.4	0.0	0.0	0.0	**4.6**
Food hygiene	0.0	0.0	0.0	0.7	8.2	8.2	2.1	0.0	0.0	2.9	**2.5**
Solid and liquid waste management	6.2	0.0	0.0	0.0	8.2	0.0	5.2	0.0	0.0	2.3	**0.6**
Water supply safety measures	0.0	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	**0.0**
Control of insects, rodents	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	**0.0**
Personal hygiene	0.0	0.0	1.8	0.6	0.0	1.1	2.1	0.0	0.0	5.5	**1.3**
Malaria prevention and control	0.0	25.0	0.0	1.7	0.0	3.5	12.6	0.0	0.0	0.0	**1.9**
First aid	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	**0.4**
Adolescent reproductive health	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
Nutrition	3.2	0.0	0.0	1.7	0.0	1.9	0.0	0.0	0.0	0.0	**1.3**
Health education & communication	3.1	0.0	3.3	13.7	8.2	1.9	19.0	0.0	0.0	18.2	**8.1**
Planning and reporting	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	**0.2**
Not stated	0.0	0.0	0.0	2.4	0.0	0.0	3.2	0.0	0.0	5.5	**1.3**
Total	**35**	**4**	**75**	**100**	**14**	**64**	**82**	**1**	**2**	**22**	**399**

HEP services and the skill of HEWs

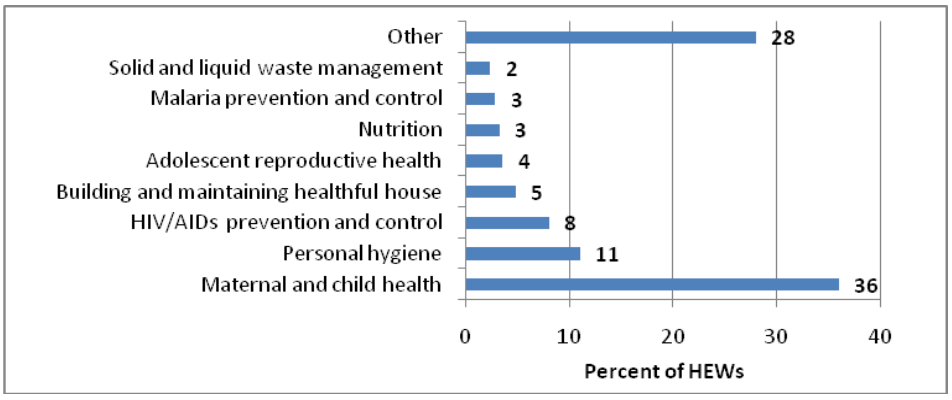
HEWs were asked to state the HEP service package for which they believe they have the required skill. Nearly one third of HEWs believed they had more skills related to vaccination services. Twenty two percent of HEWs considered they had more skills related to family planning activities. Another 9.4% believed they were more skilled with health education and communication activities. Nearly 8% of HEWs believed they were more skilled on activities related to construction, use and maintenance of sanitary latrine.

Figure 4.17: Percent distribution of HEWs by HEP service for which they have more skills, rural Ethiopia 2010



Similarly, HEWs stated the HEP service package they feel difficulty in terms of skill. Thirty six percent of HEWs believed they had difficulties related to skills for performing maternal and child health care activities. Eleven percent of HEWs encountered difficulties when undertaking tasks related to personal hygiene. Another 8% believed they were faced with difficulty on HIV/AIDS prevention and control activities.

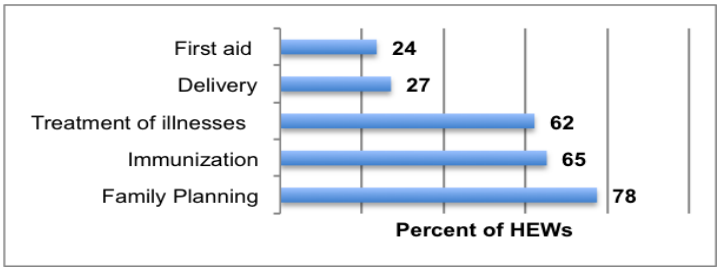
Figure 4.18: Percent distribution of HEWs by service for which they have difficulty in skills, rural Ethiopia 2010



HEP services with high demand from the community

HEWs reported that they were more frequently consulted by the local community for family planning services (77.5%), immunization (65.2%), primary treatment of illnesses such as malaria and diarrhea (62.2%), delivery (27.1%), and first aid (23.6%).

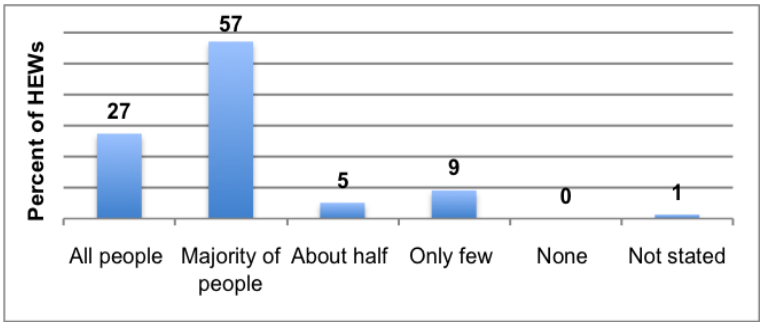
Figure 4.19: Percent of HEWs who stated HEP services with high community demandy, rural Ethiopia 2010



HEWs' perception on overall community utilization of HEP

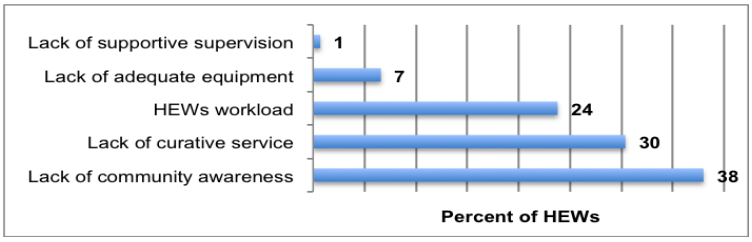
According to 57% of the HEWs, majority of the people are users of the HEP service. 27.4% believed that all the people use the service. It is only nine percent who believe that only few people use the service.

Figure 4.20: Percent distribution of HEWs by perceived proportion of people who use HEP service, rural Ethiopia



According to HEWs, the main reasons that some proportion of the community do not use HEP services was due to lack of awareness about the service (38%), lack of curative service (30.4%), workload of HEWs (23.8%), lack of adequate supply and equipments (6.6%) and lack of supportive supervision (0.7%).

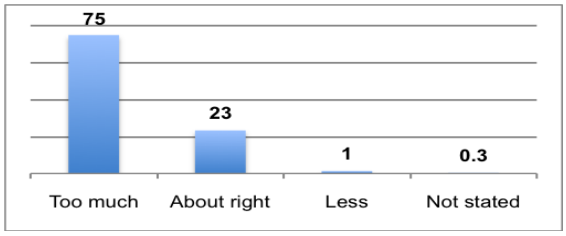
Figure 4.21: Main reasons given by HEWs for why some portion of the community does not use HEP service, rural Ethiopia 2010



4.1.14. Perception of HEWs on workload and difficulty of assigned duties

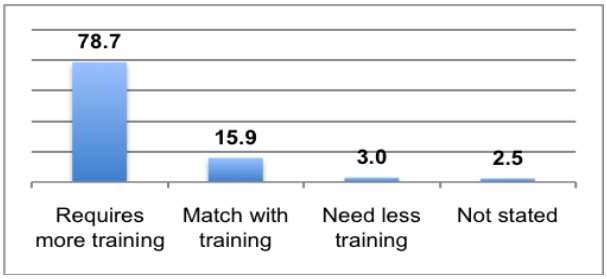
Nearly 75% of HEWs believed they were overloaded with assigned tasks. About 23% thought the workload assigned to them was about right. There was not much variation among regions except 26.2% of HEWs in Gambela who believed they were assigned with less workload.

Figure 4.22: Percent distribution of HEWs by the level of perceived workload, rural Ethiopia 2010



HEWs were asked about what they thought with regards to the level of training they received and the duties and responsibilities assigned to them. Majority (78.6%) of HEWs believed the duties and responsibilities entrusted to them required more training. However, a small percent (15.9%) considered their duties to correspond with the level of training they received. Another 3% believed the duties required less training compared to what they received.

Figure 4.23: Percent distribution of HEWs by perceived level of training needed to undertake the assigned duties and responsibilities, rural Ethiopia 2010



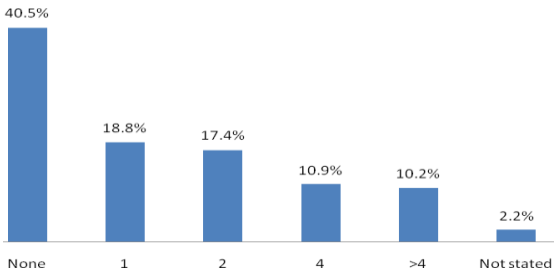
4.3. SUPPORT AND CONTINUING EDUCATION

4.1.15. Refresher training

About 60% of HEWs reported participating in refresher courses in the year preceding the survey. It is to be noted that it is only one third of HEWs in Somali region that attended refresher courses, a smaller figure compared to other regions. About 19% of HEWs received one training session in the year preceding the survey while 17.4% received 2 training sessions. Nearly 11%

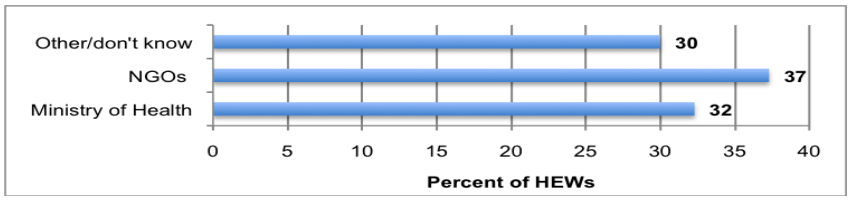
attended 4 refresher sessions. On the other hand, 40% did not receive any kind of refresher training. The mean number of refresher sessions attended by HEWs is 2.6.

Figure 4.24: Percent distribution of HEWs by number of training sessions attended in the year preceding the survey, rural Ethiopia 2010



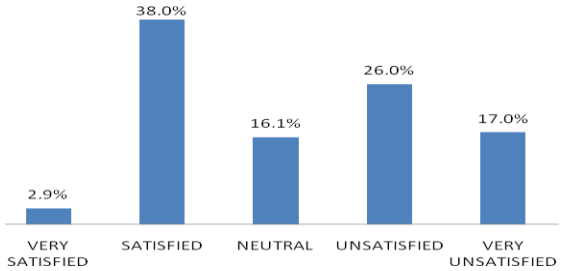
Thirty seven percent of HEWs disclosed the refresher courses they took were funded by NGOs working in the area. Around 32% of HEWs reported that the Ministry of Health supported their attendance in the refresher course.

Figure 4.25: Percent distribution of HEWs who received training by the organization that supported their attendance, rural Ethiopia 2010



Around 43% of HEWs were unsatisfied with refresher courses given while 40.9% were satisfied/very satisfied with refresher courses they received.

Figure 4.26: Percent distribution of HEWs by level of satisfaction with refresher courses, rural Ethiopia 2010



HEWs were asked what they would prefer in terms of area of service if a refresher course was planned. Half (51.1%) of HEWs indicated their preference for delivery service, followed by maternal and child health (9.0%) and HIV/AIDS (6.9%). The other two among the top five HEP services in order of frequency were family planning and vaccination. One in five HEWs indicated their preference for one or the other of the following services: VCT, ANC, environmental sanitation, PMTCT, OTP, disease prevention, model family, first aid, health education, reporting, latrine construction, malaria, reproductive health, or nutrition.

There was some minor difference among the regions. Delivery was the top in majority of the regions. In Tigray, delivery and maternal and child health were the most preferred, while in

Amhara, it was delivery and HIV/AIDS. In Oromia, delivery, HIV/AIDS and tuberculosis were the most preferred. Delivery and family planning were the most preferred in SNNP, while it was delivery, vaccination, and HIV/AIDs in Gambela. Although the data is not presented, malaria was among the preferred service in Benshangul Gumuz and Gambela regions.

Table 4.12: Percent of HEWs who stated the HEP service they would prefer to attend, rural Ethiopia 2010

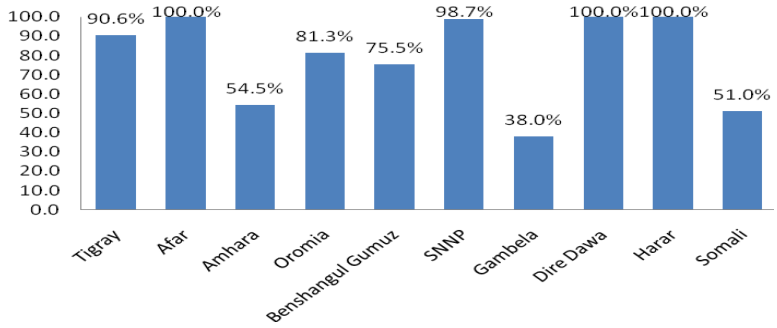
Region	Delivery	MCH	HIV/AIDS	Family planning	Vaccination	TB	Other services	Total
Tigray	34.4	32.2	0	2.7	0	0	30.6	35
Afar	0	50	0	0	0	0	50	4
Amhara	54	4.9	10.5	4.6	1.8	0	23.9	75
Oromia	51.5	7	8.3	5.1	2.2	7.3	18.7	100
Benshangul	65.8	0	0	4.9	9.7	0	14.8	14
SNNP	59.2	7.7	5.3	8	7.2	0	12.5	64
Gambela	21.7	10.5	12.9	6.7	15.5	1.1	30.6	82
Dire Dawa	0	0	0	100	0	0	0	1
Harari	100	0	0	0	0	0	0	2
Somali	32.9	15	0	2.9	5.5	8.4	35.4	22
Total	**51.1**	**9**	**6.9**	**5.4**	**3.6**	**3.4**	**20.4**	**399**

4.1.16. Supportive supervision

HEWs who received supervision

Most (85.7%) of the HEWs reported that they have supervisors who supervised and followed up the work of HEWs. However, 14.3% of HEWs, mainly in Amhara, Benshangul Gumuz, Gambela and Somali regions, had no supervisors. Over three-fourths (78.1%) of HEWs were supervised in the three months preceding the survey by a supervisor or someone from the woreda health office. There was not much variation across regions except Amhara, Somali and Gambela where only 54%, 51% and 38% of HEWs, respectively received supervision.

Figure 4.27: Percent of HEWs supervised in the three months preceding the survey, rural Ethiopia 2010



HEP service areas supervised

HEWs reported that their supervisors provided supportive supervision for various activities under the HEP in the last three months. The most frequently reported service areas included construction, use and maintenance of sanitary latrines (71.1%), vaccination services (51.6%), planning and reporting (43.0%), model family work (41.8%), solid and liquid waste management (41.6%) and so on. However, a relatively small proportion of HEWs in Benshangul Gumuz and Somali received supportive supervision on the above activities.

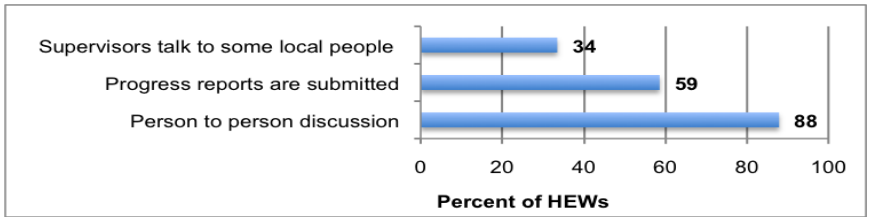
Table 4.13: Percent of HEWs who reported the areas of supportive supervision provided by HEW-supervisor in the three months preceding the survey, rural Ethiopia 2010

Areas of supportive supervision	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
					Percentage of HEWs						
Construction, use and maintenance of sanitary latrines	88.4	100	94.5	68.5	23.8	66	44.6	100	100	20.4	**71.2**
Vaccination services	55.8	0	52.6	48.8	21.8	54	47.3	100	100	80.4	**51.7**
Planning and reporting	52.1	0	49.1	45	21.8	43	31.5	100	50	10.8	**43.0**
Model family work	50.2	0	49.2	47.7	23.8	35.5	0	100	0	16	**41.9**
Solid and liquid waste management	72.5	100	65.2	34.8	54.5	34.7	25.5	0	0	4.4	**41.7**
Family planning	63.4	0	57.9	28.5	50	50.3	15.8	0	100	31.9	**41.5**
HIV/AIDS prevention and control	70.2	0	48.1	27.4	50	39.4	40	0	100	0	**35.3**
Building and maintaining healthful house	63.4	0	66.7	29.4	50	24.7	2.7	100	0	16	**34.7**
Maternal and child health	52.2	25	46.6	23.1	21.8	41.2	6.4	100	100	17.1	**33.8**
Water supply safety measures	77.5	25	56.8	24.9	21.8	24.8	22.7	100	100	0	**31.9**
Personal hygiene	56.1	25	45.2	28.4	21.8	21.7	14.5	0	100	4.4	**29.4**
Malaria prevention and control	57.9	0	43.2	18	10.9	38.3	24.6	0	100	0	**29.3**
Discussing with community	61	25	40.6	20.1	65.4	23.7	36.4	0	50	0	**26.4**
Food hygiene (Food safety measures)	40	0	30.7	24.2	10.9	26.3	6.4	0	0	15.2	**25.8**
Registration of vital statistics	37.3	0	30.1	16.7	10.9	35.5	0	100	0	0	**24.6**
Health education and communication	48	0	40.4	15.1	32.7	28.3	33.9	100	100	4.4	**24.5**
TB prevention and control	40.4	0	37	17.9	21.8	23.3	6.4	0	50	0	**22.8**
Control of insects, rodents and other biting species	59.4	0	38.1	15.4	21.8	18.4	2.7	0	0	0	**21.5**
Nutrition	46.8	0	42	7.4	21.8	17.3	0	0	50	17.1	**18.4**
Adolescent reproductive health	43.5	25	32.7	5.1	10.9	19	0	0	0	0	**16.0**
First aid	52.5	0	32.5	2.8	32.7	12.5	0	0	0	0	**13.3**
Number of HEWs	**32**	**4**	**38**	**80**	**10**	**62**	**23**	**1**	**2**	**11**	**263**

Supervision techniques used

HEWs indicated that supervisory sessions usually included discussions with HEWs, submission of progress reports and discussion with local people. Majority of HEWs (87.9%) reported supervisory sessions usually included person-to-person discussions. Another 58.6% indicated submission of progress reports while one third (33.4%) of HEWs further indicated discussion of supervisors with local people and leaders. Submission of progress reports was found to be low (10.9%) in Benshangul Gumuz region. Additionally, discussions that supervisors held with local people and leaders were least included in supervisory session in Benshangul Gumuz (10.9%) and Somali (14.6%) regions.

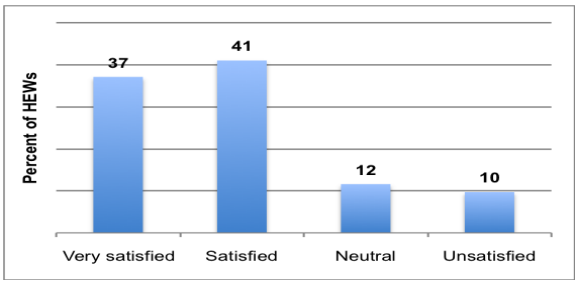
Figure 4.28: Percent of HEWs who stated the supervision techniques used by supervisors, rural Ethiopia 2010



Level of satisfaction with supervision

Majority (78.1%) of HEWs were satisfied with the supervision they received during the last three months. Thirty seven percent indicated they were very satisfied while 41% reported being satisfied with the supervision. However, according to 9.7% of the HEWs, the supervision was unsatisfactory.

Figure 4.29: Percent distribution of HEWs by level of satisfaction with last supervision, rural Ethiopia 2010



Quality of supervision

According to 61% of HEWs, supervision was regularly carried out. However, majority of participants in Gambela (68.2%) and Somali (78.3%) considered the supervision sessions were held irregularly. Most (90.5%) of the HEWs considered the supervision as supportive. Most (71.7%) HEWs reported obtaining regular feedback following supervision. About 48.6% indicated they received feedback in writing regularly while 23.1% reported receiving oral feedback regularly. It is interesting to note that majority of HEWs (82.7%) in Benshangul Gumuz reported never receiving any kind of feedback following supervision. It is relatively a small proportion of HEWs in Gambela (6.4%) that obtained regular written feedback after each supervision.

HEWs were asked to describe the supervision they received in order to assess their perception on supervisions conducted. A little over half (53.4%) of HEWs believed that more constructive

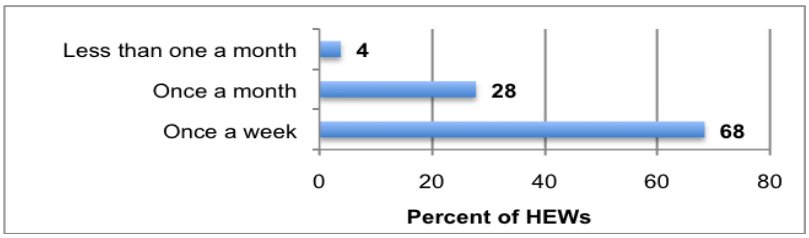
comments were given during supervision. Thirty four percent believed they received both constructive and non-constructive comments while eleven percent believed non-constructive comments were given. Most (93.4%) of the HEWs considered the guidance provided during supervision as useful.

Table 4.14: Perception of HEWs toward supervision and feedback they received, rural Ethiopia 2010

Perception towards supervision/feedback	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
					Percent of HEWs						
Supervision											
Regular supervision	81.7	100.0	53.2	58.4	0.0	69.9	31.8	100.0	50.0	21.7	**61.2**
Supportive supervision	92.7	100.0	88.6	95.0	78.2	84.8	85.5	100.0	50.0	91.2	**90.5**
Feedback											
Regular written feedback	65.1	0.0	35.7	53.2	0.0	55.2	6.4	100.0	0.0	10.8	**48.6**
Regular oral feedback	5.7	0.0	23.9	32.3	10.9	12.0	21.5	0.0	100.0	48.0	**23.1**
Few written	10.6	0.0	8.3	1.8	6.4	13.0	0.0	0.0	0.0	0.0	**6.6**
Few oral	18.6	100.0	32.2	12.1	0.0	12.3	64.0	0.0	0.0	26.0	**17.9**
Never	0.0	0.0	0.0	0.0	82.7	3.4	2.7	0.0	0.0	15.2	**2.3**
Comments											
Constructive	87.3	50.0	54.2	58.6	12.9	43.2	31.8	0.0	0.0	38.2	**53.4**
Non constructive	2.2	25.0	16.2	6.8	0.0	13.1	5.5	100.0	0.0	19.6	**10.8**
Both	10.5	25.0	29.6	31.2	76.3	43.7	57.3	0.0	100.0	42.2	**34.3**
Overall useful guidance	96.4	100.0	90.9	95.7	56.4	91.8	91.8	100.0	50.0	91.2	**93.4**
Number of HEWs	**32**	**4**	**38**	**80**	**10**	**62**	**23**	**1**	**2**	**11**	**263**

Among the HEWs who received regular supervision, about 68.4% of HEWs reported they were supervised at least once a week. Around 27.8% reported supervisions took place once a month while 3.8% reported being supervised less than one times per month.

Figure 4.30: Percent distribution of HEWs by the frequency of supervision they received, rural Ethiopia 2010

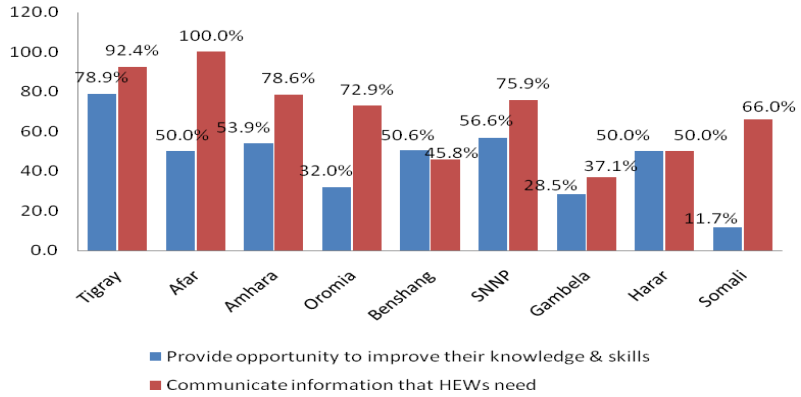


4.1.17. Perception towards district health office

Professional development

Overall, 44% of HEWs stated the district health office provided HEWs with opportunity to improve their professional knowledge and skills. However, majority (88.3%) of respondents in Somali region indicated the district health office did not provide HEWs with such opportunity. According to 55.8% of HEWs, there exists no opportunity at district health office to update their knowledge and skills and gain the necessary information.

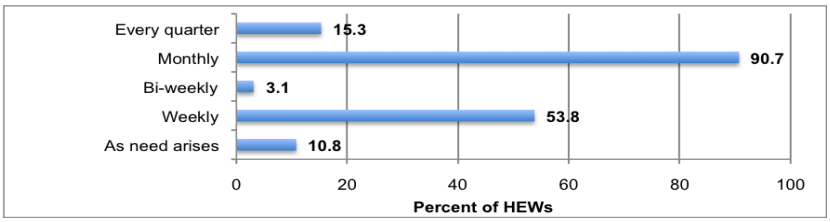
Figure 4.31: Percentage of HEWs who believed the district health office provided knowledge, skills and information



Progress report and feedback

Majority of HEWs submit monthly progress reports to their supervisors/district health office. Moreover, 53.8% of HEWs submit reports on a weekly basis while 14% report on a quarterly basis. However, it was only 45.5% of HEWs who received regular feedback on their work performance reports.

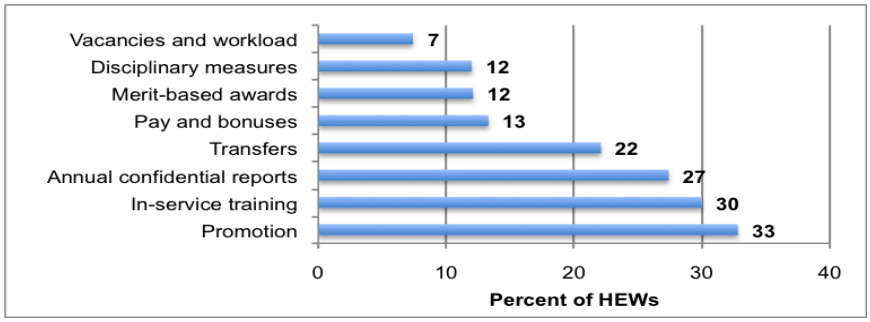
Figure 4.32: Frequency of submission of progress report to supervisors



Performance evaluation and promotion

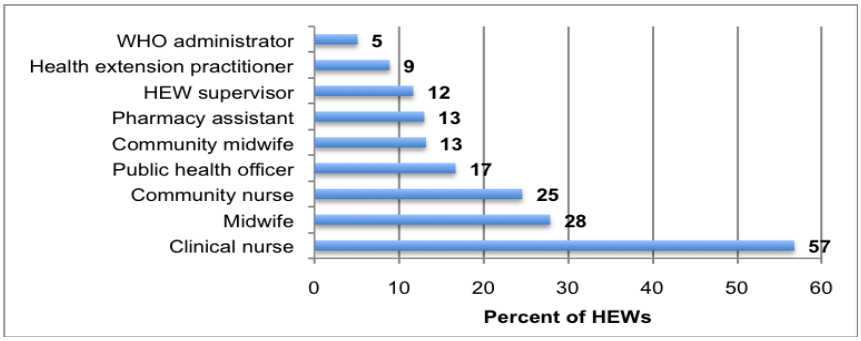
Nearly 70% of HEWs believed the last performance review was useful to improve their work performance. However, 12.7% reported there was no performance evaluation that was carried out. More than half (58.4%) of respondents in Gambela reported that performance evaluation was not carried out. HEWs were asked to state the areas where supervisors or woreda health office managers could impact HEWs based on evaluation of their performance. According to 32.8% of HEWs, their supervisors or woreda health office managers impacted their performance through promotion. In service training (30%), annual confidential reports (27.4%), transfers (22.1%), pay and bonuses (13.3%) are some of the other responses given by HEWs.

Figure 4.33: Percent of HEWs who stated the impact of performance evaluation, rural Ethiopia 2010



Overall 63.1% of HEWs are satisfied with future prospects for promotion. HEWs indicated what they considered as future prospects for promotion and its access to HEWs. More than half (56.8%) of HEWs considered clinical nurse as a prospect for future promotion they would like to have access to. Other prospects for upgrading that HEWs would like to have the opportunity and access to were: midwife (27.9%), community nurse (24.6%), public health officer (16.7%), community midwife (13.2%), pharmacy assistant (13%), HEW supervisor (11.7%), and the like.

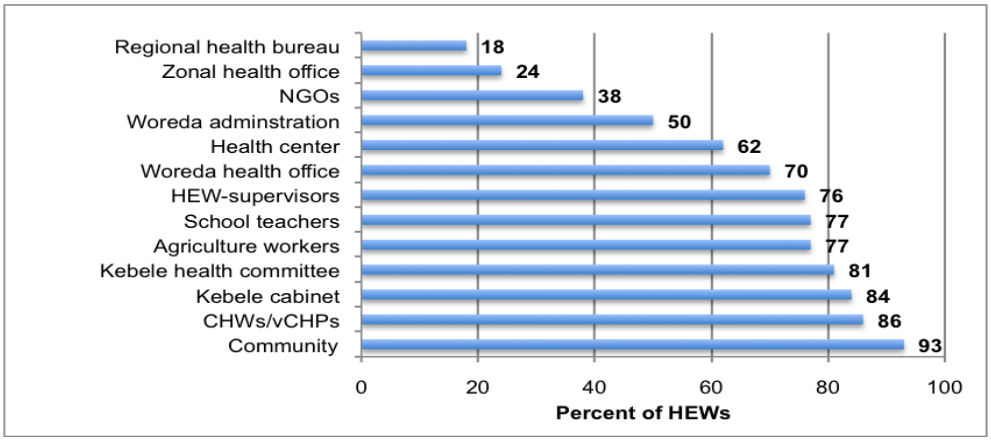
Figure 4.34: Percent of HEWs who stated their preferred future prospects for promotion, rural Ethiopia 2010



4.1.18. Relationship and support from partners

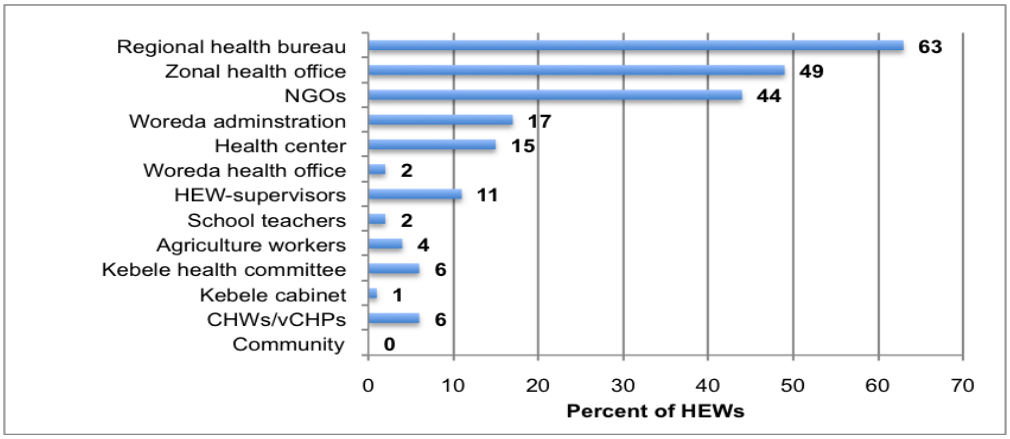
HEWs were asked to rate their relations and level of support they received from various groups. Majority of HEWs described their relationship and level of support they received as very good/good with partners at kebele level including the community (93.0%), CHWs/VHPs (85.5%), kebele cabinet (83.8%), kebele health committee (80.7%), agriculture workers (77.1%), and school teachers (77.1%). Similarly, majority of HEWs reported to have very good/good relations with their supervisors (76.1%), woreda health office (70.1%) and health center staff (62.4%).

Figure 4.35: Percent of HEWs who stated they have very good/good relation with partners, rural Ethiopia 2010



It is notable that the number of HEWs who never interacted with higher levels of the health system is significantly high – regional health bureau (63%), zonal health bureau (49%), NGOs (44%) and woreda administration (17%). Although the percent of HEWs who reported that they had never interacted with kebele health committee and CHWs/VHPs was small, a higher proportion of respondents in Gambela never interacted with kebele health committee (42.4%) and CHWs/VHPs (47.9%).

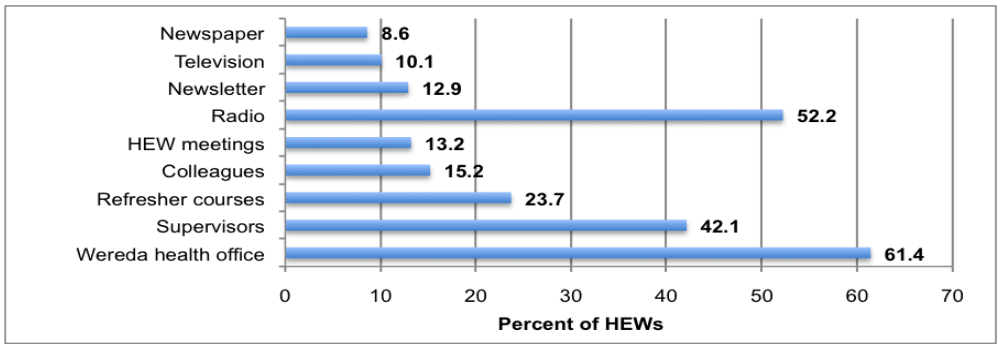
Figure 4.36: Percent of HEWs who stated that they never interacted with partners, rural Ethiopia 2010



4.1.19. Source of health information for HEWs

HEWs obtained information on new developments in the health sector mainly from the woreda health office, colleagues, refresher course and the media. Sixty one percent of HEWs obtained information on new development from the woreda health office. A little over half (52%) of HEWs attributed their main source of information as the radio. Around fifty seven percent relied on information from others as their main source (with 42.1% attributing to their supervisors and 15.2% to their colleagues). Nearly 24% indicated refresher courses as their source of information.

Figure 4.37: Percent of HEWs who stated the main source of health information, rural Ethiopia 2010



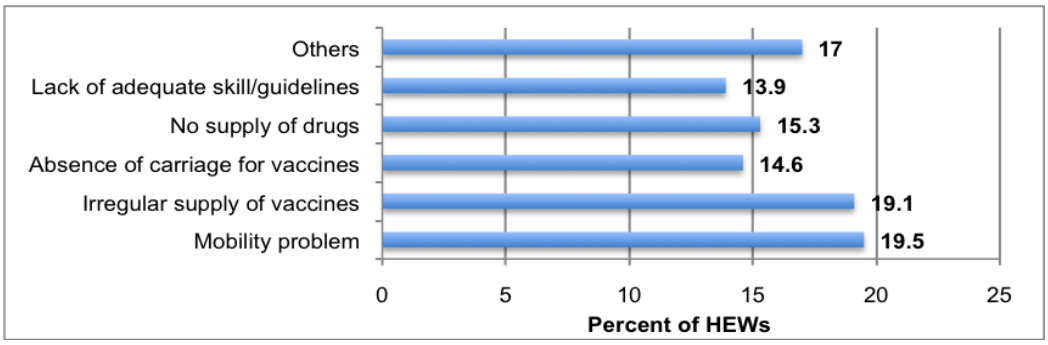
4.4. CHALLENGES AND SOLUTIONS

4.1.20. Constraints that affect performance

Technical constraints

HEWs were asked to identify major technical constraints that affect their performance. One third of HEWs believed that provision of vaccine services were hindered due to irregular supply of vaccines (19.1%) and absence of storage and carriage facility for vaccines (14.6%). About 19.5% of HEWs attributed adequate availability of transport services while 15% considered the irregular or non supply of drugs as major constraint. Nearly 14% considered the lack of adequate skill and lack of standards/guidelines as major constraints to their performance.

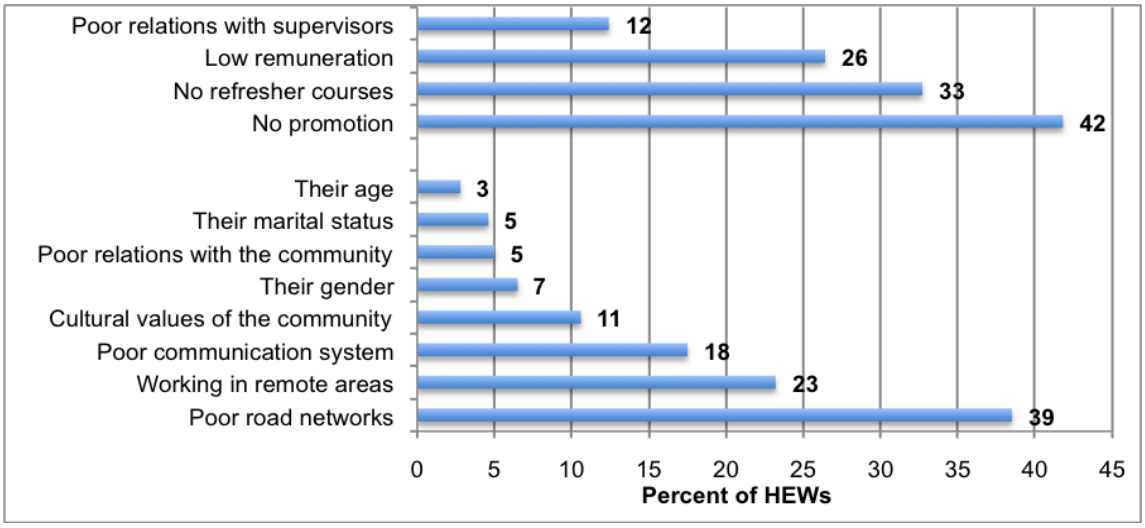
Figure 4.38: Percent distribution of HEWs by technical constraints that affect their performance



Social and organizational constraints

HEWs encountered various social/organizational challenges that hindered their performance. A poor road network was a major social obstacle faced by nearly 40% of HEWs. Other obstacles faced include working in remote areas (23.2%), poor communication system (17.5%), and cultural values of the community (10.6%). Nearly 42% of HEWs considered the absence of promotion as an organizational challenge to their work. Lack of refresher courses (32.7%), low remuneration (26.4%) and poor relations with supervisors (12.4%) were listed as other organizational impediments faced by HEWs.

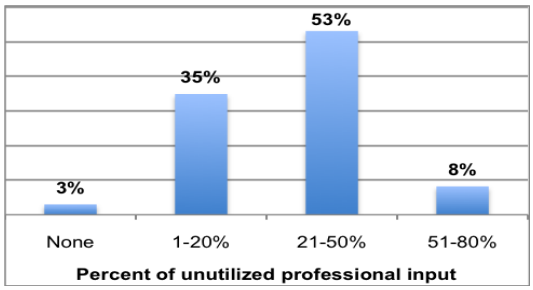
Figure 4.39: Percent of HEWs who faced social and organizational obstacles, rural Ethiopia 2010



Impact of constraints on HEWs' professional input

Because of the above constraints, 53% of HEWs felt they did not utilize 21-50% of their professional input. Around 40% of HEWs felt the technical constraints they were faced with prevented them from utilizing 1-20% of their professional input. On average, HEWs did not utilize 31.69% of their professional input as a result of technical challenges they encountered.

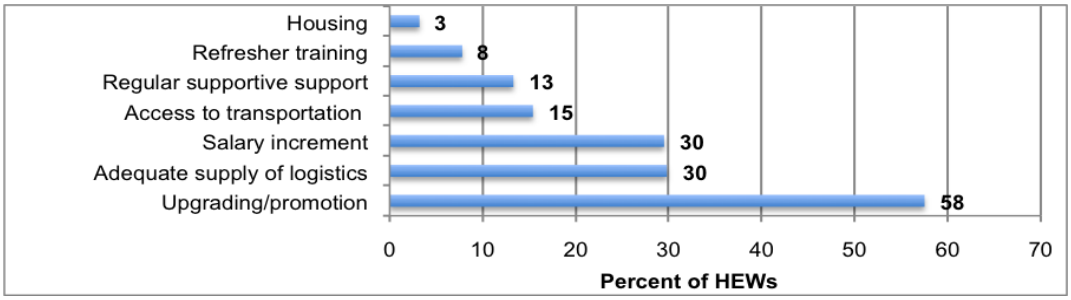
Figure 4.40: Percent distribution of HEWs by perceived unutilized professional input due to constraints, rural Ethiopia 2010



4.1.21. HEW suggested measures for HEP improvement

HEWs were asked to identify measures that could motivate HEWs and improve HEP services. The top five suggestions were: access to and provision of upgrading/promotion (57.5%), adequate supply of logistics (29.8%), salary increment (29.5%), access to transportation (15.4%), and regular supportive supervision (13%). Other factors suggested include refresher training and provision of housing.

Figure 4.41: Percent of HEWs who suggested measures for the improvement of HEP, rural Ethiopia 2010



4.5. HEWS' VIEW ON ASSIGNMENT OF HEALTH WORKER AT HEALTH POST

Nearly 60% of HEWs believed the curative service provided at the health post would be improved if a higher professional such as a nurse is placed at the health post along with HEWs. A little over half (52.3%) of HEWs believed the HEP would be strengthened in general. Less than one third (31.6%) believed it would strengthen the technical skills of HEWs and help improve the HEP with orientation and good relationship. However, there were some HEWs who considered this would bring about negative consequences such as reducing acceptance of HEWs by the community (24.9%), weakening of HEP in general (6.5%) and weakening of the preventive and promotive service of HEP (1.6%).

Table 4.15: Percent of HEWs who stated their view on impact of health worker assigned at the HP, rural Ethiopia 2010

	HEWs' view	% of HEWs
Positive consequences	The curative service would improve	**59.6**
	HEP in general would be strengthened	**52.3**
	Would strengthen HEWs' skills	**31.6**
	With orientation and good relationship HEP would improve	**31.6**
Negative consequences	It would reduce HEWs acceptance by the community	**24.9**
	HEP in general would be weakened	**6.5**
	The preventive and promotive service would be weakened	**1.6**
Number of HEWs		**399**

4.6. HEWS' VIEW ON INCLUSION OF MORE CURATIVE SERVICE

HEWs were asked what they thought of the inclusion of curative components for certain diseases like ARI into the HEP in terms of its impact on their workload. Nearly 50% indicated they would support it and be happy to undertake it as the community would be happy. 43.5% of HEWs stated they would support this as it would not add much to their existing workload. According to 36.7% of HEWs, they would support it in spite of the added burden on their workload. On the other hand, HEWs who did not support this attributed their reasons to an additional burden on their workload (11.2%) and a belief that HEP has to focus on the prevention aspect (4.5%).

Table 4.16: Percent of HEWs who stated their opinion on inclusion of additional curative services, rural Ethiopia 2010

HEWs' view		% of HEWs
Would support it and be happy to do it	Because the community will be happy	48.4
	Because it won't add much to my work load	43.5
	Even if it adds to the work load	36.7
Would not support it	Because it will add to the work load	11.2
	Because I believe that HEP has to focus on prevention	4.5

HEWs were asked to identify three illnesses that they would like to see if additional curative services were to be included into HEP. Tuberculosis (49.9%), ARI (36.5%) and HIV/AIDS (25.7%) were the top 3 priority illnesses identified by HEWs for possible inclusion in HEP if a curative component was going to be integrated into HEP.

Table 4.17: Percent of HEWs who stated priority illnesses for inclusion into HEP, rural Ethiopia 2010

Region	Tuberculosis	HIV/AIDS	ARI	Total
Tigray	24.1	15.7	39.5	35
Afar	50	0	50	4
Amhara	36.1	25	27.7	75
Oromia	54.9	33.2	40.9	100
Benshangul Gumuz	50.8	9.7	37.8	14
SNNP	57.4	25.1	30.8	64
Gambela	60	14.2	27.5	82
Dire Dawa	100	0	0	1
Harari	50	0	0	2
Somali	57.5	0	57.2	22
Total	**49.9**	**25.7**	**36.5**	**399**

4.7. DISCUSSION AND CONCLUSION

Living and working conditions

Housing conditions**:** The living conditions of HEWs varied with most living outside the premises of the health post - owned, rented or provided by the community. Those who resided within the compound of health post had separate living quarters or resided in one of the rooms of the main building of the health post. The contribution of the community in provision of housing to HEWs is of importance. Free housing would be critical for motivation of HEWs, and provision of housing inside the compound of the health post ensures availability of service, particularly, delivery service for 24 hours. The fact that most HEWs live in houses with no access to electricity

necessitates improvement in housing conditions. This is also supported by a large proportion of HEWs who considered the housing facilities as uncomfortable. Ownership of assets ranged from farmland, livestock to furniture.

Most of the interviewed HEWs relied on their salary while a very small proportion had other means of income. Majority of HEWs feel that they are not paid fairly well for the workload and level of professional training they received. Moreover, majority of HEWs feel that their salary is low as compared to other government employees with similar educational background. Most of HEWs participated in refresher courses that was held a year preceding the survey.

Means of transportation: Majority of HEWs walked to and from the health center or district health office as well as within the kebele to perform HEP activities. However, Benshangul Gumuz (9.9%) and Somali (8.2%) region used bicycles and motorcycles, respectively even though it is a small proportion of HEWs which saves time that would have otherwise been used up for travelling. It is worth exploring how to expand the use of these transportation facilities to HEWs in other regions especially considering that HEWs spend on average more than an hour to get to the farthest sub kebele. Though the majority of HEWs walked on foot to perform their work within the kebele, motorcycles were the most preferred means of transportation followed by bicycles. Despite being the preferred means of transportation, it is very few HEWs that have access to motorcycles and bicycles.

HEWs involvement in local committees and NGOS: Most of the interviewed HEWs were a member of a kebele council or local committee which is in line with the HEP strategy which promotes participation of the kebele administration in HEP. The operation of NGOs working on health in their kebele was confirmed by more than a third of HEWs, majority of whom participated in the activities of the NGOs in their kebele, imposing a strain on their work schedule.

HEP and community based health workers: The presence of CHWs in the kebeles was considered as important for the success of the HEP by most HEWs. Additionally, they believed that CHWs fully participated in the implementation of HEP and attended regular meetings related to the health post. They seemed to believe that the acceptance of CHWS by the community was higher than HEWs. The provision of financial incentives to CHWs was supported by half of the respondents.

Execution of HEP activities

Job description and work plan: Even though nearly 60% of HEWs were initially provided with a job description, the remaining HEWs were not provided with a job description which means that they had no clear understanding of their duties and responsibilities. It is half of respondents in Afar, SNNP and Gambela who did not receive a job description prior to service. The lack of provision of a job description upon orientation of HEWs may result in hindering the expected results envisaged from the deployment of HEWs and the HEP in general as a result of absence of guiding instructions.

Most of the HEWs prepared a work plan to schedule their daily activities. The work plan was developed by HEWs in majority of the respondents. However, about 40% of HEWs engaged HEW supervisors and kebele officials in the preparation of the work plan. The participation of various other stakeholders such as CHWs/VHPs, kebele health committee, district health office, the community and NGOs in the preparation of the work plan is low. Most of the HEWs held discussions with the kebele cabinet prior to implementation of HEP followed by opinion/religious leaders. The interaction of HEWs with health workers and other stakeholders prior to HEP execution is still low.

Working hours and allocation of time: Only about half of HEWs spent on average 25% and less of their time at the health post and devoted the rest to house to house visits and HEP package service delivery. On the other hand, less than half (45%) of the HEWs spent more than 25% of their time at the health post which is against the allotment of time stipulated in the HEP strategy. Nearly 40% of HEWs had no standard manual that guided the allocation of time for the 16 components of HEP which has an impact on their time utilization for efficient HEP service delivery.

Provision of HEP services: Majority of HEWs performed the basic components of the health extension packages with some activities performed by majority of HEWs and others by a small proportion of HEWs. Activities under HEP that were undertaken by majority of HEWs include water supply safety measures, construction, use and maintenance of sanitary latrines, solid and liquid waste management, vaccination services, maternal and child health, health education and communication, etc. Adolescent reproductive health and first aid were some of the activities performed by few HEWs. Adolescent reproductive health was also considered as a neglected activity in the HEWs performance study of the Ethiopian Health Extension Programme Evaluation study 2005-2007 (CNHDE, 2008) which possibly warrants attention.

Vaccination services, family planning and maternal and child health are activities that HEWs were found to enjoy performing. Interestingly, most of the HEWs believed they possessed adequate skills pertaining to vaccination services, family planning activities, health education and communication. On the other hand, HEWs believed they were less skilled in performing maternal and child health care activities, personal hygiene and HIV/AIDS prevention and control activities. Maternal and child health was also identified to be one of the activities that HEWs faced difficulties in terms of skill in the previous HEWs performance study (CNHDE, 2008). The fact that this is reflected in both surveys may be an indication that HEWs require more training on this component. This was also reflected by most of the HEWs who felt that the duties and responsibilities entrusted to them required more training than what they received prior to engagement in service.

Majority of HEWs believed they were overloaded with assigned tasks. In spite of this, almost 50% worked for more than 8 hours on a daily basis indicative of the commitment of HEWs to their job. The top 5 activities HEWs spent more time on are (1) construction, use and maintenance of sanitary latrines, (2) family planning, (3) vaccination service, (4) solid and liquid waste management, and (5) malaria prevention and control. The reasons attributed to spending

more time on these activities are: the fact that it is a major problem in the village, the high demand for the service by the community and HEWs are more comfortable with the particular service they render. On the other hand, the bottom 5 activities that HEWs spent less time on or none were found to be adolescent reproductive health, first aid, registration of vital statistics, control of insects, rodents and other biting species and TB prevention and control. The most common reasons for devoting less or no time to these activities are: it is not a major problem in the village, there is no demand for the service and HEWs do not enjoy working on this activity.

More than half (57%) of HEWs believe majority of the people utilize the HEP service. More than one fourth (27.4%), however, believe that all the people use the service. The uptake of the HEP service by the community was found to vary in terms of the services utilized. HEWs attested they were mostly consulted by the local community for family planning services, immunization, primary treatment of illnesses such as malaria and diarrhea with low consultations for delivery, first aid, HIV counseling and testing, etc.

Support and continuing education

Supervision: Even though most of the HEWs reported having supervisors who supervised and followed up their work, some others had no supervisors to follow up, support and guide their work. More than three fourths of HEWs were either supervised by their supervisors or someone from the woreda health office in the past three months. This is an improvement from the previous HEWs performance study (CNHDE, 2008), where only two-thirds of HEWs were supervised. There is no doubt of the importance of supervision which should be regularly carried out to ensure the smooth execution of the HEP. The health service extension program (HSEP) implementation guideline also specifies regular supportive supervision, among others, as the cornerstone for ensuring best quality of HEP.

Supervisory sessions usually included person to person discussions with HEWs, submission of progress reports and discussion with local people and leaders. Majority of the sessions included person to person discussions similar to the HEWs performance survey of 2007. However, the HSEP guideline also indicates that supervisory visits should include observations of HEWs at their duties so as to guide and direct the work of HEWs. Majority of HEWs expressed their satisfaction with the supervision they received during the last three months. Half of HEWs felt that more constructive comments were given during supervision while others felt constructive and non-constructive comments were given equally and a small proportion believing non-constructive comments outweighed the feedback.

Most of HEWs believed supervisions were held on a regular basis and considered it as supportive. It is also to be noted that still others believed supervisions were irregular as well as non supportive. Majority of HEWs also reported receiving regular written and oral feedback and considered the guidance provided useful. The fact that majority of HEWs (82.7%) in Benshangul Gumuz never received any kind of feedback after each supervision necessitates improvements that have to be made in supervision of HEWs. Only less than 50% of HEWs obtained regular feedback on monthly work performance from supervisors or district health office.

Information and communication: The main source of information on new developments in the health sector was the woreda health office for most of the HEWs. The radio was also considered as a main source of information. It is interesting to note that half of HEWs regarded their colleagues and supervisors as source of information possibly because of the absence of other sources of information. Even though it was a large number of respondents who reported to attending refresher courses, it is comparatively a small proportion who considered refresher courses as main source of information.

More than half of HEWs felt there exists no opportunity at district health office to update their knowledge and skills and gain the necessary information though others stated the district health office provided HEWs with opportunity not only to improve their professional knowledge and skills but also communicated information required by HEWs. However, majority of respondents in Somali region were of the opinion that the district health office does provide HEWs with such knowledge.

Relationship with partners: Majority of HEWs reported to have very good/good relations with the community, CHWs/VHPs, kebele cabinet, kebele health committee, agriculture workers and school teachers. A higher proportion of respondents in Gambela never interacted with kebele health committee. Majority of HEWs reported to have very good/good relations with their supervisors, woreda health office and health center staff.

Challenges and HEW suggested solutions

Challenges: HEWs identified technical constraints that affect their performance such as provision of vaccine services which are hindered due to irregular supply of vaccines and absence of storage and carriage facility for vaccines, inadequate availability of transport, irregular or non supply of drugs and lack of adequate skill and standards/guidelines.

Poor road networks, working in remote areas, poor communication system, existing cultural values of the community, their gender and the like were various social challenges that hindered their performance. Organizational impediments faced by HEWs include the absence of promotion, lack of refresher courses, low remuneration and poor relations with supervisors.

HEW suggested measures to solve challenges: In order to help improve the services provided by HEWs, HEWs believed motivational factors should be set. These include skill upgrading (to a clinical nurse, midwife, community nurse etc), salary increment, refresher trainings, promotion, transportation, housing and the like.

The low satisfaction level of HEWs with regards to their salary and benefits necessitates exploring ways for improvement as this combined with their workload may have an effect on their performance. This was indirectly reflected by HEWs who affirmed the low salary, lack of training/upgrading and lack of access to transport affected their motivation and hindered their performance.

Provision of adequate supply of logistics, access to training/upgrading, access to transportation, and additional manpower were suggested by HEWs as important measures that could contribute to attainment of the objectives of HEP.

Nearly more than half of HEWs believed the curative service provided at the health post would be improved if a higher professional such as a nurse is placed at the health post along with HEWs. Others believed the HEP would be strengthened in general and the technical skills of HEWs would be improved. However, others considered this would bring about negative consequences such as reducing acceptance of HEWs by the community, weakening of HEP in general and weakening of the preventive and promotive service of HEP.

Majority of HEWs supported the possible idea of inclusion of additional curative services for certain diseases like Acute Respiratory Infections into the HEP as the community would be happy, as it would not add much to their existing workload or simply supporting it in spite of the added burden on their workload. On the other hand, the minority of HEWs who did not support the idea attributed their reasons to an additional burden on their workload and a belief that HEP has to focus on the prevention aspect.

4.8. RECOMMENDATIONS

- The issue of heavy workload of HEWs especially as they are made to shoulder additional health issues they have to prioritize was considered as a serious issue that deserved due consideration from FMoH. There is a need to standardize the allocation of time with due attention to all components of the HEP but with emphasis to critical and high impact services.

- Improve the motivation of HEWs through various approaches such as provision of rewards, promotion, career development, provision of housing and transportation. The level of their salary relative to other government employees should be looked into to make the necessary adjustment as salary was one of the demotivating factors reported by HEWs.

- Opportunity for training or upgrading of HEWs should be facilitated. Organization of refresher trainings to strengthen skills of HEWs in areas they face difficulties and are less skilled in is important for capacity building and motivation of HEWs, which ensures the provision of quality services.

- Regular supportive supervision of HEWs should be set in places

- Access to or provision of means of transportation for HEWs within their kebele should be addressed as it has an impact on their performance and motivation.

HEWs' COMPETENCE

HEP EVALUATION

RURAL ETHIOPIA

2010

Table of contents

Table of Figures

Table of tables

5. HEWS COMPETENCE

5.1. SAMPLE HEWS

A total of 395 HEWs from 10 Regions were interviewed to assess their knowledge and recall of practice around selected HEP services working in the randomly selected health posts. The HEP service packages included in the study were antenatal care, delivery services, neonatal care, immunization, childcare and nutrition, malaria diagnosis and treatment, and family planning services.

Table 5-1: Percent distribution of sampled HEWs by region, rural Ethiopia 2010

Region	Number of HEWs	Percent of HEWs
Tigray	35	8.9%
Afar	4	1.0%
Amhara	79	20.0%
Oromia	97	24.6%
Benshangul	12	3.0%
SNNP	64	16.2%
Gambela	80	20.3%
Dire Dawa	1	0.3%
Harari	2	0.5%
Somali	21	5.3%
Total	**395**	**100.0%**

5.2. ANTENATAL CARE

HEWs have midwifery skills, and they provide care before, during and after pregnancy, which influences maternal and child health. During antenatal care, the HEWs take history and perform physical examination. The HEWs measure the weight of the mothers, examine the mother and foetus, seek to identify risk factors in maternal and family history, and provide relevant health education. Moreover, HEWs provide tetanus toxoid, micronutrients and food supplementation. HEWs attempt to undertake at least four visits per pregnant women, and ensure the women have an individualized birth plan and prepare them for birth.

Table 5-2: HEWs' response on the uses of antenatal care by region

Region	Prepare for birth and preventing disease	To promote safe delivery	Detection of diseases and management of complications	Ensure woman has an individual birth plan	Breast feeding promotion	Total no.
Tigray	85.3	79	66.8	45.5	9.6	35
Afar	75	75	50	0	0	4
Amhara	67.4	54.2	55	66.3	26.3	79
Oromia	74.8	67.4	56.4	56.9	19.7	97
Benshangul	89.3	79.9	80.1	89	45.6	12
SNNP	55.1	53.6	43.6	39.1	11.9	64
Gambela	56	31	36.1	34.8	9.6	80
Dire Dawa	100	0	0	100	0	1
Harari	100	100	50	100	0	2
Somali	60.1	40.9	37.2	17.8	0	21
Total	**68**	**59.8**	**52.2**	**51.1**	**17.4**	**395**

The HEWs were asked to list the uses of antenatal care to assess their knowledge on the purposes of antenatal care. The required answer was to promote safe delivery, preparation for birth and preventing disease, ensure women has an individualized birth plan, detection of existing diseases and management of complications and breast feeding promotion. HEWs response in order of frequency were preparation for birth and preventing disease (68%), to promote safe delivery (59.8%), detection of existing diseases and management of complications (52.2%), to ensure woman has an individual birth plan (51.1%), and breast feeding promotion (17.8%). The same information by region is presented in table 5-2.

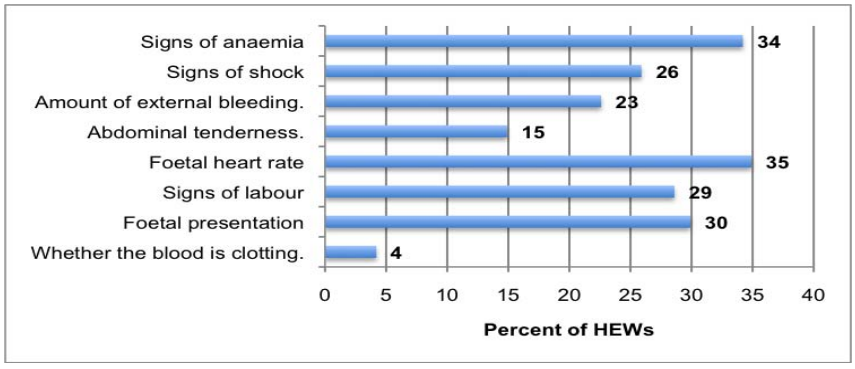
5.3. COMPLICATION DURING PREGNANCY

While ensuring women have individualized birth plans and preparing them for birth and preventing disease, HEWs are also expected to examine the pregnant women to identify risk factors, and provide relevant health education. Moreover, when pregnant women come with complications, HEWs should be able to identify signs of the major complications of pregnancy such as vaginal bleeding, severe anemia, and severe malaria. Since such pregnancy related complications are not managed by HEWs, the only expectation from HEWS is identifications of the signs and making appropriate decisions – specifically immediate referral.

5.3.1. Vaginal bleeding

HEWs were given a case study of a pregnant woman that presented with vaginal bleeding at 34 weeks of gestation. HEWs were asked to list the signs they should look for and what actions they would take. The most important danger signs that should be looked for in a 34 weeks pregnant woman who presents with vaginal bleeding are abdominal tenderness, signs of shock and anemia, and amount of external bleeding. The percent of HEWs who stated that they would look for signs of anaemia, signs of shock, amount of external bleeding, and abdominal tenderness were 34.2%, 25.9%, 22.6%, and 14.9%, respectively. The other responses of HEWs were to look for foetal heart rate (34.9%), foetal presentation (29.9%), signs of labour (28.6%), and whether the blood is clotting (4.2%).

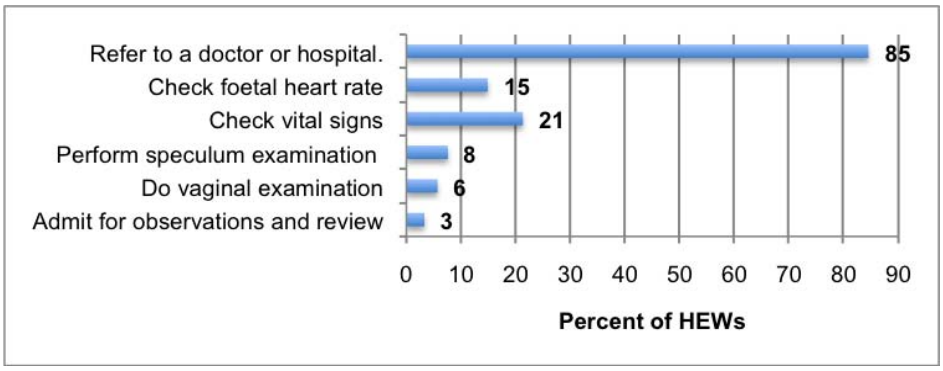
Figure 5-1: Percent of HEWs with knowledge of signs to look for in a pregnant woman with vaginal bleeding, rural Ethiopia 2010



The knowledge on identification of signs of pregnancy complications that need immediate intervention is critical for early referral by HEWs. HEWs, after looking for the danger signs, are expected to check the vital signs and immediately refer the woman without delay. They should not undertake any vaginal examination. To assess their knowledge on how to handle a pregnant woman with vaginal bleeding, HEWs were asked what they would have done if

they encounter such a case. The correct responses of HEWs in order of frequency were to refer to a doctor or hospital (84.5%), to check vital signs (21.3%), and check foetal heart rate (14.9 %). Although, the result is generally encouraging, the percent of HEWs who responded that they would do vaginal examination (5.7%) and speculum examination (7.6%) is not inconsequential. Similarly, there were some HEWs (3.3%) who would admit for observation and review.

Figure 5-2: Percent of HEWs who stated the actions they would take when a pregnant woman with vaginal bleeding is presented, rural Ethiopia 2010

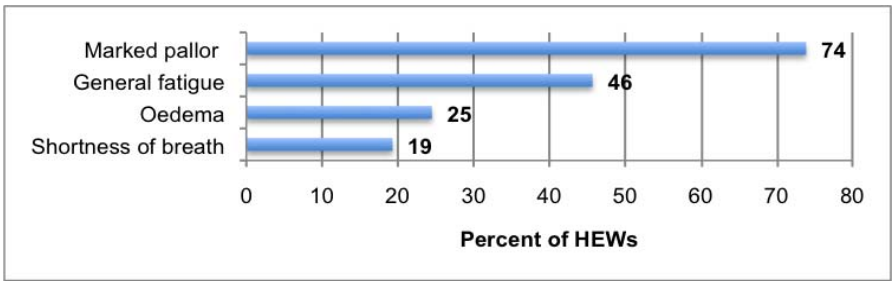


5.3.2. Severe anemia in Pregnancy

An important contributor to maternal mortality is anemia during pregnancy. Although, there is no laboratory service to diagnose anemia at the health post level, HEWs are expected to identify signs of severe anemia clinically during antenatal care. On physical examination, anemia is assessed qualitatively as this is a subjective assessment.

Presence of marked pallor and shortness of breath are the two important signs that HEWs are required to know in order to diagnose severe anemia in pregnancy. Pregnant women who developed severe anemia may require management at higher health facilities including blood transfusion, and HEWs should refer such cases immediately. HEWs were asked to list the signs they look for to diagnose severe anemia and what they do when a pregnant woman comes with severe anemia. The responses of HEWs in order of frequency were to look for marked pallor (73.9%), shortness of breath (19.3%), general fatigue (45.7%), and oedema (24.5%).

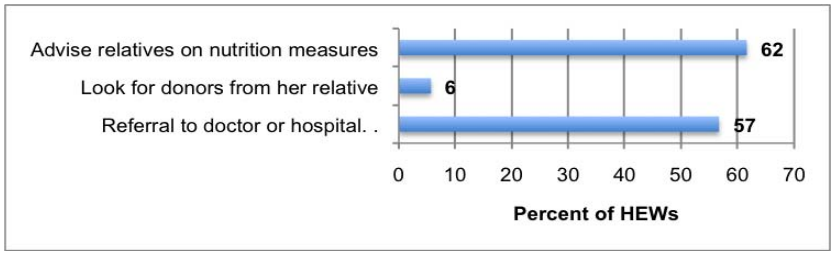
Figure 5-3: Percent of HEWs with knowledge of signs to look for in a pregnant woman with severe anemia, rural Ethiopia 2010



Once HEWs suspect that a pregnant woman has severe anemia, they are expected to refer her to higher health facility. To assess if HEWs are making the right decisions with a pregnant woman with severe anemia, HEWs were asked what they would have done if they

encounter such a case. The responses of HEWs in order of frequency were to advise relative on nutrition measures (61.6%), refer to a doctor or hospital (56.7%), and to look for blood donors from her relatives (5.7%). Over half of the HEWs were in position to make the correct decision (refer the patient) when they encounter a pregnant woman with severe anemia.

Figure 5-4: Percent of HEWs who stated the actions they would take when a pregnant woman with severe anemia is presented, rural Ethiopia 2010



5.3.3. Severe malaria in pregnancy

Malaria in pregnancy should be managed appropriately to prevent complications such as abortions, pre-term labor and maternal mortality. HEWs can treat uncomplicated malaria, but they should refer any patient with complicated malaria including pregnant women. In order for HEWs be able to refer patients with complicated malaria, they are required to identify the signs of severe malaria. The important signs HEWs should identify in a patient with severe malaria include high temperature (>38co), pallor, jaundice, and confusion/coma. HEWs were asked to list the signs they look for to diagnose severe malaria in a pregnant woman and what they do when a pregnant woman comes with such signs. Most of the responses of HEWs were signs of uncomplicated malaria. The severe malaria specific responses of HEWs in order of frequency were to look for high temperature (71.5%), confusion/coma (16.3%), pallor (10.3%), and jaundice (9.3%).

Table 5-3: Percent of HEWs who stated signs for severe malaria in pregnancy, rural Ethiopia 2010

Signs	Tigray	Afar	Amhara	Oromia	Benshangul	SNNP	Gambela	Dire Dawa	Harar	Somali	Total
High temperature	71.4	75	70.4	73.1	94.6	67.9	73.1	100	0	76.7	**71.5**
Sweating	34.9	25	44.7	46.8	72.9	27.7	47.6	0	50	25.9	**39.6**
Headache	68.1	75	57.7	76	89.3	62.1	81	100	100	68	**67.6**
Chills/ shivering	75.8	50	72.7	79.6	83.6	55	60	100	100	37.4	**68.7**
Poor appetite	63	100	49.6	65.3	69.2	57	54.1	0	50	13.1	**56.6**
Vomiting	49.8	50	53.7	28.1	94.6	53.9	58.6	0	0	10.2	**41.1**
Cough	6.2	0	7.8	12	54.7	4	21	0	0	8.3	**8.7**
Diarrhea	6.3	25	4.6	7.1	60	8.9	21.5	0	0	0	**7.1**
Pallor	25	0	10.2	9.5	50.9	4.9	16.2	0	0	21.1	**10.3**
Jaundice	14.3	25	9.4	5.1	54.7	13.2	14.3	0	0	7.3	**9.3**
Joint pains	40.6	25	32.3	42.6	45.6	39.1	42.1	100	50	33.9	**38.5**
Dizziness	6.3	25	10	5.9	45.6	12.2	27.4	0	0	10.9	**9.4**
Dehydration	5.1	25	4.7	7.1	54.7	10	4.2	0	0	12.5	**8**
Confusion/coma	32.5	25	21.3	7.2	27.3	22.7	12.7	0	0	13.5	**16.3**
Total number	35	4	79	97	12	64	80	1	2	21	**395**

5.4. DELIVERY SERVICE

HEWs are equipped with “safe birth kits” and provide assisted delivery, which can influence maternal mortality levels by ensuring safe and hygienic environment. Recognizing that most women in Ethiopia prefer to deliver at home, HEWS provide the service either at home or at the health post. HEWs are trained to employ partograph during delivery. HEWs are trained to manually perform controlled cord traction and uterine massage as well as administer an oxytocic drug immediately after delivery, which can significantly reduce post partum hemorrhage (PPH). Moreover, HEWs are trained to detect problems during labor early and refer to the closest health center, which provides CEMOC.

5.4.1. Establishing labor

The first step for HEWs in assisting delivery is establishing a woman is in labor. Thus, they are required to examine the woman and look for signs to establish labor. The important signs include regular uterine contraction associated with cervical dilatation and pain. HEWs were asked how they establish if a woman is in labor. The responses of HEWs in order of frequency were cervical dilatation (53%), regular uterine contraction (52.9%), breaking of water/ruptured membranes (35.7%), pain (39.6%), and show (37.4%).

Table 5-4: Percent of HEWs who knew the signs to establish a woman in labor, rural Ethiopia 2010

Region	Cervical dilatation	Regular uterine contraction	Pain	Show (bloody mucoid discharge)	Ruptured membranes	Total number
Tigray	53.5	66.2	50.5	46.1	36.4	35
Afar	0	0	0	0	0	4
Amhara	55.5	42	36.5	41.3	27.2	79
Oromia	60.9	60.9	45.2	39.7	44	97
Benshangul	70.8	85.5	60	54.7	56.5	12
SNNP	37.7	53.9	36	36	38.6	64
Gambela	25.1	27.1	35.7	16.7	18.9	80
Dire Dawa	100	100	0	0	0	1
Harari	0	50	100	0	100	2
Somali	65.2	41.4	28.6	15.9	12.4	21
Total	**53**	**52.9**	**39.6**	**37.4**	**35.7**	**395**

5.4.2. Monitoring of labor

Monitoring during labor is important to assess the progress and identify problems such as obstructed labor and eclampsia. Optimal labor monitoring includes measurement of foetal heart rate, assessment of cervical dilatation, descent of head, uterine contraction, degree of moulding, and maternal blood pressure. If HEP is to contribute to reduction of maternal mortality, HEWs should be able to undertake optimal monitoring of labor. HEWs were asked what observations or monitoring they carry out during labor.

The responses of HEWs on the type of observations they carry out during labor in order of frequency were assessment of cervical dilatation (52.9%), foetal heart rate (48.8%), maternal blood pressure (45.6%), descent of head (33.3%), uterine contraction (25.7%), maternal pulse (18.9%), maternal temperature (17.5%), degree of moulding (13.8%), maternal respiratory rate (11.4%), and check urine output (3.5%).

Table 5-5: Percent of HEWs who stated observations monitored during labor, rural Ethiopia 2010

	Tigray	Afar	Amhara	Oromia	Benshang	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Assess cervical dilatation	73	0	43.1	71.8	85.5	27.5	30.1	0	50	64.9	**52.9**
Monitor foetal heart rate pattern	52.3	0	48.8	42.4	89	61.5	33.8	100	50	45.1	**48.8**
Monitor maternal blood pressure	64.5	0	35.1	52.4	78.3	48.8	19.3	100	100	24.2	**45.6**
Assess descent of head	41.2	0	29.2	38.4	63.8	35.5	9.9	0	0	10.3	**33.3**
Monitor uterine contraction. .	34.3	0	25.9	30.7	54.7	18.5	9.2	0	0	20.4	**25.7**
Monitor maternal pulse	15.2	0	25.7	16	54.7	19.1	7.4	0	50	15.4	**18.9**
Monitor maternal temperature	30.9	0	15.5	13	71	27.3	10	0	0	2.9	**17.5**
Assess degree of moulding	27.8	0	16.4	14.2	63.8	5.9	6.4	0	0	18.3	**13.8**
Monitor maternal respiratory rate	9.6	0	13.7	11.4	63.8	10.6	8.6	0	0	4.4	**11.4**
Checked the urine	6.3	0	5	2.6	36.4	3	4.3	0	0	0	**3.5**
Total number	35	4	79	97	12	64	80	1	2	21	**395**

5.4.3. Obstructed labor

Obstructed labour is the major contributing factor for maternal and neonatal morbidity and mortality. Obstructed labour may lead into fetal distress, and potential death of the baby. The two main dangers of obstructed labour to the mother are fistula (usually in primips) and uterine rupture (usually in multigravida), if the mother doesn't die. She is also at risk of developing other life threatening complications. To prevent the complications of obstructed labour, the women should be referred to higher health facilities with COEmS. The expectation from HEWs is to identify such cases (using key signs) and refer immediately, possibly after ensuring continuous drainage of the bladder.

Although the signs of obstructed labour are many and could be overwhelming to HEWs, they are required to know key signs of obstructed labour so that they can refer the mother early. The key signs that the HEWs should be able to look for while monitoring labour, or when a woman in labour presents to them include maternal distress, no descent of presenting part, no change in cervical dilatation, Bandl's ring and severe moulding.

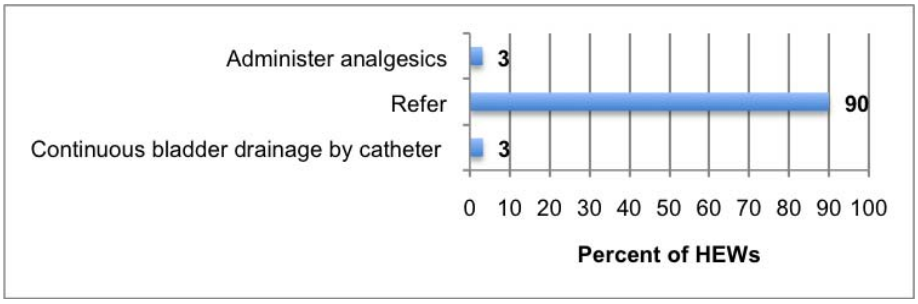
To assess their knowledge in diagnosing obstructed labour, HEWs were asked to list the key signs of obstructed labour. The signs of obstructed labour stated by HEWs in order of frequency were maternal distress (30.8%), no descent of presenting part (24.9%), no change in cervical dilation (27.2%), fetal distress (21%), first stage exceeding more than 12 hours (16.5%), second stage >2 hours (11.4%), inadequate pelvis (10.3%), hot dry vagina (9.8%), foetal death (9.6%), bandles ring (7%), severe moulding (5.8%), and caput formation (2.3%).

Table 5-6: Percent of HEWs who stated signs of obstructed labour, rural Ethiopia 2010

	Tigray	Afar	Amhara	Oromia	Benshangul	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Maternal distress	43.2	50	25.1	41.3	72.9	22	12.4	0	0	5.7	**30.8**
No descent of presenting part	22.7	0	28.1	23.5	71	23.1	10	0	0	32.2	**24.9**
No change in cervical dilation	36.6	0	18.5	31.5	69.2	23.4	6.6	0	0	43.9	**27.2**
Foetal distress	28.5	0	15.4	27.3	60	19.7	13.1	0	0	4.4	**21**
First stage exceeds more than 12 hours	0	0	17	18.8	32.7	17.4	5.3	100	0	13.5	**16.5**
The second stage is >2 hours,	22.7	0	11.7	9.9	36.4	6.9	1.1	100	0	27.1	**11.4**
Inadequate pelvis	27.7	0	12.2	5.4	18.2	13.8	8.1	0	0	8	**10.3**
Hot dry vagina	22.2	0	17.3	5.8	29.2	9	2.1	0	0	0	**9.8**
Foetal death	19.8	0	10.8	10.2	45.6	7.7	4.3	0	0	0	**9.6**
Bandles ring	9.7	0	7	7.7	36.4	5.5	0	0	0	5.7	**7**
Severe moulding	18.8	0	5.4	8.6	36.4	0	1.1	0	0	0	**5.8**
Caput	6.4	0	3	2.9	27.3	0	0	0	0	0	**2.3**
Total number	35	4	79	97	12	64	80	1	2	21	**395**

To assess how HEWs manage women with obstructed labour, they were asked what actions they would take when encounter a woman with obstructed labour. The responses of HEWs in order of frequency were refer to higher health facility (90%), continuous bladder drainage by catheter (3.3%), and administer analgesics (3.2%).

Figure 5-5: Percent of HEWs who stated the actions taken with obstructed labour, rural Ethiopia 2010

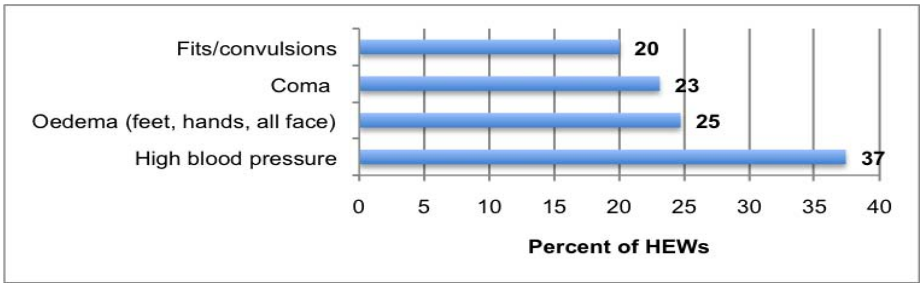


5.4.4. Eclampsia

Eclampsia is defined as the occurrence of convulsions not caused by any coincidental neurological disease such as epilepsy in a woman whose condition also meets the criteria for preeclampsia. Pregnancy induced hypertension and preeclampsia occurs in about 15% of all pregnancies at term and it is a major contributor to maternal and perinatal morbidity and mortality. Since the only treatment is delivery through induction of labour to prevent maternal and neonatal complications, HEWs should be able to recognize the signs and refer immediately to higher health facilities. Knowledge of HEWs was assessed regarding signs of eclampsia.

The responses of HEWs on the signs of eclampsia in order of frequency were high blood pressure (37.4%), oedema of feet, hands, and all face (24.7%), coma (23.1%) and fits/convulsions (20%).

Figure 5-6: Percent of HEWs who kew the key signs of eclampsia, rural Ethiopia 2010



5.4.5. Bleeding after delivery

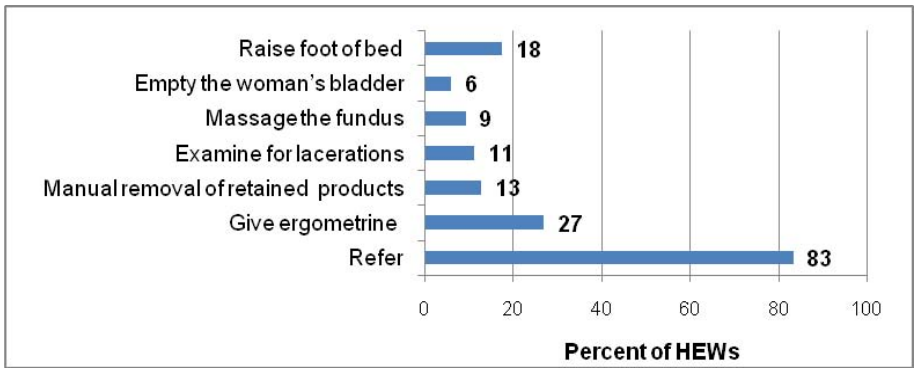
Post partum haemorrhage (PPH) is one of the leading causes of maternal mortality. HEWs are trained to manage PPH and immediately refer mothers who may need the care of higher health professionals. To assess their knowledge, HEWs were asked to state the key signs that they would look when a woman comes with or develops bleeding following delivery. The responses of HEWs on the key signs, in order of frequency, were to look for retained products/placenta (37.2%), signs of shock such as dizziness and low blood pressure (35.7%), amount of external bleeding (25.8%), and uncontracted uterus (16.1%). Other responses included signs of anaemia (32.3%), genital tract injuries (30.3%), and check if bladder is full (7.7%).

Table 5-7: Percent of HEWs who stated signs to look for in a woman with or develops heavy bleeding following delivery, rural Ethiopia 2010

Signs	Retained products/ placenta	Signs of shock	Amount of external bleeding	Uncontracted uterus	Signs of anaemia	Genital tract injuries	Check if bladder is full	Total number
Tigray	70.8	24.4	18.7	18.7	15.4	58.8	6.6	35
Afar	0	0	50	0	25	25	0	4
Amhara	34.9	44.6	24	11.6	29.4	15.3	7.4	79
Oromia	38.1	37.7	33.8	24.1	38.9	33.5	8.4	97
Benshangul	60	54.7	78.3	54.7	71	85.5	69.2	12
SNNP	36.1	25	14.4	10.4	23.3	37.3	8.3	64
Gambela	9.7	19.5	11.9	2.1	20.5	14.2	2.1	80
Dire Dawa	0	100	100	0	0	0	0	1
Harari	0	50	50	0	0	0	0	2
Somali	25.9	46.9	21.7	5.1	49.7	18.3	0	21
Total	**37.2**	**35.7**	**25.8**	**16.1**	**32.3**	**30.5**	**7.7**	**395**

To assess how HEWs manage women who come or develop heavy bleeding following delivery, they were asked what actions they would take when encountered such a case. The responses of HEWs in order of frequency were refer (83.2%), give ergometrine IM (26.9%), manual removal of retained products (12.8%), examine the woman for laceration (11.2%), massage the fundus (9.3%), and empty the woman's bladder (6.1%). Generally, about one in ten HEWs knew the basic actions of massaging the fundus and emptying the woman's bladder, and a quarter knew provision of ergometrine, measures that should be practiced by each HEW when a woman comes with or develops heavy bleeding following delivery.

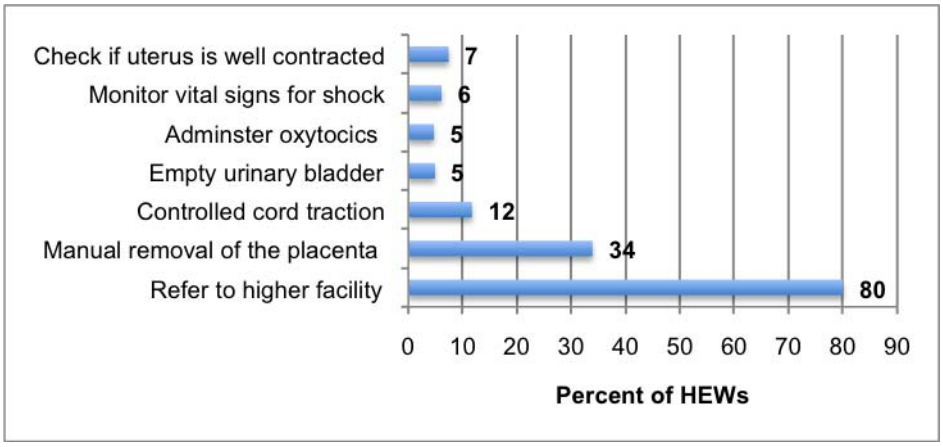
Figure 5-7: Percent of HEWs who stated the actions taken when a woman comes with or develops heavy bleeding following delivery, rural Ethiopia 2010



5.4.6. Retained placenta

Retained products and placenta is a major cause of PPH, and it is a condition that can be managed by HEWs. To assess how HEWs manage a woman with retained placenta, they were asked what action they take when a woman they just delivered has a retained placenta. The response of HEWs on the key action they would do to manage a case of retained placenta were apply manual removal of the placenta (33.9%), apply controlled cord traction (11.7%), empty urinary bladder (4.9%), and provide oxytocics (4.7%). Majority (80%) also stated that they would refer the patient to higher health facility.

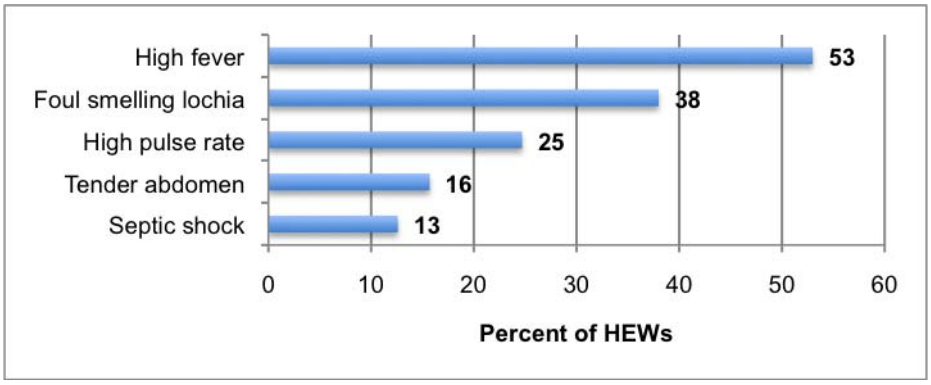
Figure 5-8: Percent of HEWs who stated the actions taken to manage retained placenta, rural Ethiopia 2010



5.4.7. Infection during labor

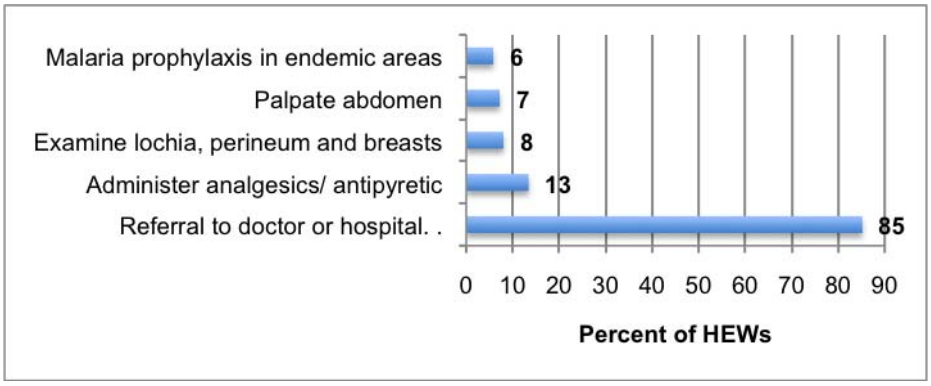
Labour complicated with infection is one of the challenges in Ethiopia because most deliveries are not assisted by skilled personnel and occur at home where safe and hygienic environment cannot be ensured. Management of labour complicated with infection can only be undertaken in facilities with basic emergency services. HEWs are required to diagnose such cases and refer to the next health facility for appropriate management. In order for HEWs to refer such cases on time and contribute in the reduction of maternal mortality they should be able to identify signs of complicated labour with infection. To assess their knowledge and skills in diagnosing complicated labour with infection, they were asked to list the signs of complicated labour with infection. The response of HEWs, in order of frequency, were high fever (53%), foul smelling lochia (38%), high pulse (24.7%), septic shock/unrecordable blood pressure (12.6%), and tender abdomen (15.7%).

Figure 5-9: Percent of HEWs who stated the signs of complicated labour with infection, rural Ethiopia 2010



To assess how HEWs manage women with complicated labour with infection, they were asked what actions they take when a woman comes with complicated labour with infection 48 hours after delivery. The response of HEWs in order of frequency were referral to doctor or hospital (85.2%), administer analgesics/antipyretic (13.4%), examine lochia, perineum and breasts (8%), palpate abdomen (7.2%), and malaria prophylaxis in endemic areas (5.8%).

Figure 5-10: Percent of HEWs who stated the actions taken when a woman comes with complicated labour with infection 48 hours after delivery, rural Ethiopia 2010



5.5. NEWBORN CARE

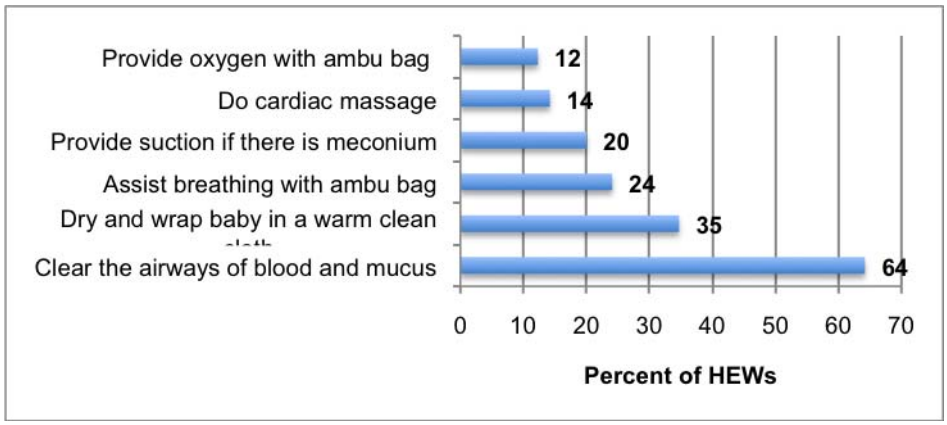
Immediately after delivery, HEWs provide life-saving care of newborns such as wiping the face after birth of head, ensuring the baby is breathing, clearing the airways of blood and mucus, cord care, drying and wrapping the newborn in a warm clean clothing and assisting breathing with ambu bag. They weigh the newborns; and administer BCG and polio immunizations prior to discharge. They are also equipped with the skills to handle low-birth weight newborns to ensure thermal protection. HEWs provide necessary advice and instructions on breast feeding, nutrition, and encourage mothers to initiate breast-feeding early. The immediate care given to newborn is critical in saving life. To assess HEWs' knowledge and skills in providing immediate care to newborn, HEWs were asked to list the immediate care they give to newborn while attending to a delivery. The responses of HEWs in order of frequency were initiate breast feeding within one hour (54 %), wipe the face after birth of the head (52.9%), ensure baby is breathing (51.8%), cord care with sterile cut 4 – 6 cm from umbilicus (50.4%), thermal protection (47.2%), weigh the baby (37.4%), assess/examine newborn within one hour (12.3%), and eye prophylaxis (11.2%).

Table 5-8: Percent of HEWs who stated the immediate care given to newborn, rural Ethiopia 2010

Region	Initiate breast feeding within 1 hr	Wipe face after birth of head	Ensure baby is breathing	Cord care (sterile cut 4 – 6 cm umbilicus)	Thermal protection	Weigh the baby	Examine newborn within 1 hr	Eye prophylaxis	Total number
Tigray	36.2	54.2	65.8	63.9	44.8	21.5	19	10.3	35
Afar	0	0	0	0	0	0	0	0	4
Amhara	53.1	63.1	57.4	40.3	39.6	24.1	9.2	6.8	79
Oromia	59.1	53.1	59.5	58.3	53.4	49.9	21.6	8.5	97
Benshangul	60	74.5	60	79.9	50.9	74.5	61.7	50.9	12
SNNP	61	47.1	34.7	52	51.4	40	1.7	8.4	64
Gambela	21.8	42.3	28.3	42.9	24	17.5	5.3	26.3	80
Dire Dawa	100	0	0	100	100	0	0	100	1
Harari	0	50	100	0	0	0	50	100	2
Somali	28.6	46	51.1	31.7	35.8	20.4	0	49.9	21
Total	**54**	**52.9**	**51.8**	**50.4**	**47.2**	**37.4**	**12.3**	**11.2**	**395**

To assess how HEWs manage a newborn with breathing difficulty, they were asked what actions they take when a newborn fails to breathe at birth. The response of HEWs in order of frequency were to clear the airways of blood and mucus (64.2%), dry and wrap baby in a warm clean cloth (34.7%), assist breathing with ambu bag (24.1%), provide suction if there is meconium (20%), do cardiac massage (14.2%), and provide oxygen with ambu bag (12.3%).

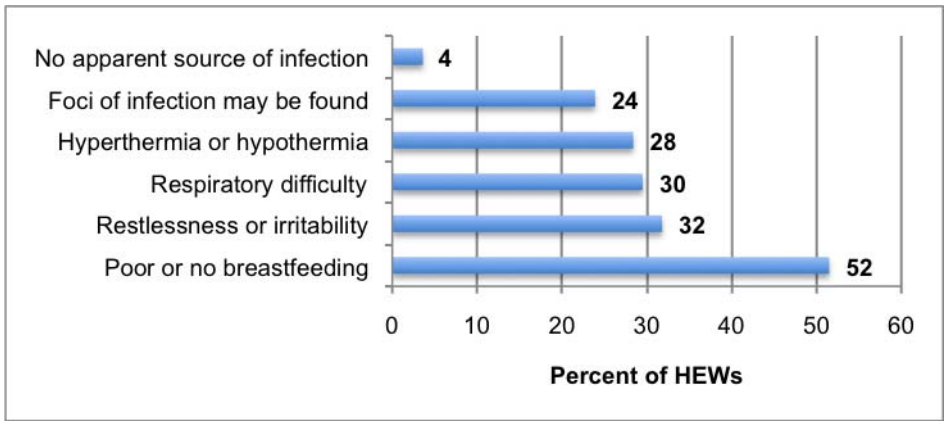
Figure 5-11: Percent of HEWs who stated the actions taken when a newborn fails to breath at birth, rural Ethiopia 2010



5.5.1. Newborn infection (sepsis)

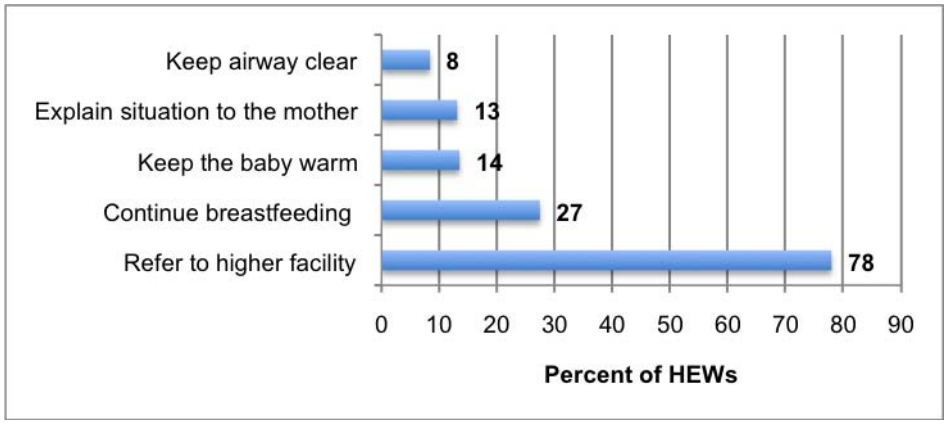
Although, HEWs are not allowed to treat newborn infections, they are required to know the signs and symptoms of infection in the newborn (sepsis) so that they can council the mother and refer to higher health facility. To assess their knowledge in diagnosing newborn with sepsis, HEWs were asked to list the signs and symptoms of infection in the newborn. The responses of HEWs in order of frequency were poor or no breastfeeding (51.5%), restlessness or irritability (31.8%), respiratory difficulty (29.5%), hyperthermia or hypothermia (28.4%), foci of infection may be found in throat, skin, eyes (23.9%), and no apparent source of infection (3.6%).

Figure 5-12: Percent of HEWs who stated the signs of infection in the newborn, rural Ethiopia 2010



To assess how newborn babies with infection are handled in the villages, HEWs were asked what actions they take when a newborn is presented with signs of infection. The response of HEWs in order of frequency were to refer (77.9%), continue breastfeeding (27.4%), keep the baby warm (13.5%), explain situation/condition to the mother (13.1%), and keep airway clear (8.4%).

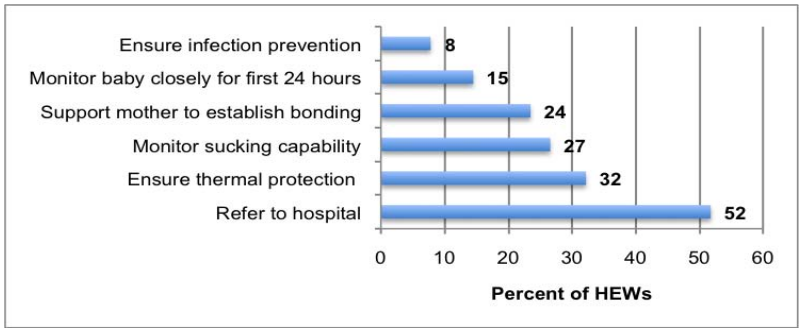
Figure 5-13: Percent of HEWs who stated the actions taken when a newborn with signs of infection is presented, rural Ethiopia 2010



5.5.2. Low birth weight newborn

One of the immediate care HEWs provide to newborn is thermal protection by drying and wrapping the newborn in warm clean clothing, which is particularly critical in newborn weighing less than 2.5kgs. Health posts are equipped with baby weighing scales and HEWs weigh the newborns before discharging the mother; and if the newborn is under-weight, HEWs are equipped with the skills to handle low-birth weight newborns. In addition to ensuring thermal protection, HEWs are expected to provide extra support to mother to establish bonding, to monitor baby closely for 24 hours, and to ensure infection prevention. These measures help in the survival of the low-birth weight newborns. To assess if HEWs have adequate knowledge and skills and undertake these key measures, they were asked what actions they take when a newborn weighs less than 2.5kgs. The responses of HEWs on the actions they take when a newborn weighs less than 2.5kgs in order of frequency were refer to hospital (51.8%), ensure thermal protection eg. skin to skin (32.2%), monitor sucking capability (26.8%), provide extra support to mother to establish bonding (23.5%), monitor baby closely for first 24 hours (14.5%), and ensure infection prevention (7.8%).

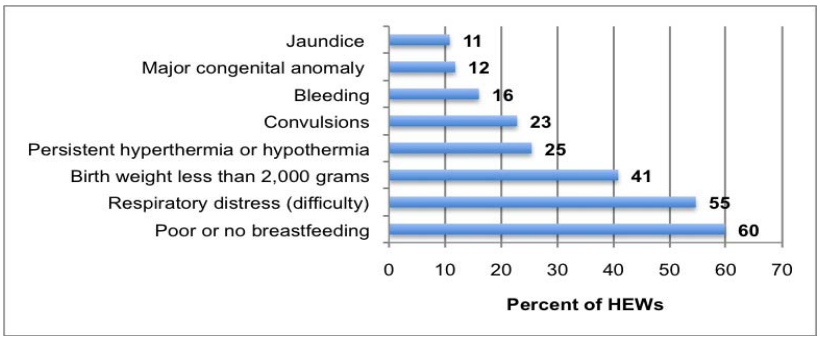
Figure 5-14: Percent of HEWs who stated the actions taken with low birth weight newborn, rural Ethiopia 2010



5.5.3. Illnesses that require immediate referral

To assess the overall knowledge of HEWs on cases of newborn babies that require immediate referral to higher health facilities, HEWs were asked to list illnesses of newborn babies, which should be referred. The most commonly stated illnesses of newborn babies, in order of frequency, were when a newborn baby is presented with poor or no breastfeeding (59.8%), respiratory distress (54.6%), birth weight less than 2000gms (40.8%), persistent hyperthermia or hypothermia (25.4%), and convulsions (22.8%).

Figure 5-15: Percent of HEWs who stated illnesses of newborn babies that need referral to higher facilities, rural Ethiopia 2010



5.6. CHILD CARE

5.6.1. Integrated childhood illnesses management (IMCI)

Pneumonia, diarrhea, malaria, measles, and malnutrition contribute to majority of deaths among children under the age of 5 years. HEP adopted an integrated childhood illnesses management (IMCI) to identify the problems that children have in their living areas and at the health posts. Integrated management of childhood illnesses entails not only solving the problem that the child has but also solving the all round problems of the child, which requires looking for other illnesses the child might have, checking for danger sings, checking the vaccination status, undertaking growth monitoring and nutritional assessment.

To assess the knowledge of HEWs on IMCI and status of actual implementation of IMCI, HEWs were asked what they look for or ask if a sick child comes for help. The responses of HEWs were check for the presence of cough, diarrhea, and fever (54.8%), check for the four general danger signs (36.5%), ask caretaker of child < 2 yrs about breastfeeding and complementary foods (27.4%), check vaccination status (26.2%), check weight against a growth chart (22.4%), and ask if other family members had sickness in last 15 days (12.5%).

Table 5-9: Percent of HEWs who stated what to check or ask if a sick child comes for help, rural Ethiopia 2010

Region	Check for cough, diarrhea and fever	Check for the four general danger signs	Ask about breastfeeding & complementary foods (<2yrs child)	Check vaccination status	Check weight against a growth chart	Ask if other family members had illness in last 15 days	No. of HEWs
Tigray	60.3	40.3	32.4	39.6	19.6	9.9	35
Afar	43.1	0.0	0.0	14.4	0.0	0.0	4
Amhara	52.7	48.3	29.6	35.1	17.7	8.2	79
Oromia	51.4	41.2	24.1	23.1	29.7	17.6	97
Benshang	73.5	72.1	47.0	67.3	39.2	43.8	12
SNNP	60.4	21.2	32.4	20.5	20.4	11.8	64
Gambela	43.1	20.3	15.0	10.6	0.9	8.7	80
Dire Daw	33.3	0.0	33.3	0.0	0.0	0.0	1
Harar	20.0	0.0	0.0	0.0	0.0	0.0	2
Somali	63.7	24.8	25.1	23.3	13.0	2.7	21
Total	54.8	36.5	27.4	26.2	22.4	12.5	**395**

Following the assessment based on the strategy of IMCI of a sick child who was presented to HEWs, HEWs are expected to decide what to do with the sick child. HEWs are expected to undertake the following: segregate simple diseases from the severe ones, urgently refer those children with severe illnesses to the next health facility, and decide what can be done for the child with simple illness, what kind of care can be given at his home and what can be done to him if his illness gets severe. Moreover, HEWs provide education on how to prevent these diseases and provide vaccination services.

HEWs were asked to list for the various possible measures they could take when a sick child is presented to them. The responses of HEWs in order of frequency were child needing referral is referred (79.7%), caretaker of sick child is advised to give extra fluids and continue feeding (32.7%), child needing oral anti-pain or anti-malarial is prescribed the drug(s) (30.8%), a child needing oral antibiotic is prescribed the drug(s) (23.3%), child needing vaccinations leaves facility with all needed vaccines (21.7%), and caretaker of child who is prescribed ORS, and/or an antimalarial can describe how to give the treatment (18.1%).

Table 5-10: Percent of HEWs who stated the measures taken with a sick child, rural Ethiopia 2010

Region	Child needing referral is referred	Caretaker is advised to give extra fluids and continue feeding	Child needing oral antipain/ anti-malarial is given the drug(s)	Child needing oral antibiotic is given the drug(s)	Child needing vaccination leaves facility with all needed vaccines	Caretaker of child who is prescribed drugs can describe how to give the treatment	Total number
Tigray	75.8	14.8	41.3	13	46.8	10.5	35
Afar	25	25	0	0	25	25	4
Amhara	89.1	37.7	31.2	30.5	25.5	15.6	79
Oromia	82.8	36.1	24.3	20.6	15.8	22.2	97
Benshangul	83.6	80.1	65.7	67.3	50.9	27.3	12
SNNP	75.3	31.2	37.7	17	16.2	15.9	64
Gambela	51.3	16.8	28	28.3	3.2	4.3	80
Dire Dawa	0	100	0	0	0	0	1
Harari	0	0	0	0	0	0	2
Somali	62.1	10.8	37.6	45.3	41.8	16.2	21
Total	**79.7**	**32.7**	**30.8**	**23.3**	**21.7**	**18.1**	**395**

5.6.2. Danger signs

To undertake IMCI, HEWs have been trained on the use of indicative signs (danger signs) of severe diseases to refer the sick child without delay to the next level of health facility. The danger signs include 1) when the child cannot drink or breast feed; 2) when the child vomits when breastfeeding or vomits immediately after food; 3) when shivering; and 4) when the child is weak or unconscious. When a child is presented with one or the other danger signs, the child should be urgently referred by HEWs to the next higher health facility.

To assess HEWs knowledge on the danger signs, they were asked to list the signs that would make them refer a child to the next level of health facility. The response of HEWs in order of frequency were when the child is not eating or drinking (47.6%), is lethargic/abnormally sleepy/ unconscious (44.5%), has a very high fever (43.5%), looks very unwell (41.8%), vomits everything (36.5%), has severe pneumonia (34.8%), has severe dehydration (32.8%), has severe malnutrition/anemia (28.4%), has not responded to usual treatment (22.3%), and/or has had convulsions (21%).

Table 5-11: Percent of HEWs who stated danger signs that indicate referral of a child, rural Ethiopia 2010

Region	Child is not eating or drinking	Child is lethargic/ abnormally sleepy/ unconscious	Child has a very high fever	Child looks very unwell	Child vomits every thing	Child has severe pneumonia	Child has severe dehydration	Child has severe malnutrition/ anemia	Child has not responded to usual treatment	Child has had convulsion	Total no.
Tigray	40.7	52	50.1	56.1	23.3	43.6	23.5	42	34.7	22.6	35
Afar	25	0	25	25	25	0	0	0	25	0	4
Amhara	42.6	57.7	40.5	28.2	37.1	38.2	26.4	24.2	21.3	29.8	79
Oromia	56.5	43.8	46.3	55.2	34.1	30.5	31.5	28.9	26.9	13.3	97
Benshangul	72.9	72.9	94.6	69.2	78.3	65.4	69.2	63.8	83.9	36.4	12
SNNP	39.8	37.3	46.9	38	50.1	38.1	41	25.3	10.6	24.5	64
Gambela	25.4	24.8	20.6	39.4	17.8	12.3	21.2	10.6	37	10.6	80
Dire Dawa	0	0	0	0	0	100	100	0	0	0	1
Harari	50	0	0	100	0	0	50	0	0	0	2
Somali	51.7	30.9	28.1	16.1	7.3	35	44.1	46.9	24.5	24	21
Total	**47.6**	**44.5**	**43.9**	**41.8**	**36.4**	**34.8**	**32.8**	**28.4**	**22.3**	**21**	**395**

5.6.3. Acute respiratory infections (ARI)

HEWs encourage home management of simple coughs and cold without medicine, and advice the family to bring the child, if there are suggestive signs that the illness is getting worse. HEWs are trained to refer a child to next health facility if the child comes with severe pneumonia, or if cough has been for more than 30 days.

To assess if children with severe pneumonia are appropriately diagnosed, HEWs were asked to identify the indicative of severe ARI. The responses of HEWs in order of frequency were cough (62.6%), fever (60.7%), fast or difficulty breathing (60.4%), chest in drawing (41.1%), poor appetite (32.2%), vomiting (17.5%), convulsions (9.5%), unconsciousness (9.3%), and skin discoloration (6.1%).

Table 5-12: Percent of HEWs who stated indicative signs of sever ARI, rural Ethiopia 2010

Region	Cough	Fever	Fast or difficulty breathing	Chest in drawing	Poor appetite	Vomiting	Convulsion	Unconsciousness	Skin discoloration	Total no.
Tigray	71.8	71.7	66.4	38.8	43.4	19.4	12.7	11.5	3.2	35
Afar	75	50	0	0	50	25	0	0	0	4
Amhara	50.9	54.9	63.8	53	23.2	8.4	10.1	8.2	11.8	79
Oromia	68.2	63.9	55	31.7	46.7	21.1	8.1	12.2	4.9	97
Benshangul	89.3	78.3	89.3	83.6	72.9	83.9	63.8	69.2	63.8	12
SNNP	61.3	55.5	62.9	49.9	18.7	19.7	11.8	6.7	3.6	64
Gambela	71.9	54.6	40.9	25.6	25.2	21.5	14.6	1.1	2.1	80
Dire Dawa	100	100	0	100	0	0	0	0	0	1
Harari	50	100	50	50	0	50	0	0	0	2
Somali	63.2	73.4	78.6	28.8	13.4	10.5	0	0	0	21
Total	**62.6**	**60.7**	**60.4**	**41.1**	**32.2**	**17.5**	**9.5**	**9.3**	**6.1**	**395**

Seriously sick children with severe pneumonia require medicine (antibiotics), which was not provided at the health post level. To assess how children with ARI were managed at the community level, HEWs were asked what basic messages for counseling/education they give when a child comes with ARI. The responses of the HEWs were information on when, where and how to bring the child with pneumonia (40.8%); and home management of simple coughs and colds without medicine (39.6%), and detection of early pneumonia using simple signs like rapid breathing and chest in drawing (28.9%).

Table 5-13: Percent of HEWs who stated the basic messages given when a child comes with ARI, rural Ethiopia 2010

Region	Information on when and where to bring the child with pneumonia	Home management of simple coughs and colds	Detection of early pneumonia using simple signs like rapid breathing and chest in drawing	Total no.
Tigray	42.4	32.5	44	35
Afar	0	0	0	4
Amhara	55.7	32.6	25.9	79
Oromia	33.9	53.9	26.2	97
Benshangul	76.4	89.3	72.9	12
SNNP	40.7	26.1	34.1	64
Gambela	14.2	35.1	10.7	80
Dire Dawa	0	0	0	1
Harari	0	0	0	2
Somali	35.5	40.4	29.1	21
Total	**40.8**	**39.6**	**28.9**	**395**

5.6.4. Diarrheal disease

All HEWs manage diarrheal diseases through education, demonstration, and provision of ORS and homemade fluids to prevent child morbidity and mortality due to diarrheal diseases, and contribute in reaching the MDG-4. If the child has moderate or no dehydration, they manage the case at the village level. HEWs are also trained to identify children with severe dehydration and urgently refer to higher-level health facilities.

To assess their knowledge in the management of children with diarrhea, they were asked what advice they give to a mother of a child with diarrheal disease. The response of HEWs in order of frequency were to give the child more fluids than usual to prevent dehydration (80.8%), continue to feed the child (64.2%), bring the child to the health post if child doesn't become better in 3 days or earlier (26.2%).

Table 5-14: Percent of HEWs who stated the advice given when a diarrhea case is presented, rural Ethiopia 2010

Region	Give child more fluids than usual to prevent dehydration	Continue to feed the child	Take child to the HP if child doesn't become better in 3 days or earlier	Total number
Tigray	94.2	66.3	48.3	35
Afar	50	0	0	4
Amhara	90.7	75.7	20.6	79
Oromia	73.1	61.6	34.5	97
Benshangul	89.3	83.6	72.9	12
SNNP	82.5	65.6	13.1	64
Gambela	73.9	42.1	16.3	80
Dire Dawa	0	0	0	1
Harari	100	0	0	2
Somali	81.1	46	29.8	21
Total	**80.8**	**64.2**	**26.2**	**395**

5.6.5. Nutrition

Malnutrition and other related diseases significantly contribute to deaths in children under the age of 5 years. For this reason, nutrition is one of the service packages of HEP, and HEWs are expected to undertake growth monitoring, breast feeding, supplementary feeding, education and demonstration of nutritious food preparation among others.

HEWs were asked to list the basic messages for education or counseling they need to emphasize for a proper nutrition services. The responses of HEWs on the basic messages they need to emphasize for proper nutrition were balanced diet (71%), importance of breastfeeding and weaning foods (52.7%), cleanliness during food preparation (42.2%), desirable food habit (36%), consumption of fortified food (17.1%) and use of iodized salt (10.6%)

Table 5-15: Percent distribution of HEWs' response on basic messages for counseling for proper nutrition

Region	Balanced diet	Importance of breastfeeding and weaning foods	Cleanliness during food preparation	Desirable food habit	Consumption of fortified food	Use of iodized salt	Total no.
Tigray	94.1	40	29	33.8	17	17.6	35
Afar	50	0	100	0	0	0	4
Amhara	67.9	60.5	45.2	44.9	21.4	7.1	79
Oromia	77.7	54.3	47	38.9	14	16.8	97
Benshangul	100	54.7	54.7	69.2	60	74.8	12
SNNP	63.6	43.9	39.6	28.5	20.8	3.6	64
Gambela	55	20.6	19.3	21	3.2	6.5	80
Dire Dawa	100	100	0	0	0	0	1
Harari	50	50	0	0	0	0	2
Somali	54.6	71.6	10.3	23.3	8.3	2.2	21
Total	**71**	**52.7**	**42.2**	**36**	**17.1**	**10.6**	**395**

5.7. FAMILY PLANNING

The aim of the family planning service package is to provide correct information on family planning services and raise their awareness on the types and utilization of different

contraceptives so that they benefit from the available services depending on their choices. During counseling, HEWs are expected to make emphasis on where to get when they need additional information on contraceptive methods and services; on the types, names, nature and usage of contraceptives; on the side effects and contraindications of contraceptives, and what action to take when there are problems; and rumors and harmful beliefs related to contraceptives and those that affect family planning services.

To evaluate if HEWs have comprehensive knowledge on counseling information, they were asked to list the counseling information they give when a mother comes for family planning services. The responses of HEWs on the counseling information were to provide information about all methods (76%), benefits of various methods (63.3%), about risk of methods (56.9%), and about effectiveness of methods (56.8%).

Table 5-16: Percent distribution of HEWs' response on counseling for family planning

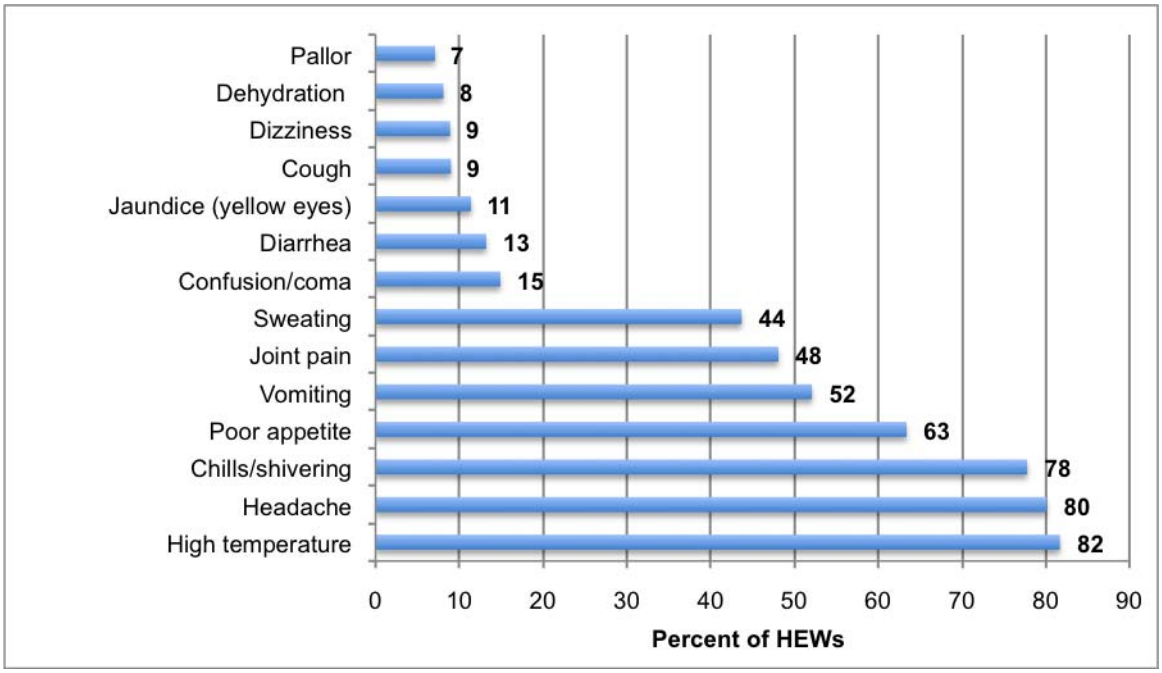
Region	About all methods	Benefits of various methods	About risk of methods	About effectiveness of methods	Total number
Tigray	94.1	53.3	63.1	42.3	35
Afar	100	75	0	25	4
Amhara	81.2	70.8	58.3	75.8	79
Oromia	79.9	73.1	64.7	58.3	97
Benshangul	89	94.6	78.3	94.6	12
SNNP	70.6	49.8	43.9	46.7	64
Gambela	55.2	48.8	22.8	25.9	80
Dire Dawa	0	0	0	100	1
Harari	50	50	100	50	2
Somali	35.1	31.4	62.1	33.2	21
Total	**76**	**63.3**	**56.9**	**56.8**	**395**

5.8. MALARIA

Malaria is one of the major health problems in Ethiopia. Recognizing that malaria cases should be treated promptly with effective anti-malarial drugs, the government incorporated treatment of uncomplicated malaria cases at the health post level. To undertake appropriate management of malaria cases, HEWs were trained to diagnose and treat patients with uncomplicated malaria.

To assess HEWs' knowledge on the signs and symptoms of uncomplicated malaria, they were asked to list the signs and symptoms of a malaria case. The signs and symptoms of malaria mentioned by majority of HEWs, in order of frequency, were high temperature above 38^0c (81.7%), headache (80.1%), chills/shivering (77.8%), poor appetite (63.4%), vomiting (52.1%), joint pain (48.1%), and sweating (43.7%). The other responses of HEWs are also shown in the figure.

Figure 5-16: Percent distribution of HEWs' responses on the signs of a malaria patient



Majority (82%) of HEWs reported that they use RDT for the diagnosis of malaria except when there was stock-out of RDTs. HEWs were asked for the management approach when the RDT result is negative for *P. falciparum*. About a third (35%) of HEWs stated that they treat the patient with chloroquine, and 10% stated they treat the patient with ant-pyretics. Another 31% of HEWs reported that they refer the patient to higher health facility, while 29% of HEWs stated that they still treat the patient with Coartem.

Figure 5-17: Percent of HEWs who diagnose malaria using RDT by region, rural Ethiopia 2010

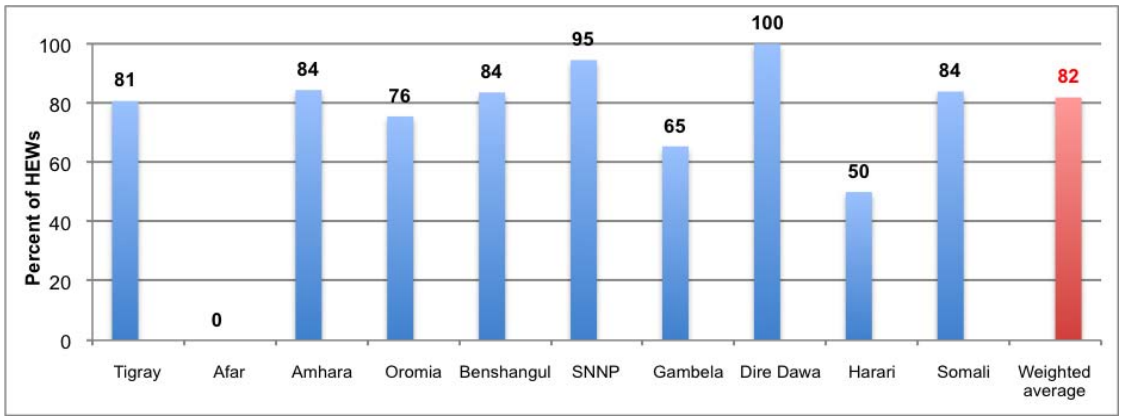
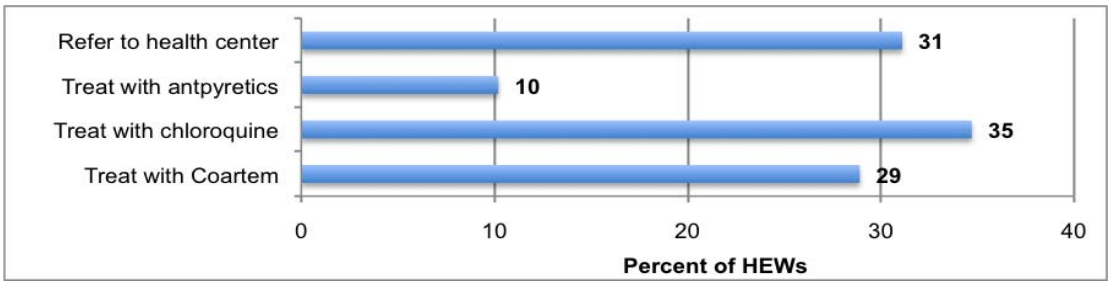


Figure 5-18: Measures taken by HEWs when the RDT result is negative for P. falciparum, rural Ethiopia



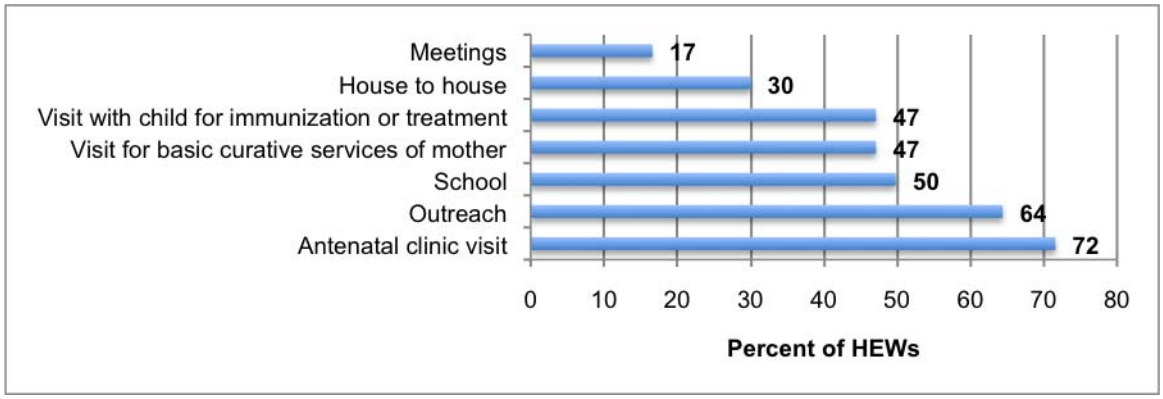
5.9. IMMUNIZATION AND VITAMIN A SUPPLEMENTATION

One of the health service packages of HEP is immunization of children and mothers along with Vitamin A supplementation. To determine practice and knowledge of HEWs on vaccination, HEWs were asked if they have ever provided vaccination service, and the schedule for each of the vaccines.

Table 34: To whom do you give tetanus toxoid?

	Tigray	Afar	Amhara	Oromia	Benshangul	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
Pregnant women	92.1	100	78.1	78	100	82.8	82.1	100	100	60.4	79.2
Women of childbearing:age15-49. .	86.5	100	97.4	92.7	100	93.8	83.9	100	50	89.5	93.7
Total number	35	4	79	97	12	64	80	1	2	21	395

Figure 5-19: Percent of HEWs who stated the opportunities for tetanus toxoid vaccination, rural Ethiopia 2010



5.10. DISCUSSION AND RECOMMENDATIONS

Competence encompasses knowledge, skills, abilities, and traits. It is gained in the healthcare professions through pre-service education, in-service training, and work experience. Competence is a major determinant of provider performance as represented by conformance with various clinical, non-clinical, and interpersonal standards. Measuring competence is essential for determining the ability and readiness of health workers to provide quality services and improve outcomes.

Antenatal Care

The awareness of HEWs on the two most important uses of ANC (namely ensuring a woman has individualized birth plans and preparing them for birth and preventing diseases) was moderate, and this is similar across all regions. Unless all HEWs have knowledge on all the uses of ANC, the likelihood that they would proactively work to provide ANC is questionable.

While most pregnancies and births are uneventful, all pregnancies are at risk. Around 15% of all pregnant women develop a potentially life-threatening complication that calls for skilled care and some will require major obstetrical interventions to survive. HEWs should be able to identify signs of the major complications of pregnancy such as vaginal bleeding, severe anemia, and severe malaria. The knowledge on identification of signs of pregnancy complications that need immediate intervention is critical for early referral by HEWs. This study found that the key indicators used for the identification of the main obstetric problems/complications were not apparent to a significant number of HEWs.

The most important danger signs that health care provider should look for, in terms of maternal mortality and feotal loss reductions, when a woman presents with ante partum hemorrhage include abdominal tenderness, signs of shock, and anemia, and amount of vaginal bleeding. However this study has shown that very few HEWs across all regions were able to recall all the important signs on a pregnant woman that presents with antepartum bleeding at 34 weeks of gestation. The knowledge on appropriate actions that HEWs need to take if they encounter a pregnant woman with vaginal bleeding was moderate, as 85% of HEWs would immediately refer to a doctor or hospital.

HEWs are expected to identify signs of severe anemia clinically during antenatal care. Although, majority of HEWs knew marked pallor as sign of severe anemia, knowledge on other signs of severe anemia was low. Once HEWs suspect that a pregnant woman has severe anemia, they are expected to refer her to higher health facility, and the study showed that half of the HEWs were in position to make that decision.

Although, HEWs have good knowledge on diagnosis of uncomplicated malaria, the knowledge on diagnosis of severe malaria in pregnancy was not satisfactory. Since severe malaria needs immediate referral, comprehensive knowledge on signs and symptoms of severe malaria is critical.

Intra-partum Care

The ability and readiness of HEWs to provide quality intra-partum care and services is found to be an important area for improvement. Significantly high number of HEWs did not know all

the cardinal signs of labor. Monitoring during labor is important to assess the progress and identify problems such as obstructed labor and eclampsia. Monitoring on important set of observations is critical to identify problems for early referral; however, the study showed that only few of the HEWs had comprehensive knowledge on the key observations that should be made during labor.

The commonest life threatening complications during labor include obstructed labor, eclampsia, bleeding after delivery, retained placenta, and infections. The knowledge on key signs and symptoms to diagnose these complications is critical for early referral and management. However, the level of comprehensive knowledge on identification of these complications and taking appropriate measures was generally low among the sample HEWs.

Newborn and childcare

One of the most important areas for improvement in skills of HEWs is the immediate care of the newborn. A significantly high proportion of HEWs were not aware of the different life-saving care of newborns such as wiping the face after birth of head, ensuring the baby is breathing, clearing the airways of blood and mucus, cord care, drying and wrapping the newborn in a warm clean clothing and assisting breathing with ambu bag. Similarly, a number of key indicators in identification and management of the main neonatal problems were not apparent to many of the HEWs.

The level of knowledge on danger signs in children was not satisfactory. In order for HEWs to immediately refer a child with ARI, they are expected to identify the key indicative signs. The proportion of HEWs that have identified fast breathing and lower chest in drawing were 60% and 41%, respectively, which seems low. On the other hand, the level of knowledge in the management of children with diarrhea was satisfactory, although it would still need improvement.

Family Planning Knowledge

Although, majority of HEWs mentioned they provide information about all methods of family planning during counseling, only half or less of the HEWs stated that they provide information on the benefits, risks and effectiveness of the various family planning methods. Thus, it appears that large proportions of HEWs don't have comprehensive knowledge on counseling for family planning, which may represent a significant barrier to contraception access and utilization.

Malaria

Immunization

COMMUNITY SATISFACTION AND PERCEPTION ON HEP

HEP EVALUATION

RURAL ETHIOPIA

2010

Table of contents

Table of Figures

Table of Tables

6. COMMUNITY PERCEPTION ABOUT HEP

6.1. RESPONDENTS' CHARACTERISTICS

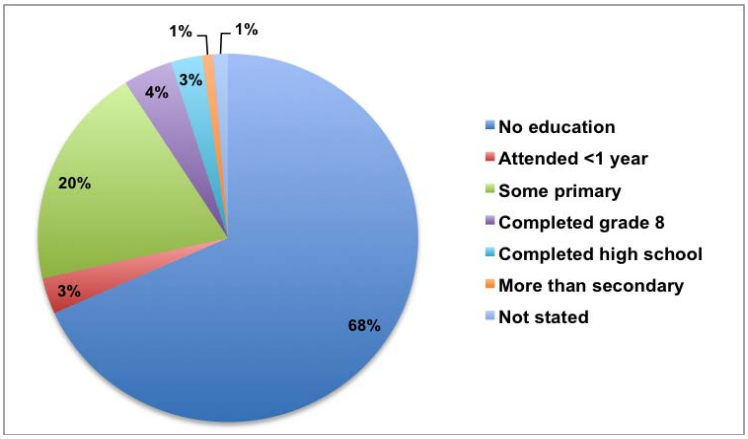
One woman, from each household and one man from every other household were interviewed for this assessment. Priority was given to housewives and heads of household whenever possible. About 45% of the respondents were heads of their household ranging between 44.3% in Afar to 59.7% in Gambella, and 40.5% of the respondents were housewives, while 14.2% of the respondents were other members of the household such as adult children.

Table 6-1: The relationship of the respondents to the head of the household, rural Ethiopia, 2010

Region	Head	Spouse	Other	Total
Tigray	46.0	44.1	9.9	1,025
Afar	44.3	46.9	8.8	296
Amhara	44.6	37.3	18.1	2,218
Oromia	45.7	40.6	13.7	2,455
Benishangul Gumuz	50.2	34.3	15.5	569
SNNP	44.4	45.6	10.0	1,664
Gambela	59.7	18.9	21.4	984
Dire Dawa	44.9	36.2	18.9	127
Harari	58.1	35.1	6.8	148
Somali	49.4	31.0	19.6	582
No. of respondents	**45.4**	**40.5**	**14.2**	**10,068**

Majority of the respondents were either not educated (68.3%) or had attended some primary education (19.5%). Gambella region has the lowest percentage of non-educated respondents (49.7%) and the highest percentage of respondents who completed grade eight (9.6%) and secondary school (6.3%). Harari region has the highest percentage of non-educated respondents (84.5%) and the lowest percentage of respondents who attended some primary education (9.5%), grade eight (0%) and high school (0.7%).

Figure 6-1: Highest education level achieved by respondents, rural Ethiopia, 2010



6.2. COMMUNITY AWARENESS ABOUT HEP

6.2.1. Community awareness about HEP and HEWs

Knowledge about Health Extension Program was assessed from rural households residing in areas where HEP has been implemented. Accordingly, the results from 9,580 respondents residing in kebeles where HEP has been implemented are presented. Majority of the respondents (81.2%) had heard about the Health Extension Program, the highest were from Tigray (94.7%) and the lowest from Afar (60.1%).

Overall, 90.8% of the respondents knew that a Health Extension worker was working in their village. The variation between regions is evidenced by more than 90% of respondents from Tigray, Amhara, and SNNPR; 80-90% of respondents from Benishangul Gumuz, Oromia and Gambela; and less than 80% of respondents from Afar, Somali, Dire Dawa and Harari knew that HEW was working in their village. Overall, 29.7% of respondents were related to at least one of the HEWs, ranging from 5.6% in Harari to 60.5% in Oromia.

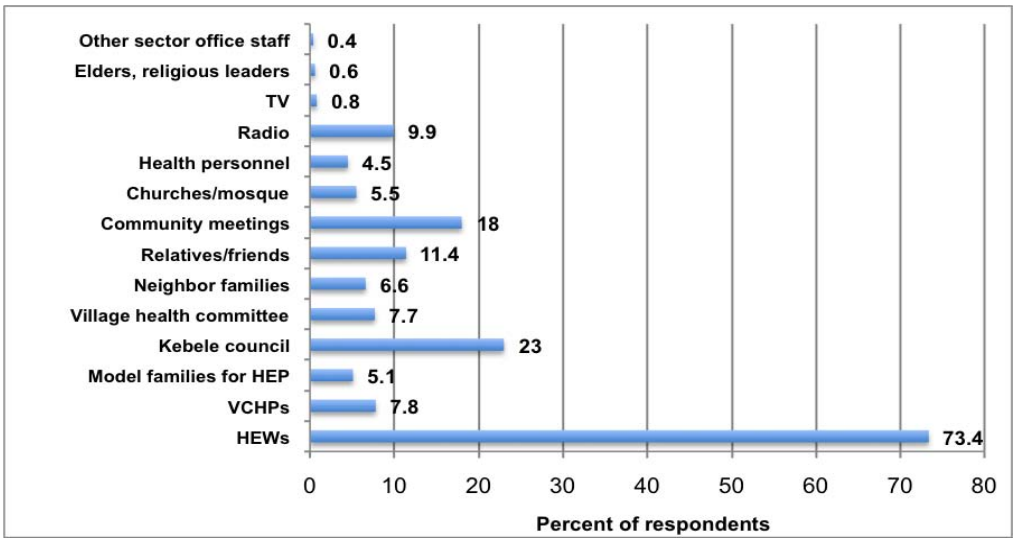
Table 6-2 : Percentage of respondents who have heard of the HEP and aware of the existence of HEW(s) in the kebele, rural Ethiopia, 2010

Region	Percent who heard about HEP	Percent who know the existence of HEW(s) in the kebele	No. of respondents
Tigray	94.7	97.9	1,025
Afar	60.1	63.6	259
Amhara	86.8	92.1	2,218
Oromia	71.1	89.1	2,422
Benshangul Gumuz	91.3	90.0	317
SNNP	91.6	96.1	1,551
Gambela	77.6	84.2	964
Dire Dawa	62.8	70.2	94
Harari	66.2	72.3	148
Somali	69.6	75.1	582
Total	**81.2**	**90.8**	**9,580**

6.2.2. Source of Information about HEP

Among the respondents who had heard about the HEP, majority of them heard about HEP from Health Extension Workers (73.4%). Moreover, a significant proportion of respondents reported that they heard about HEP from kebele council (23%), and community meetings or events (18%). VCHPs and model-family households were also reported as source of information about HEP in 7.8% and 5.1% of respondents, respectively.

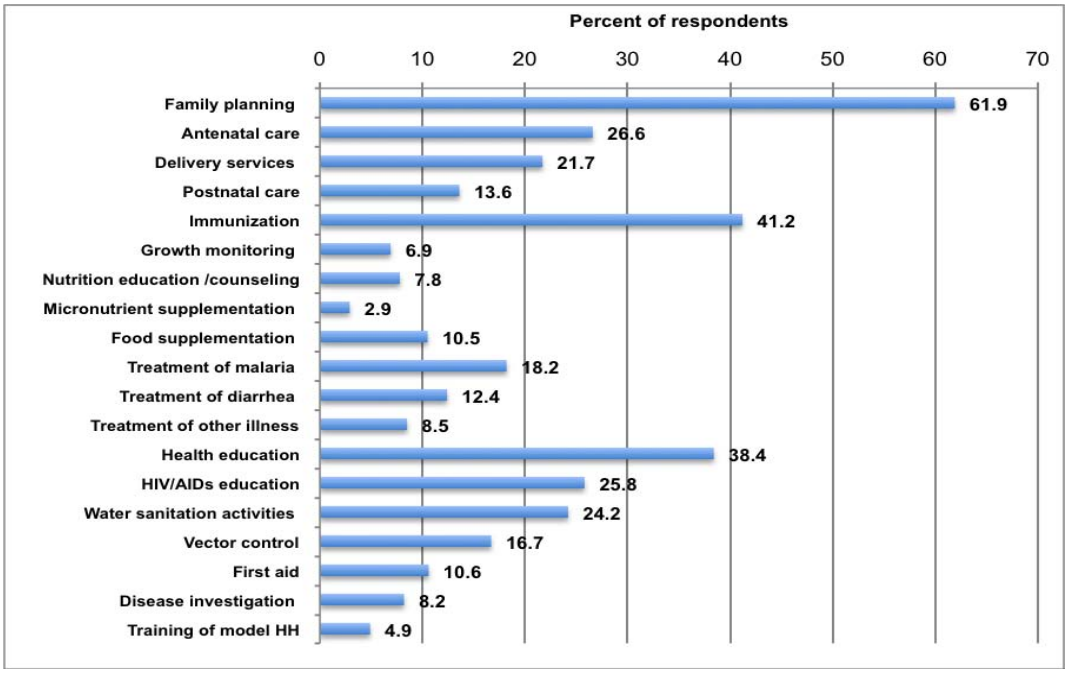
Figure 6-2: Respondents' source of information about the HEP, Rural Ethiopia, 2010



6.2.3. Awareness on the type of services provided by HEWs

Respondents who knew that HEWs were working in their kebele were asked about the activities of the HEWs. The five top services mentioned by respondents were family planning (61.9%), immunization (41.2%), health education (38.4%), antenatal care (26.6%), and HIV/AIDS education (25.8%). The five activities least mentioned included: micronutrient supplementation (2.9%), working with health committee (3.4%), training of model-family (4.9%), growth monitoring (6.9%), and nutrition education/counseling (7.8%). Compared to other regions, higher proportion of respondents from Tigray were aware of the activities of HEWs, while only a small proportion of respondents from Afar region were aware of the HEWs' activities.

Figure 6-3: Percent of respondents who were aware of HEWs' activities, rural Ethiopia, 2010



6.3. UTILIZATION OF HEP SERVICES

People who seek the services of HEP could get the service either at the health post or at their house during home visit by health extension workers. Service utilization was assessed separately for both approaches i.e. proportion of people who actively seek the HEWs to get services (this would indicate the extent of demand by the community for HEP services) and proportion of people who were visited by HEWs at their home, which indicates HEWs' effort in implementing HEP services.

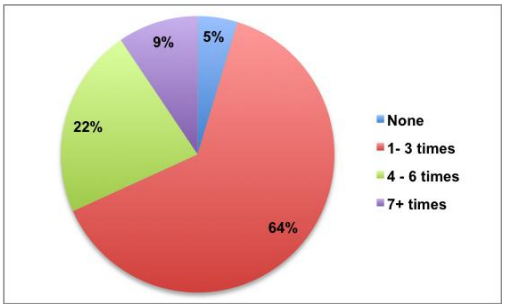
Overall, 37.3% of the respondents or their household members had visited the HEWs/health post proactively. Among regions, Tigray (45.4%) and SNNPR (41.5%) had the largest percent of respondents who visited HEW while Harari (14.2%) and Afar (16.3%) had the least. Compared to the proportion of respondents who visited the HEWs, a relatively higher proportion (43.3%) of respondents reported that HEWs visited their home at least once during the month prior to the time of the assessment. More respondents from Tigray (86.6%) and Benishangul Gumuz (65.3%) were visited by HEWs at their houses, while small proportion of respondents from Harari (10.8%) and Somali (15.1%) were visited by HEWs at their houses.

Table 6-3 : Respondents who visited the health post or were visited by HEWs, rural Ethiopia, 2010

Region	Percent of respondents who		No. of respondents
	visited HEWs/HP	were visited by HEWs at home	
Tigray	45.4	86.6	1,025
Afar	16.3	36.4	259
Amhara	35.4	29.7	2,218
Oromia	36.3	49.4	2,422
Benshangul Gumuz	28.0	65.3	317
SNNP	41.5	44.6	1,551
Gambela	28.4	29.6	964
Dire Dawa	21.3	42.6	94
Harari	14.2	10.8	148
Somali	36.4	15.1	582
Total	**37.3**	**43.3**	**9,580**

Among respondents who had visited the HEWs, majority (63.5%) visited HEWs for 1-3 times during the month preceding the survey, and about 22.2% of respondents visited the HEWs for 4-6 times during the same period. A small proportion (4.7%) of respondents stated that they didn't visit HEWs/health post during the stated time. No major difference was observed between regions on this parameter.

Figure 6-4: Frequency of visits to health post by respondents over a month, rural Ethiopia 2010

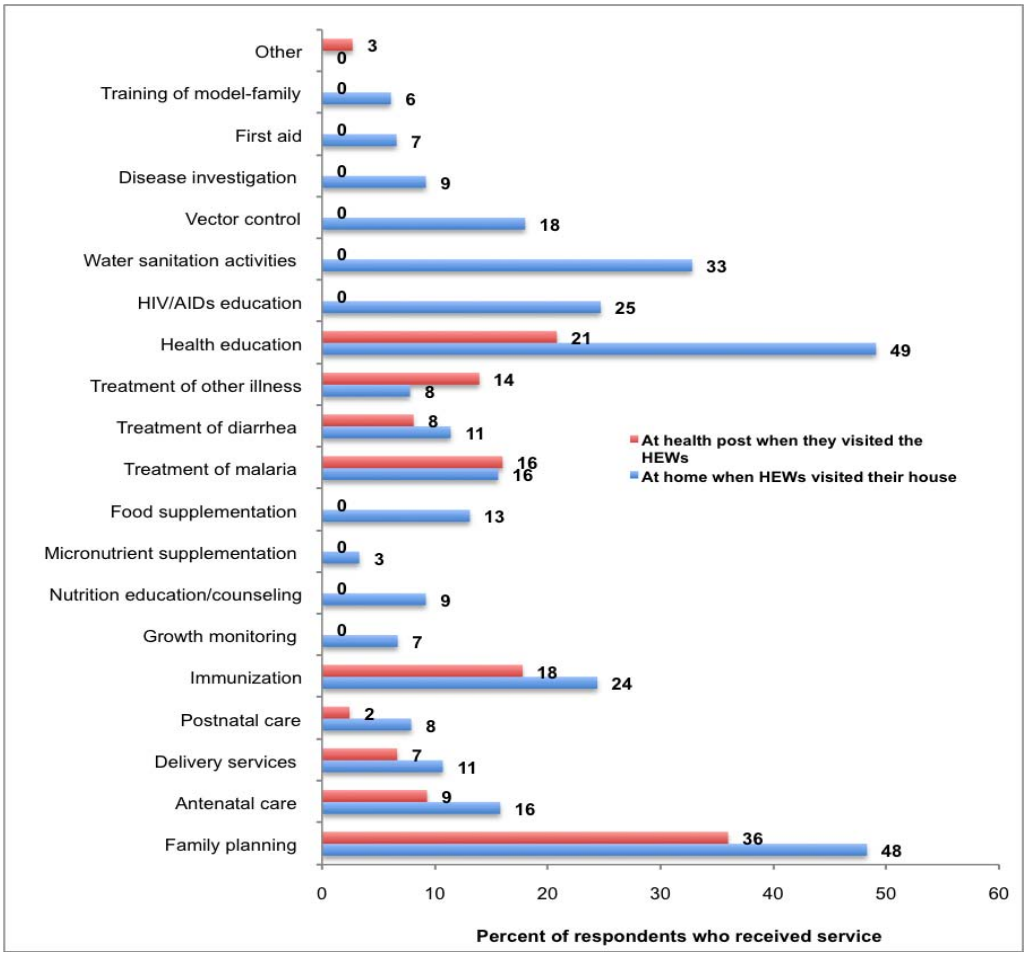


HEP services received

The respondents who visited HEWs were asked about the type of service they sought from the HEWs. The five leading reasons stated by respondents were family planning (36%), health advice/counseling (20.8%), immunization (17.8%), treatment of malaria (16%), and treatment of other diseases (13.9%). Generally the trend was similar in most regions; however, the visit to HEWs in Somali region for family planning was only reported by 5% of respondents, and the primary reason for visiting HEWs in Afar region was mainly for malaria treatment (38.4%). Respondents did not actively seek the following HEP services: growth monitoring, food or micronutrient supplementation, HIV/AIDs education, and water sanitation activities.

Similarly, the respondents who were visited by HEWs at their house were asked about the type of service they received at home. The five leading services reported were Health education (49.1%), family planning (48.3%), water and sanitation activities (32.8%), HIV/AIDS education (24.7%) and immunization (24.4%). Vector control activities, delivery, malaria treatment, food supplementation, antenatal care, growth monitoring, first aid and diarrhea treatment were in the first leading five responses in some regions. The least frequently reported services were micronutrient supplementation (3.3%), training of model-family (6.1%), first aid (6.6%), growth monitoring (6.7%), and treatment of other diseases (7.8%).

Figure 6-5: Percent of respondents who received HEP services at home and health post, rural Ethiopia, 2010



6.4. PERCEPTION ABOUT HEWS AND HEALTH POST

6.4.1. Community perception on recruitment of HEWs

Among respondents who knew the existence of HEWs working in their kebele, 36.4% reported that two of the HEWs were recruited from the same community and a quarter (24.1%) said none of the HEW was recruited from the same community. Closer look at regional level shows more than half of the respondents from Gambela (61.9%), Afar (56.3%) and SNNP (54.1%) said that both HEW were recruited from the same community.

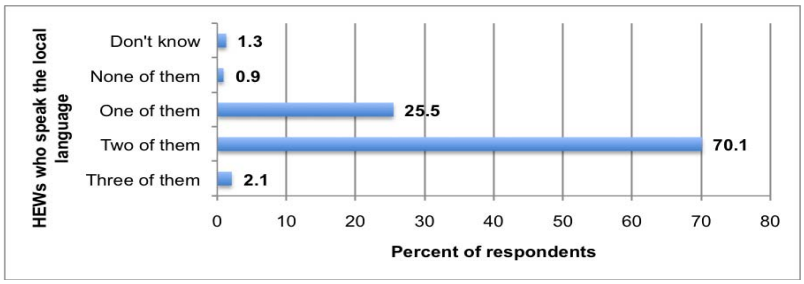
Table 6-4 : Percent distribution of respondents by their response on the number of HEWs in the kebele who were recruited from same community, rural Ethiopia, 2010

Region	One of them	Two of them	Three of them	None of them	Don't know	Not stated	Total
Tigray	29.7	13.3	0.2	50.0	6.6	0.2	1,005
Afar	9.7	56.3	11.5	7.9	14.0	0.6	164
Amhara	26.4	25.5	1.0	24.9	21.9	0.4	2,050
Oromia	25.6	40.8	0.0	21.0	11.8	0.7	2,187
Benshangul Gumuz	31.5	17.7	0.0	46.8	3.2	0.8	271
SNNP	22.0	54.1	0.0	19.3	4.1	0.4	1,487
Gambela	28.5	61.9	0.1	5.5	3.3	0.8	813
Dire Dawa	27.3	0.0	0.0	53.0	18.2	1.5	66
Harari	1.9	10.3	3.7	47.7	35.5	0.9	107
Somali	43.1	18.3	0.0	27.3	11.2	0.2	484
Total	**25.9**	**36.4**	**0.4**	**24.1**	**12.7**	**0.5**	**8,634**

6.4.2. Community perception on local language ability of HEWs

Among respondents who knew the existence of HEWs in their kebele, 97.7% reported that at least one of the HEWs speaks the local language, and only 0.9% (mainly in Benishangul Gumuz) said none of the HEWs speak the local language.

Figure 6-6: Percent distribution of respondents by their response on the number of HEWs in the kebele who speak the local language, rural Ethiopia, 2010



6.4.3. Perception on performance of HEWs in service provision

Respondents were asked whether the HEW was really attentive, appeared to enjoy caring, seemed friendly, gave complete explanations, understood their problems, appeared to be skillful, made helpful suggestions, treated with respect, explained things in understandable way, made them free to ask questions, helped them to understand their illness, and discussed the treatment options. Respondents ranging between 82.5 to 91.2% answered these questions positively except for one variable i.e. only 62.7% of respondents said that the HEW was friendly. In particular, only 8.9% in Benishangul Gumuz, 19.4% in Harari, 33.6% in Afar and 34.6% in Amhara said that the HEW was friendly.

Table 6-5: Perception about HEWs, rural Ethiopia, 2010

Region	Among respondents who had contact with HEW, the percent who think that the HEW											
	Was really attentive	Appeared to enjoy caring	Seemed friendly	Gave complete explanations	Understood his/her problems	Appeared to be skillful	Made helpful suggestions	Treated with respect	Explained things in an understandable manner	Made his/ him to feel free to ask questions	Helped to understand her/his illness	Discussed the treatment options
Tigray	98	97.1	98.2	97.1	96.2	89.8	96.4	97.4	95.6	96.8	94.3	91.5
Afar	94.2	77.9	33.6	71.1	69.1	49.9	84.5	90.4	90.4	51.8	51.9	66.3
Amhara	90.7	89.5	34.6	85.8	84	75.7	87.9	90.8	92.1	71.4	78.8	76.2
Oromia	86.6	88.2	83.8	88	86.4	86.5	87.9	90.3	89.3	86.4	84.1	83.8
Benshangul	89.9	91.1	8.9	86.8	89	83.8	88.9	90.6	87.9	88.2	88.2	88.7
SNNP	88.3	88.8	43.1	88.1	87.9	83.1	90.2	89.6	92.9	82.3	89	86.5
Gambela	92.1	94.2	48.9	84.3	83	82.8	89.1	93.1	92.3	87	89.3	88.4
Dire Dawa	97.8	97.8	75.6	97.8	97.8	97.8	97.8	95.6	97.8	93.3	95.6	95.6
Harari	80.7	90.3	19.4	74.2	74.2	77.4	77.4	90.3	83.9	80.7	58.1	61.3
Somali	92.6	82.7	64	79.7	84.7	78.4	80.1	85.6	84.1	84	81.7	76.2
Total	**89.4**	**89.3**	**62.7**	**87.9**	**86.9**	**82.8**	**89**	**90.9**	**91.2**	**82.5**	**84.5**	**82.9**

6.4.4. Perception on social behavior of HEWs

Respondents who knew the HEW working in their kebele were asked about the social behavior of the HEW. Majority (81.6%) of them said the HEWs involve with community during happy and sad times, 90.6% said that HEWs communicate using local language, 87.8% said that HEWs had good conduct, and 81.6% said HEWs involve in community work activities.

Table 6-6: Perception of respondents on social behaviors of HEWs, rural Ethiopia 2010

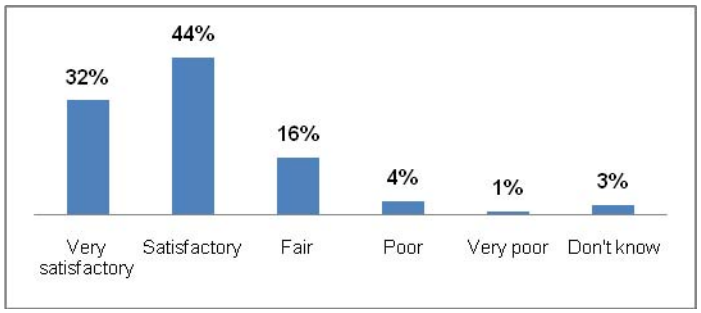
	Percent of respondents who reported the statements is true about the HEW(s)				
Region	Involved during happy and sad times of community	Communicate with local language	Good conduct/ethics	Involved in community work activities	Total
Tigray	94.9	94.3	98.5	97.4	1,005
Afar	68.9	82.9	78.7	65.2	164
Amhara	79.5	89.3	84.6	76.7	2,050
Oromia	80.7	93.0	90.1	82.6	2,187
Benshangul	93.1	89.1	92.7	89.5	271
SNNP	82.0	88.4	85.3	81.7	1,487
Gambela	84.2	88.0	81.8	80.0	813
Dire Dawa	72.7	93.9	93.9	80.3	66
Harari	51.4	89.7	79.4	39.3	107
Somali	82.7	87.2	87.3	85.1	484
Total	**81.6**	**90.6**	**87.8**	**81.6**	**8,634**

The extent of community perception on confidentiality of information shared with HEW was also assessed. Overall, 65.1% of respondents thought the information they share with HEWs would be kept confidential.

6.4.5. Perception on cleanliness of health posts

Respondents who had a visit to health post prior to the study were asked to comment about the cleanliness of the health post. Three-quarter (76.3%) of the respondents reported that it was satisfactory or very satisfactory, while 4.6% of them said it was very poor or poor.

Figure 6-7: Respondents' rating of the cleanliness of health posts, rural Ethiopia 2010



6.5. VOLUNTEER COMMUNITY HEALTH PROMOTERS (VCHPS)

Voluntary Community Health Promoters (vCHPs) are community volunteers who are recruited and trained by health extension workers to assist them with their activities. The Health Extension Program envisions having one VHP for every 25 households.

6.5.1. Awareness about vCHPs

Respondents were asked if they have ever heard of volunteer Community Health Workers working in their kebele. Overall, 42.3% of respondents heard about vCHPs. Regional variation was observed where 88.5% of respondents from Tigray had heard about vCHPs while none of the respondents from Afar and Gambela had ever heard of vCHPs. Since the subsequent information about vCHPs is presented based on respondents who had ever heard of vCHPs, the result doesn't include Afar and Gambela.

Table 6-7: Proportion of respondents who heard about vCHPs, rural Ethiopia 2010

Region	Percent	No. of respondents
Tigray	88.5	919
Amhara	40.9	1,514
Oromia	16.8	1,107
Benshangul Gumuz	22.3	174
SNNP	54.2	1,400
Dire Dawa	56.8	37
Harari	17.1	35
Somali	16.5	111
Total	**42.3**	**5,297**

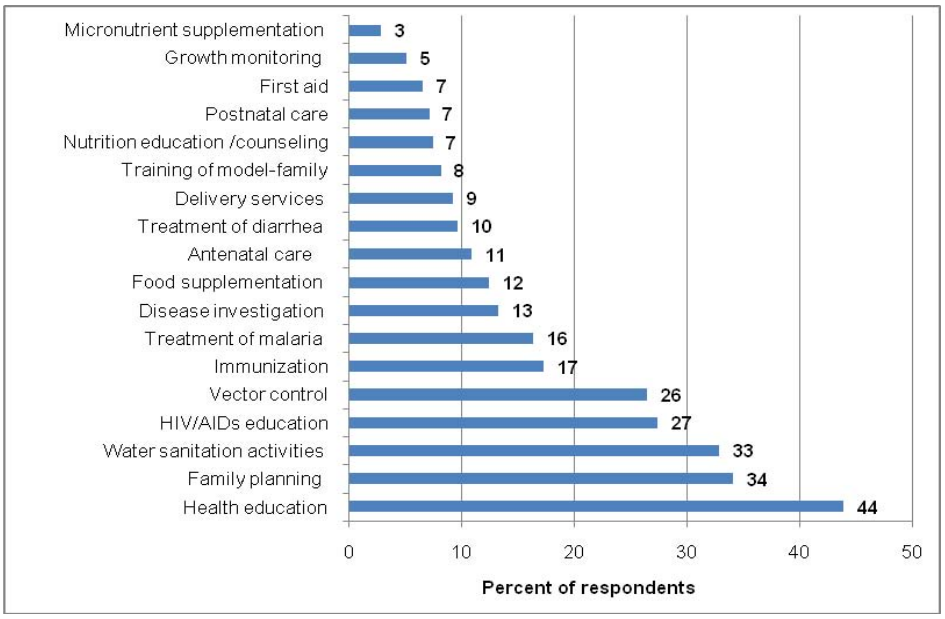
6.5.2. Home visits by vCHPs and type of services

Respondents who stated that they head about vCHPs were asked if they were visited by vCHPs in the six months preceding the survey. Among respondents who heard about vCHPs, half (49.6%) of the respondents were visited by VHPs in the six months preceding the study, ranging from 11.8% in Somali to 57.1% in Dire Dawa. Respondents that were visited at their house by vCHPs were also asked the type of HEP services they received from the vCHPs. The five leading services received from vCHPs were health education (43.8%), family planning (34%), water and sanitation activities (32.8%), HIV/AIDS education (27.3%) and vector control (26.4%). Immunization, food supplementation, ANC, first aid and treatment of other diseases were in the leading five services in some regions.

Table 6-8: Percent of respondents who were visited by vCHPs over 6 months, rural Ethiopia 2010

Region	Percent	Number
Tigray	49.3	807
Amhara	49.2	698
Oromia	41.1	204
Benshangul Gumuz	31.0	38
SNNP	53.0	756
Dire Dawa	57.1	21
Harari	16.7	6
Somali	11.8	19
Total	**49.6**	**2,549**

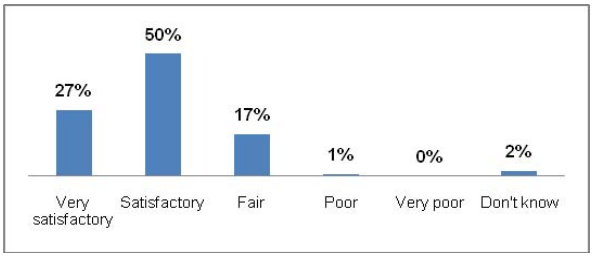
Figure 6-8: Percent of respondents who received HEP services from vCHPs, rural Ethiopia 2010



6.5.3. Respondents rating of overall performance of vCHPs

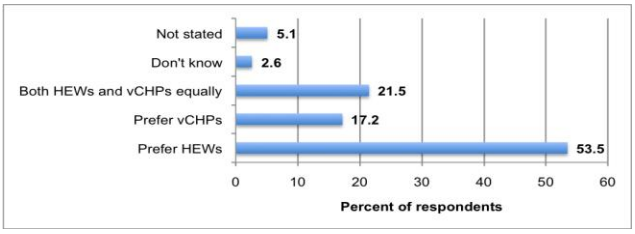
Respondents who received HEP service form vCHPs were asked to rate the knowledge, skill and overall performance of vCHPs. About a quarter (27%) and a half (50.3%) of the respondents rated the performance of vCHPs as very satisfactory and satisfactory, respectively, while only 1.6% rated their performance as poor.

Figure 6-9: Respondents rating of overall performance of vCHPs in the provision of HEP Services



Respondents were also asked weather they would prefer HEWs or vCHPs to provide the HEP services to their household. A little higher than half (53.5%) of the respondents stated that they would prefer HEWs, while17.2% of the respondents stated that they would prefer vCHPs. One in five respondents, on the other hand, said they don't make preference and would receive the HEP services from both equally. There was no substantial regional variation on preferences.

Figure 6-10: Respondents' comparison between HEWs and vCHPs, rural Ethiopia, 2010



6.6. ACCESS TO HEP SERVICES

6.6.1. Methods of locating HEWs

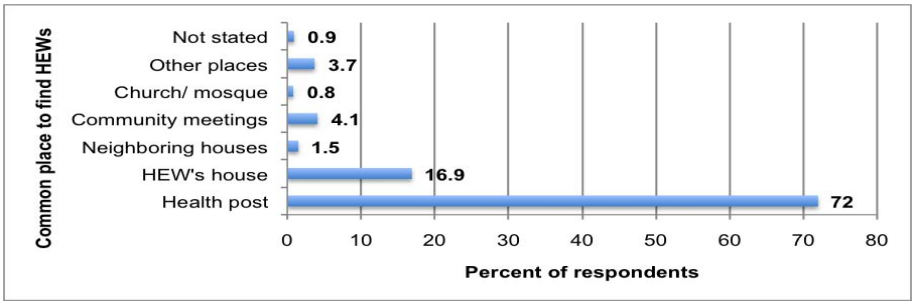
HEWs work at health post and in the community. Respondents were asked how they could find the HEWs if they want to see them. Majority (62.1%) said they would use the information about location of HEWs displayed outside the health post. A quarter of respondents said that the HEW schedule was widely known in the community. Only 4.4% (mainly in Tigray and Oromia) didn't know where to find the HEW and have to look for them in all possible places.

Table 6-9: Method of locating the HEWs in case of need, rural Ethiopia, 2010

Region	Information displayed outside the HP	The HEWs' schedule is widely known	Live close to the HP & can see when it is opened	Live close to the HEW's home and can see when around	Don't know where to find HEWs (look all places)	Other	No. of respondents
Tigray	43.8	24.9	27.2	19.0	14.5	2.3	1,005
Afar	71.4	22.7	12.8	0.0	0.0	7.9	164
Amhara	63.2	23.5	10.3	0.0	0.0	11.6	2,050
Oromia	58.2	21.8	19.6	9.0	9.3	5.6	2,187
Benshangul	48.1	73.9	13.3	0.0	0.0	1.5	271
SNNP	74.4	29.6	6.7	0.0	0.1	5.3	1,487
Gambela	62.8	34.1	14.1	0.0	0.0	6.4	813
Dire Dawa	62.1	25.8	7.6	0.0	0.0	12.1	66
Harari	55.1	13.1	15.0	0.0	0.0	24.3	107
Somali	54.9	31.7	10.6	0.0	0.4	9.7	484
Total	**62.1**	**25.0**	**14.1**	**4.6**	**4.4**	**7.3**	**8,634**

Respondents were asked for the common place where they would find HEWs when they wanted to visit them. Most respondents (72%) mentioned health post as the most common place to find the HEWs, while 16.9% and 4.1% mentioned the HEW's house and community meetings, respectively, as the common place to find HEWs.

Figure 6-11: The most common places to find the HEWs, rural Ethiopia, 2010



6.6.2. Ease of getting HEP services

Respondents who had ever visited a health post were asked whether they got the HEP service fairly easily. Majority of respondents reported that they could get the services easily. Only one in five (21.4%) respondents said they waited too long before getting service, 15.1% reported that it was difficult to get to the health post, and 18.3% said it was difficult to get the HEWs. However, only 46.9% of respondents said they could get the recommended medicines.

Table 6-10: Percent of respondents who sated the ease of getting HEP Service, rural Ethiopia, 2010

Regions	Had to wait too long before receiving care	It was difficult to get to the health post	Could get the recommended medicines	It was difficult to get HEWs	Total
Tigray	11.9	8.4	55.0	16.6	453
Afar	16.7	16.7	35.9	28.6	42
Amhara	25.1	12.3	53.1	19.7	798
Oromia	19.9	20.2	35.5	17.9	913
Benshangul	23.9	14.4	36.3	15.7	92
SNNP	22.6	11.6	54.9	17.3	690
Gambela	55.1	32.2	67.5	30.1	299
Dire Dawa	30.0	25.0	80.0	10.0	20
Harari	14.3	9.5	52.4	0.0	21
Somali	19.6	18.8	47.2	18.7	221
Total	**21.4**	**15.1**	**46.9**	**18.3**	**3,549**

6.6.3. Service availability

Respondents who had a visit to health post/HEWs prior to the study were asked whether they got the service they required, and whether they received material for reading. Overall, 79.1% of respondents got the service they wanted, ranging between 42.3% in Tigray to 100% in Dire Dawa. About a quarter (26.5%) of the respondents, ranging between 6.5% in Harari to 43.3% in Gambela, received materials for reading from HEWs during their visit prior to this study.

Table 6-11: Percent of respondents who got the service they intended, rural Ethiopia 2010

Region	% who received the service they intended	% who received reading material	No. of respondents
Tigray	42.3	23.8	453
Afar	90.6	12.5	42
Amhara	78.7	22.3	798
Oromia	86.8	30.3	913
Benshangul	83.1	10.3	92
SNNP	78.7	26.5	690
Gambela	85.7	43.3	299
Dire Dawa	100.0	24.4	20
Harari	76.2	6.5	21
Somali	82.2	28.1	221
Total	**79.1**	**26.5**	**3,549**

6.7. COMMUNITY SATISFACTION ON HEP

6.7.1. Satisfaction on specific HEP services

Satisfaction on specific services was assessed only from respondents who had ever received the specific service from HEWs. Thus, the number of respondents varied for each service assed. Overall at least 60% of the respondents rated all components of health extension package as very satisfactory or satisfactory. Five services which got the highest scores were family planning (76.5%), HIV education (76.2%), vector control (76%), Health education (75.6%) and immunization (74.9%), whereas services which were scored relatively less were first aid (60.6%), training of model-family (60.9%), food supplementation (63.3%), and growth monitoring (66.2%).

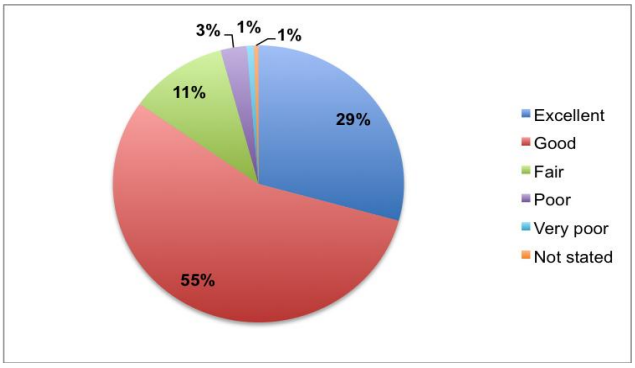
Table 6-12 : Percent distribution of respondents by level of satisfaction of HEP services received, rural Ethiopia, 2010

HEP Service	Very satisfactory	Satisfactory	Fair	Poor	Very poor	Don't know	Number of respondents
Antenatal Care	42.6	27.4	12.6	4.2	1.4	11.9	1,879
Delivery	35.7	32.3	14.0	4.7	1.2	12.1	1,316
FP	46.2	30.3	12.2	3.1	1.2	7.1	4,238
PNC	37.6	28.8	12.9	3.7	1.5	15.5	928
Immunization	44.3	30.6	11.4	2.7	1.1	9.8	2,927
Growth Monitoring	41.2	25.0	13.8	4.1	0.8	15.1	646
Micronutrient supplementation	34.9	31.7	13.5	4.0	2.4	13.5	329
Nutrition Education	32.1	35.6	11.4	3.3	1.2	16.5	696
Diarrhea Treatment	38.0	28.7	13.9	3.9	1.3	14.3	1,117
Food Supplementation	35.2	28.1	14.8	4.7	2.4	14.8	994
Treatment of other illnesses	33.9	32.5	13.7	4.9	1.4	13.6	796
Malaria Treatment	45.9	27.5	11.4	3.6	1.0	10.7	1,492
Vector Control	48.7	27.3	10.9	3.7	1.2	8.1	1,424
Disease Investigation	45.9	22.7	10.3	3.5	2.3	15.3	754
HIV/AIDS Education	46.2	30.0	10.4	3.3	1.2	9.0	2,133
Water and Sanitation	39.8	31.8	11.1	3.1	1.2	13.1	2,204
First Aid	37.3	23.2	10.7	6.3	2.6	19.8	862
Health Education	44.2	31.4	10.7	3.1	0.9	9.7	3,237
Training of Model HH	39.7	21.2	9.6	4.5	2.0	23.0	565

6.7.2. Overall satisfaction on HEP

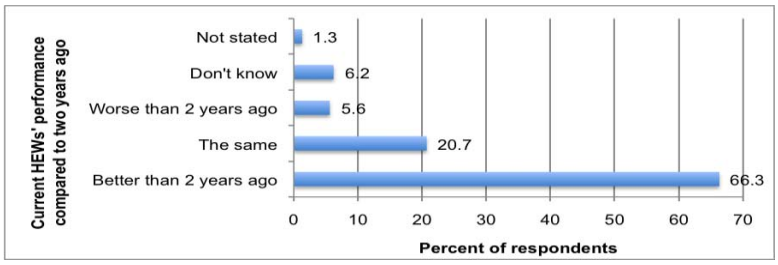
Respondents were asked to rate their satisfaction on the overall HEP services they received and to compare the current performance of the HEWs with their performance two years earlier. Furthermore, respondents who had a visit to health post prior to the study were asked whether they would visit the same health post again and if they would recommend it for friends or relatives. Close to one third (29.3%) of respondents rated the service they had received as excellent, and 55.5% of respondents rated it as good. Only 3.7% of respondents rated the service they had received as poor or very poor.

Figure 6-12: Respondents' rating of services received from HEWs, rural Ethiopia, 2010



Moreover, the respondents were asked to compare the performance of the HEWs at the time of the survey with the performance two years ago. Two third (66.3%) of the respondents said the current performance was better than two years ago, while 20.7% said it was the same. Only 5.6% reported the current performance was worse than that of two years ago.

Figure 6-13: Rating of HEWs' performance as compared to two years ago, rural Ethiopia, 2010



Majority (86.5%) of the respondents, ranging from 82.3% in Gambela to 100% in Dire Dawa, said they would visit the health post again for similar problem; and 87.2% would recommend the health post for their relatives and friends.

Table 6-13 : Percent of respondents who would visit again or recommend the service to other people, rural Ethiopia 2010

Region	% who would visit	% who would recommend the	No. of
Tigray	92.0	91.7	453
Afar	88.2	88.2	42
Amhara	86.5	85.2	798
Oromia	84.3	89.0	913
Benshangul	86.2	88.8	92
SNNP	88.5	87.4	690
Gambela	82.3	85.2	299
Dire Dawa	100.0	100.0	20
Harari	85.7	81.0	21
Somali	84.3	76.8	221
Total	**86.5**	**87.2**	**3,549**

6.8. COMMUNITY PERCEPTION ON HEP

6.8.1. Perception on HEP in addressing health issues

Community perception on whether HEP is addressing their health need was assessed in four scales, ranging from addressing all their health related needs to addressing none of their health related needs. One in five (20.2%) respondents stated that all of their health related needs were being addressed by HEP. Majority (41.2%) of respondents reported that most of their health related needs were being addressed by HEP. About a quarter (23.3%) of respondents said only some of their needs were being addressed by the HEP; and 11.2% of the respondents reported that none of their health problems were addressed by HEP.

Table 6-14 : Respondents perception on the extent to which HEP can address their problems, rural Ethiopia 2010

Region	All health related issues	Most of my needs	Only some of my needs	None of my needs	Don't know	Not stated	Total
Tigray	19.3	55.7	16.6	0.8	0.0	7.7	1,005
Afar	8.5	34.3	37.8	18.8	0.0	0.6	164
Amhara	22.0	39.1	20.3	14.2	0.0	4.5	2,050
Oromia	15.5	46.1	24.3	10.4	0.0	3.7	2,187
Benshangul	30.0	46.1	16.7	5.8	0.0	1.4	271
SNNP	27.8	32.6	23.4	12.3	0.2	3.7	1,487
Gambela	15.6	32.0	30.0	15.5	0.1	6.8	813
Dire Dawa	47.0	37.9	9.1	4.5	0.0	1.5	66
Harari	24.3	33.6	24.3	15.9	0.0	1.9	107
Somali	10.7	36.6	44.2	7.2	0.0	1.3	484
Total	**20.2**	**41.2**	**23.3**	**11.2**	**0.0**	**4.1**	**8,634**

6.8.2. Community perception on constraints of HEWs

The perception of the community on the constraints facing the HEWs was assessed in terms of supplies, support from community and government, financial and human resources and infrastructure. About 16.4% of respondents thought vaccine shortage was the major constraint and 14% thought shortage of ORS was the major constraint. The proportion of respondents who thought that there was shortage of condoms, pills, and Depo injections were 2.2%, 8.3%, and 11.4%, respectively. 6-12% of respondents thought that there was lack of support from community health promoters, health committee, community, kebele or district. Only 5.5% of the respondents thought that the number of HEWs was not adequate to provide the HEP services. Similarly, 12% of the respondents thought HEWs had poor remuneration, and 7.7% thought that HEWs had inadequate skills. Regarding infrastructure, lack of health post was reported by 15.9% of respondents and inadequate space was stated by 8.9% of respondents.

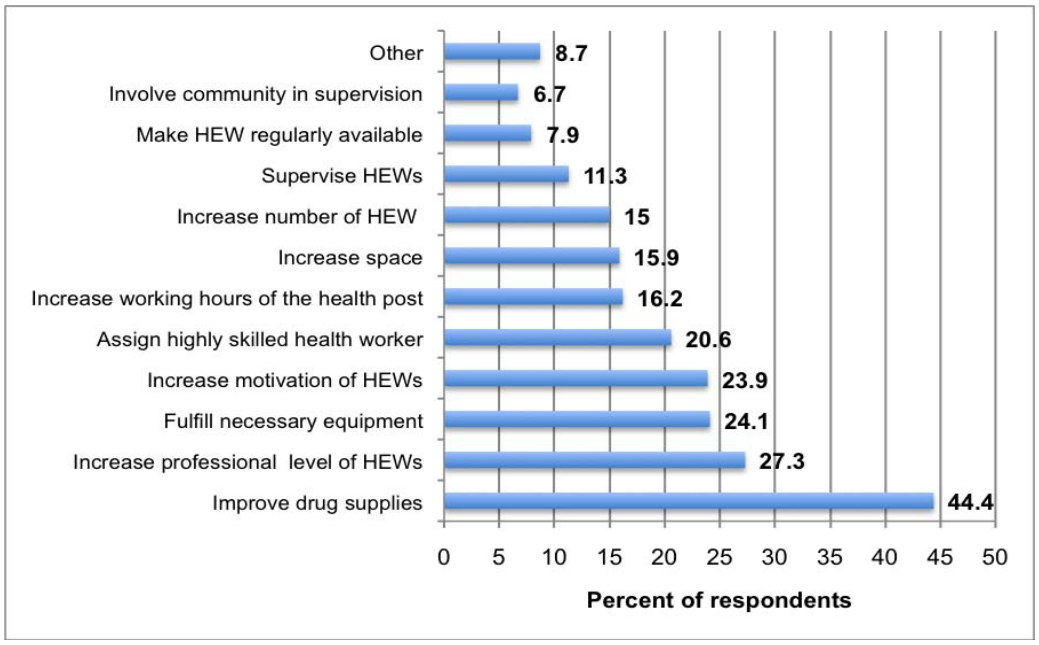
Table 6-15 : Percent of respondents who stated the main constraints of HEWs, rural Ethiopia 2010

Region	Tigray	Afar	Amhara	Oromia	Benshangul Gumuz	SNNP	Gambela	Dire Dawa	Harari	Somali	Total
1) Lack of supplies											
ORS	13.6	11.6	9.9	14.5	13	16.4	28.1	0	0	22.6	**13.8**
Vaccines	15.9	9.7	11.7	19.2	13.1	16.7	29.8	3	1.9	25.9	**16.4**
Bed nets	31.4	20.1	9.8	10.2	20.8	16.5	25	1.5	1.9	13.8	**13.2**
Pills	6.7	7.4	13.4	6	8	6.8	11.5	0	0	5	**8.3**
Depo injection	7.3	7.9	19.5	8.2	5.8	8.7	10.6	0	0	5	**11.4**
Condom	0.6	4.8	2.3	1.8	1.3	3.2	7.8	0	0	1.7	**2.2**
2) Lack of support from											
District	3	12.8	9.6	9.6	29.5	19.8	23.8	16.7	17.8	22.4	**12.1**
Kebele council	17.7	17.8	12.9	1.5	7.9	15.7	10.1	0	12.2	16.3	**9.8**
Community	11	15.3	11.2	7.9	9.7	10.4	15.1	4.5	16.8	6.5	**9.7**
Health committee	**10**	13.5	9	4.9	14.5	4.3	12.2	3	13.1	6.2	**6.5**
Community health promoter	8.1	14.1	7.4	4	2.9	7.3	8.6	4.5	15.9	5	**6.1**
3) Financial and human resources											
Inadequate number of HEWs	6.4	12.2	3.6	7.1	4.7	4.9	7.1	3	5.6	5.5	**5.5**
Poor remuneration	23.3	9.7	10.1	4.6	14.5	20.7	17.3	34.9	4.7	27.2	**12.0**
Lack of adequate skill	2.4	3.1	8	8.4	3.8	7.6	8.7	3	16.8	9.9	**7.7**
4) Infrastructure											
Lack of health post	21.9	22.5	17.8	10	13.6	19.9	19.5	4.5	26.2	22.8	**15.9**
Inadequate space	11.3	23.2	10.4	4	31.7	12.7	21.9	3	23.4	7.7	**8.9**
Lack of housing for HEWs	6.7	7.4	4.9	12.2	3.7	6.6	10.9	0	0.9	9.4	**8.3**
Total	1008	164	2061	2189	272	1493	813	66	107	486	8659

6.8.3. Recommendations of the respondents

Respondents were asked to list three most important measures that would make the service at health post better. The most frequently stated recommendation was to have health worker with better skills expressed as health extension workers with increased professional level (27.3%) or highly skilled health workers (20.6%). Less than half (44.4%) of respondents recommended the improvement of drug supplies (44.4%) and 24.1% suggested the fulfillment of necessary equipments to improve the HEP services.

Figure 6-14: Respondents recommendation to improve HEP, rural Ethiopia, 2010



6.8.4. Attitude towards HEP and HEWs

The respondents agreement to the statement that HEP will address the needs of their community was assessed. Majority (72.6%) of the respondents agreed or strongly agreed with this statement, however, it ranged from 64.3% (Oromia) to 89.3% (Tigray). Only 10.6% disagreed or strongly disagreed that HEP will address the needs of their community.

Table 6-16 : Degree of respondents agreement whether HEP addresses their problems, rural Ethiopia, 2010

Region	Strongly agree	Agree	Neutral	Disagree	Strongly	Not stated	Total
Tigray	36.8	52.5	7.9	0.8	0.1	1.9	1,005
Afar	9.7	55.0	18.3	10.3	6.6	0.0	164
Amhara	23.9	48.3	14.6	7.3	2.9	3.0	2,050
Oromia	17.1	47.2	18.6	12.5	2.8	1.9	2,187
Benshangul	37.5	38.2	3.7	5.6	12.7	2.4	271
SNNP	30.7	49.1	11.6	5.6	1.5	1.5	1,487
Gambela	21.6	49.2	11.9	8.2	5.8	3.3	813
Dire Dawa	54.6	31.8	3.0	6.1	0.0	4.5	66
Harari	48.6	38.3	10.3	1.9	0.0	0.9	107
Somali	18.6	64.8	9.1	1.9	2.1	3.6	484
Total	**23.6**	**49.0**	**14.7**	**8.1**	**2.4**	**2.2**	**8,634**

Finally the participants were asked whether they are happy that HEP was implemented in their kebele. About a third (35.5%) stated that they were very happy and 46.1% were happy. Only 5.7% of the respondents stated that they were unhappy or very unhappy.

Table 6-17 : The Degree of happiness of the respondents due to HEP, rural Ethiopia, 2010

Region	Very happy	Happy	Neutral	Unhappy	Very unhappy	Not stated	Total
Tigray	41.1	48.3	7.5	1.1	0.0	2.0	1,005
Afar	19.5	48.3	23.8	5.4	3.0	0.0	164
Amhara	32.1	52.6	8.5	2.0	1.8	3.1	2,050
Oromia	31.7	45.6	13.1	5.8	2.2	1.6	2,187
Benshangul	50.5	38.6	4.6	2.0	0.8	3.5	271
SNNP	45.9	36.1	10.8	3.9	1.9	1.5	1,487
Gambela	27.6	49.2	10.6	5.3	3.4	3.9	813
Dire Dawa	65.2	28.8	0.0	3.0	0.0	3.0	66
Harari	44.9	43.0	11.2	0.9	0.0	0.0	107
Somali	29.5	55.7	7.4	1.7	3.1	2.5	484
Total	**35.5**	**46.1**	**10.7**	**3.8**	**1.9**	**2.1**	**8,634**

6.9. COMPARISON OF THE FINDINGS WITH PREVIOUS STATUS

Health Extension Program assessment was done in 2007 in Amhara, Oromia and SNNP regions, and one of the components of the study were assessment of community perception and satisfaction with HEP and HEWs. Since we used similar methods in both rounds of assessments, data on the comparison of community perception and satisfaction on HEP and HEWs is presented for the three regions.

The awareness of the community about HEP and the existence of HEWs in their respective kebeles was similar during both rounds of surveys. In fact, the percent of respondents who have heard about HEP has declined slightly from 87.5% in 2007 to 81.2% in 2010.

Utilization of HEP services in terms of people proactively seeking the services of HEWs as well as HEWs proactively providing HEP services at household level has declined over the follow-up period. The percent of respondents who visited the HEWs decreased from 42.6% in 2007 to 37.7% in 2010. Similarly, the percent of respondents who were visited by HEWs at home decreased from 61.4% in 2017 to 41.4% in 2010.

The satisfaction of the community on the overall HEP services has improved over the years. The percent of respondents who rated the overall service as good or excellent has increased from 55.8% in 2007 to 84.2% in 2010. The increased satisfaction of the community on the overall HEP service was also indicated by the significant increase in the percent of respondents who would visit the health post again and who would recommend the service for other people – from 64.9% and 64.7%, respectively in 2007 to 85.6% and 86.9%, respectively in 2010. On specific HEP services, satisfaction on family planning has increased from 45.7% in 2007 to 59.6% in 2010. However, satisfaction on immunization service declined from 55.3% in 2007 to 40.1% in 2010.

Perception of the community on the performance of HEWs has substantially improved over time. In 2007, it was only 35.5% and 58% who felt that HEWs were friendly and skillful, respectively, which increased to 59.6% and 82.1%, respectively in 2010. The overall perception

that HEP would address all or most of their health needs has also improved over the follow-up period.

Table 6-18 : Awareness, utilization, perception, attitude, and satisfaction of respondents on HEP and HEWs by year, rural Amhara, Oromia and SNNP regions, Ethiopia

Variables	Percent of respondents	
	2007	2010
Awareness about HEP	87.5	81.1
Awareness about HEWs	92.6	91.7
Visit to HEWs	42.6	37.7
HEWs visit to households	61.4	41.4
Satisfied/very satisfied with immunization	55.3	40.1
Satisfied/very satisfied with FP	45.7	59.6
Would visit health post again	64.9	85.6
Would recommend the health post for friend or relative	64.7	86.9
Rating of overall services as good/excellent	55.8	84.2
Perception that HEW seems friendly	35.5	59.6
Perception that HEW is skillful	58	82.1
Perception that information shared with HEW is confidential	48.1	62.8
All or most of the respondents' needs were being addressed by HEP	43.5	60.9
HEP will address the needs of their community	71.8	70.5
Very happy or happy with HEP	77.7	80.6

6.10. CONCLUSIONS

- Although majority of respondents were aware of HEP and the existence of HEWs in their kebele, it should be a universal knowledge because unless the community is aware of the existence of the program in their kebele, they can't seek the services.
- Awareness about the availability of specific health extension services was generally low. Compared to the other HEP services, family planning (61.9%) and immunization (41.2%) were relatively known by more people.
- Community-HEWs contact rate was not satisfactory, which was evident from the percent of respondents who sought HEP service from the HEWs and the percent of respondents who were visited at home by HEWs. Moreover, the community-HEWs contact in terms of these measures decreased in 2010 compared to 2007 in Amhara, Oromia and SNNP regions.
- A critical finding of the study was the utilization of services was limited only to few HEP services. Community demand was mainly for family planning, immunization, and treatment of illnesses such as malaria. Similarly, the most frequently rendered HEP services when HEWs visit households were family planning, water and sanitation activities, HIV/AIDS education, and immunization.
- Services which are infrequently provided were training of model households, growth monitoring, supplementation and first aid.
- At regional level, the demand of the community in Afar and Dire Dawa was the lowest, while home visits by HEWs was the lowest in Harari and Somali regions.

- Majority of respondents were satisfied on the overall HEP services, and the overall satisfaction has improved over the three years period in Amhara, Oromia and SNNP regions.
- With regard to specific HEP services, the highest satisfaction was expressed, in order of frequency, for family planning, HIV education, vector control, health education and immunization. On the other hand, lower score of satisfaction was expressed for first aid, training of model-family, food supplementation, and growth monitoring. Although satisfaction level improved for most HEP services, the level of satisfaction on immunization has declined in Amhara, Oromia and SNNP regions.
- Majority of respondents expressed high satisfaction on the conduct and skill of HEWs. Moreover, perception of the community on the performance of HEWs has substantially improved over time in Amhara, Oromia and SNNP regions.
- Satisfaction on the accessibility and convenience (access to HEWs and health post) was generally good, with majority of respondents reporting no difficulty to get to the health post, no difficulty finding the HEWs, and did not wait too long before receiving care. However, it was only about half of the respondents who expressed satisfaction on the availability of recommended medicines.
- The high level of satisfaction of the community on the overall HEP service was also indicated by the significant increase in the percent of respondents who would visit the health post again and who would recommend the service for other people. Moreover, two third of respondents said the HEWs are better than they were two years ago.
- The most important challenges in the implementation of HEP were unavailability of various medicines (such as vaccines, ORS, Depo injections), lack of support from district health office, and inadequate skill of HEWs.
- Majority of the respondents thought that improving the supply of drugs and equipments, and increasing the professional level of HEWs, increasing motivation of HEWs, assigning highly skilled health workers at the health post, and increasing the working hours of the health post would be important to improve HEP services. These recommendations indicate the need for more curative services.
- Awareness about vCHPs was less as compared to HEWs and they were not known in Afar and Gambella regions because recruitment and training of vCHPs has not been initiated. The utilization of services from vCHPs was comparable to that of health extension workers, which was shown by similar rate of home visits. The specific HEP services received from vCHPs were similar with the services received from HEWs, and 77.3% of the respondents rated the service they received from vCHPs as very satisfactory or satisfactory. Similarly, the respondents had good attitude towards vCHPs.

6.11. RECOMMENDATIONS

- There is a need to create and improve awareness of the community on HEP and HEWs, which is critical to improve the demand of the community.

- As recommended by the implementation strategy of HEP, HEWs should spend 75% of their time at community level visiting households to provide services. Thus, improving home visit by HEWs would be important in creating awareness and utilization of HEP services.
- As recommended by majority of respondents, improving the supply of drugs and equipments, upgrading of HEWs and increasing the opening hours of health posts would contribute to increased utilization of the HEP services by the community.
- Even though HEWs are expected to provide the full package of HEP, few services like family planning, immunization, water, sanitation and hygiene, and health education are known by the community and frequently provided by HEWs. The provision of services should be expanded to the remaining packages of care through appropriate allocation of time to all services. Training of model households and growth monitoring are among the services that need to get more attention.
- Overall community satisfaction with HEP and HEWs is encouraging and need to be strengthened and sustained.
- Address the curative service need of the community, either by increasing the range of services provided by HEWs or improving referral system between health posts and health centers.