Degree of adherence of the urban health extension service delivery process to the standards set nationally

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Abstract

Background: The Urban Health Extension Program (UHEP) is an innovative Ethiopian government plan to ensure health service equity by creating demand for essential health services through the provision of appropriate health information at the household level. Even though the HEP was launched in Ethiopia in 2003 as the flagship program for the implementation of primary health care in the country, studies looking at its quality are limited. Adherence to set standards within a program is one of the parameters that indicates process quality. This paper, part of a larger survey to assess the quality of services provided by the UHEP in Ethiopia, looks at the degree of adherence of the service delivery process to the standards set nationally.

Methodology: The study included an assessment of the degree of adherence of the urban health services delivery process to the national standards in selected urban health extension facilities within the catchment areas of sampled institutions. Assessment was made using observation checklists of the routine service provision of the health professionals. Data collection for the survey included the assessment of the service delivery practices of 330urban health extension professionals (UHE-ps) in five major regions.

Results: When compared with the standards set in the national program implementation manual, environmental sanitation and counseling of mothers (99.4%), essential nutrition action (in terms of growth monitoring and provision of vitamin A and iron supplementation) (95.4%), HIV/AIDS and STI-related services (95.1%), antenatal care (87.6%), adolescent reproductive health(RH) services (82.1%), family planning services (81%) and facilitating immunization (63.7%) were reported to have good performance. On the other hand, childhood curative services (22%), curative care for pregnant mothers (24.2%), delivery care (25.4%) and follow-up of treatment for leprosy cases (25.5%) were reported to have comparatively low performance.

Conclusions: Overall, the comparison of adherence to standards set by the UHE-ps implementation manual showed that the most preventive and health promotive services (including HIV/AIDS and STI) were regularly provided, while low performance of UHEps were reported in delivery-related and curative services (including those given to pregnant women and children. [*Ethiop. J. Health Dev.* 2020; 34(Special issue 2):62-69]

Key words: Adherence to standards; Urban Health Extension Program; Urban Health Extension Professionals.

Background

The Health Extension Program (HEP) is "a package of basic and essential 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" (1). It was initiated in 2003 in rural communities in Ethiopia as part of the Health Sector Development Program, by expanding physical health infrastructure and training and deploying a cadre of female health extension workers (HEWs) (2). The Urban Health Extension Program (UHEP) is expected to be provided through 16 packages. The services are grouped into four main themes: hygiene and environmental sanitation; family health care; prevention and control of communicable and non-communicable diseases; and injury prevention, control, first aid, referral and linkages. The implementation of the program encompassed all sections of society within households, schools and youth centers (1). Quality can be defined as the ability to get the desired services from the chosen provider at the right price (satisfaction), implying that it is the extent to which the service delivered by the organization meets the customers' expectations. The term 'process' in this context refers to what is actually done during the delivery of care, and 'satisfaction' is the intensity of various emotions tied to specific requirements over a certain period (3,4). An earlier report on the technical quality standards of health institutions in Adama, Bahir Dar, Mekelle and Hawassa produced an average low score (3.9 out of 10) on process parameters (5).

In Ethiopia, inspite of remarkable achievements in health service performance during the past 20 years, there has been no corresponding effort and determined commitment to quality implementation at the ground level, and there are only few facility-based process quality studies in the country. More recently, the Health Sector Transformation Plan (HSTP) has expressed commitment by taking the matter to a higher level by making healthcare quality one of its priority objectives (6), and the assessment of quality standards an important issue. Therefore, this study aimed to provide insight into the overall quality of service delivery within the UHEP, and this particular component looks at the degree of adherence of the service delivery process to the standards of the program set nationally.

Methodology

This is a cross-sectional, facility-based study conducted among sampled UHE-ps within 13 cities across five major regions (Amhara; Harari; Oromia; Southern Nations, Nationalities, and Peoples' (SNNP); and Tigray) as well as two city administrations (Addis Ababa and Dire Dawa). The selection of the towns and cities was made randomly, and the sample size for UHE-ps was determined by a using a single proportion formula using Epi Info statistical software version 3.5.3

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for Windows, based on the following assumptions: the total number of UHE-ps under John Snow, Inc. (JSI) nationally is 2,163; since there was no previous study done on such a program, *p*-value was taken as 50%.

The desired degree of precision was set at 5%, with a 95% confidence interval, and the calculated sample size was 384.

> $z_{\alpha/2}$=the Z-score corresponding to the 95% confidence level, which is 1.96

> d=± 5% maximum discrepancy between sample and population (d=0.05)

> p=the prevalence rate of patient satisfaction (at 50%)

$$n=\frac{(z_{\alpha/2})^2*p\,(1-p)}{d^2}=\frac{(1.96)^2*0.5\,(1-0.5)}{(0.05)}=354*1.5=384$$

Since the total number of UHE-ps under JSI nationally is 2,163, we used correction formula:

$$Nf = \frac{n}{\frac{(1+n)}{N}} = \frac{384}{\frac{1+384}{2,163}}$$

With the calculated sample size using a contingency of 10% for non-respondents, this resulted in a total of 326 UHE-ps.

Observations were made using pre-prepared checklists for the assessment of structural and some of the process-related parameters within the selected health facilities. In addition, self-administered questionnaires were used to assess process-related issues among the UHE-ps within the selected facilities. The questionnaires were adapted from various other tools used for the same purpose, and were pre-tested on non-sampled areas before actual data collection.

Data entry was performed using EpiData, and then data were exported and analyzed using SPSS.

For the purpose of this particular study, we have set performance standards for assessing adherence in the activities of the UHE-ps as follows:
- Activities performed by more than90% of the UHE-ps are considered as excellent
- Activities performed by 80% and above but below 90% of the UHE-ps are considered as very high
- Activities performed by 70% and above but below 80% of the UHE-ps are considered as high
- Activities performed by 50% and above (but below 70%) of the UHE-ps are considered as moderate
- Activities performed by less than 50% of the UHE-ps are taken as being of low performance.

Results
Sample characteristics of participant UHE-ps: To explore the degree of adherence of the urban health extension service delivery process to the national standard, in-depth interviews were conducted with 330 female UHE-ps within the health centers of the study areas (five regions and two city administrations). Table 1 shows the characteristics of the sample UHE-ps who participated in the assessment. Accordingly, the mean age of the participants was 27.9±3.6 years (range=20-48 years), and the majority of them (79.4%) were between the ages of 20 and 29. More than half (61.5%) were married, and the majority (87.3%) were diploma holders, with 12.7% reported to be at baccalaureate level. Duration of service ranged from one to 10 years, with a mean of 4.7 years.

Table 1: **Socioeconomic characteristics of sample UHE-ps, 2017**

	Region/City administration													
	Addis Ababa		Amhara		Dire Dawa		Harari		Oromia		SNNP		Tigray	
Age (years)														
Mean	27.9		26.6		27.02		29.06		28.04		28.24		27.95		29.93
Range	20-48		22-48		21-36		25-34		22-38		24-40		23-35		20-45
Marital status	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Single	127	38.5	40	64.5	15	31.3	12	35.3	9	36	10	16.1	14	28.6	9	36
Married and others[1]	203	61.5	22	35.5	33	68.7	22	64.7	16	64	52	83.9	30	71.4	16	64
Total	**330**	**100**	**62**	**100**	**48**	**100**	**34**	**100**	**25**	**100**	**62**	**100**	**44**	**100**	**25**	**100**
Religion														
Orthodox	224	67.9	54	87.1	42	87.4	17	50	9	36	30	48.4	19	42.2	28	93.3
Muslim	38	11.5	1	1.6	3	6.3	9	26.5	8	32	17	27.4	-	-	1	3.3
Other Christian	68	20.6	8	11.3	3	6.3	8	23.5	8	32	15	24.2	26	57.8	1	3.3
Total	**330**	**100**	**62**	**100**	**48**	**100**	**34**	**100**	**25**	**100**	**62**	**100**	**45**	**100**	**30**	**100**
Years of work experience														
0-2	82	24.8	28	46.7	12	25	3	8.8	5	20	3	4.8	9	21.5	10	47.6
3-5	100	30.3	21	35	20	41.7	17	50	6	24	11	17.8	4	9.5	9	42.8
>5	148	44.9	13	18.3	16	33.3	14	41.2	14	56	48	77.4	29	69.0	2	9.6
Total	**330**	**100**	**62**	**100**	**48**	**100**	**34**	**100**	**25**	**100**	**62**	**100**	**42**	**100**	**21**	**100**

[1]Others include those widowed and divorced.

Description of activities of participant UHE-ps:
Almost all (99%) of the participant UHE-ps reported to be conducting regular home visits. Of these, 315 (96.3%) claimed to conduct home visits at least once a week, and 283 claimed to do them twice or more times per week.

Table 2: **Frequency of home visits per week by UHE-ps by region/city administration, 2017**

	Addis Ababa	Amhara	Dire Dawa	Harari	Oromia	SNNP	Tigray	All N	%
Once	20	4	1	1	3	13	12	54	16.6
Two times	2	0	0	0	5	0	10	17	5.2
Three times	6	2	0	0	39	5	10	62	19.0
Four times	16	8	0	2	10	5	6	47	14.4
Five times	7	29	33	21	3	15	7	115	35.3
Six to seven times	11	5	0	0	1	11	3	31	9.5
	62	48	34	24	61	49	48	326	100

Figure 1 below depicts the specific packages of services reported to be delivered by the participant UHE-ps. Accordingly, the most regularly provided service packages were (in terms of proportion of UHE-ps providing the specific services): environmental sanitation and counseling of mothers (both reported 99.4%); essential nutrition action (95.4% reported); HIV/AIDS and STI-related services (95.1% reported); antenatal care (87.6% reported); adolescent RH services (82.1% reported); family planning services (81% reported); and immunization services (63.7% reported).Package items reported with the lowest performance include: childhood curative services (22%); curative care for pregnant women (24.2%); delivery care (25.4%); and follow-up of treatment for leprosy cases (25.5%).
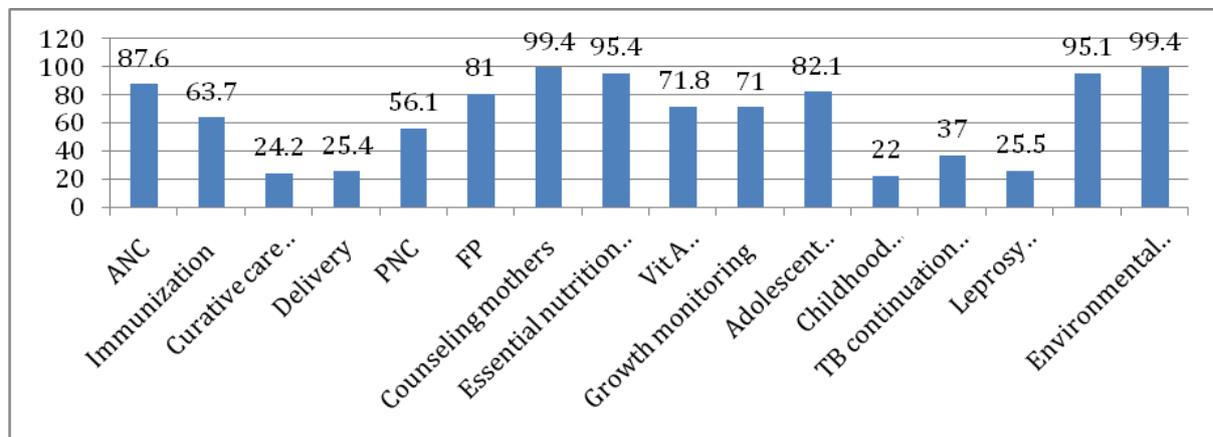
Figure 1: **Proportion (%) of UHE-ps delivering service packages, 2017**

One hundred and eighty-five (56.1%) of the UHE-ps reported giving postnatal care services. Concerning the number of PNC visits, 93 UHE-ps stated to have conducted one visit per week, 36 reported making two visits per week, and 31 carried out three or more visits per week.

The majority of the UHE-ps (99.4%) provided hygiene and environmental sanitation services and 321 (98%) did so every week. In all regions, almost all UHE-ps provide this service.

Of the 328 who provided sanitation services, 296 promoted latrine use and 285 promoted personal hygiene. Two hundred and fifty-nine gave sanitation service on promoting clean home, 296 gave service on promoting garbage pit, and 190 introduced sanitary constructions.

At household and community levels, 120 UHE-ps provided services related to the prevention and control of rabies; of these, 25 give the service weekly while 23 stated to giving the service once per month. Eighty-five per cent of UHE-ps in Tigray, 41.3% in SNNP and 31.1% in Addis Ababa provide services on the prevention and control of rabies, while none of the UHE-ps in Dire Dawa claimed to give the service.

Three hundred and five UHE-ps (92.4%) give health education for behavioral change and the majority (90.2%) provide the service every week. The issues addressed include: food hygiene and safety by 267UHE-ps; control of STIs by 263 UHE-ps; rodent control by 162 UHE-ps; and healthy housing by162 UHE-ps. Health education for behavior change is provided by all the UHE-ps in Harari, SNNP and Tigray. The proportions providing this service range from 87.3% in Oromia to 100% in Amhara and Harari regions.
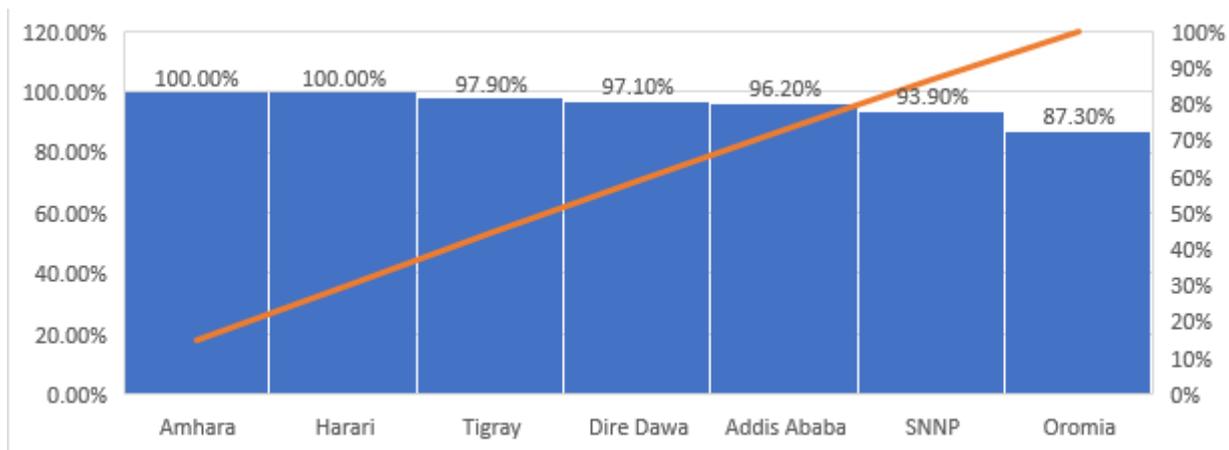
Figure 2: Proportion of UHE-ps offering health education for behavioral change by region/city administration

Two hundred and twelve (64.2%) of the UHE-ps provide preventive services for non-communicable diseases control, such as blood pressure measurement and urine testing. One hundred and forty-two give the service every week and 52 provide it at least once per month. Only 15 UHE-ps claimed to give drugs to relieve pain.

Two hundred and sixty-one UHE-ps (79.1%) provide school health service; of these,99 provide the service every week, 120 provide the service once per month, while nine give the service once a year. As shown in Figure 3, 88.8% in SNNP, 85.7% in Tigray, and 79.4% in Addis Ababa and Oromia provide school health services, while in Harari only 48% provide the service.
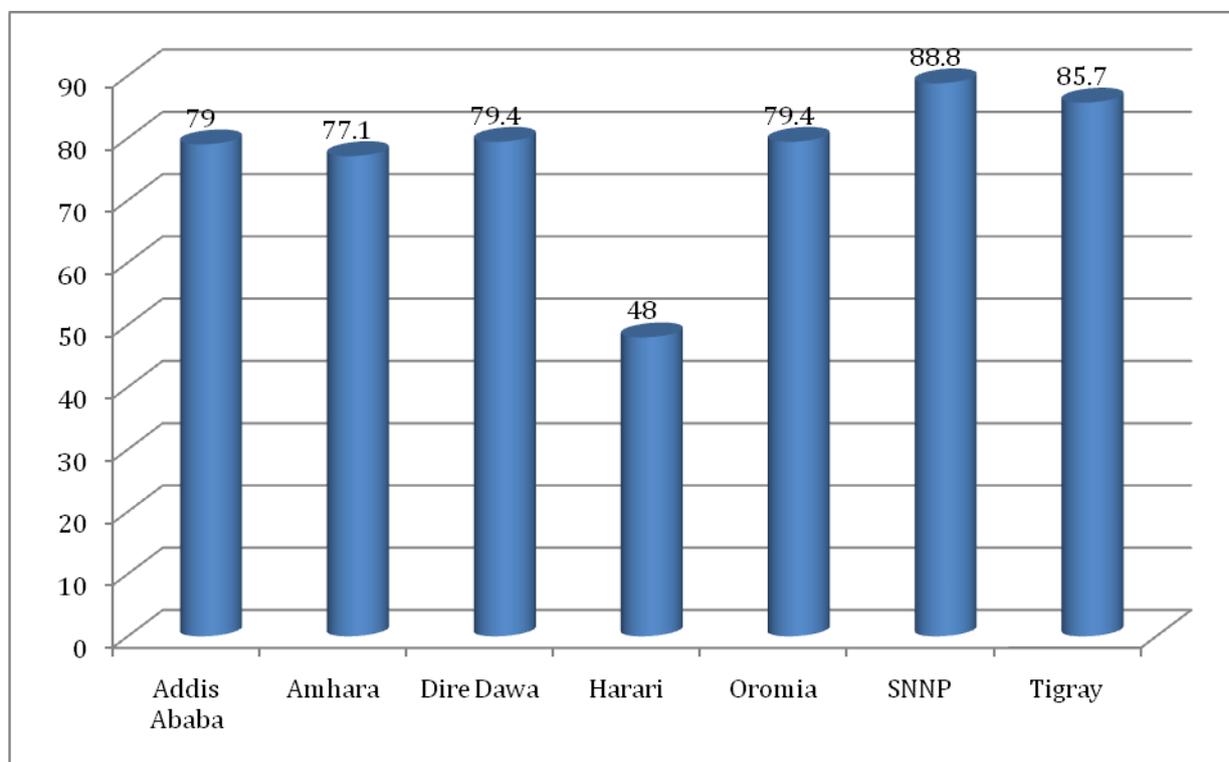
Figure 3: **Proportion of UHE-ps offering school health services by region/city administration, 2017**

Only sixty-five (20%) visited prisons; of these, 12 conduct the visit every week, 23 conduct the visit every month and 30 conduct the visit once per year. On the other hand, 141 (43%) UHE-ps visit youth centers; of these,31 conduct the visit every week, while 111 conduct the visit every month. As shown below in Figure 4, 71.4% in Tigray, 53.1% in SNNPR and 50% in Dire Dawa visited youth centers; while the proportion who made such visits in the other regions was below 50%.
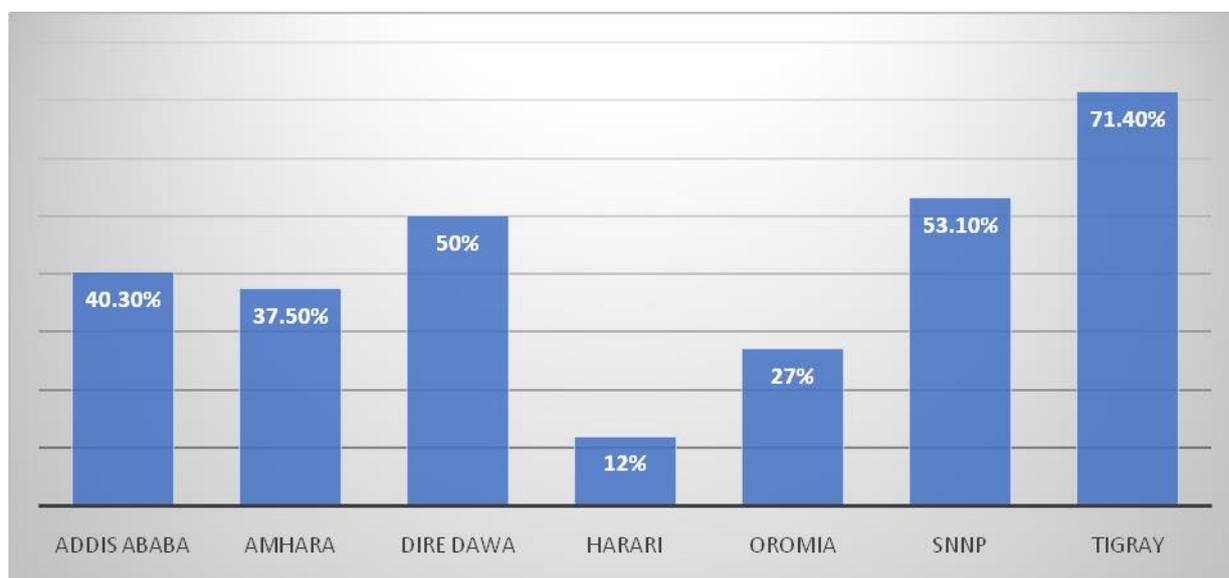
Figure 4: **Proportions of UHE-ps who visit use centers by region/city administration, 2017**

Two hundred and seventy-five UHE-ps register illness and the majority (89%) claimed to do it regularly. The majority, 315 (95.4%), referred pregnant mothers and patients. Of these, 283 (90%) referred one or more patients every week. On a weekly, basis 60 UHE-ps referred two to five patients and 143 claimed to refer more than five patients. All UHE-ps in Amhara, Dire Dawa, Harari and Oromia, and 96% in Tigray, 87% in SNNPR and 86% in Addis Ababa, referred patients to health centers.

Three hundred and six (93%) UHE-ps send reports regularly; of these, 130 report every week and 178 report every month. All UHE-ps in Dire Dawa, Harari and Oromia, and 96% in Tigray, 90.2% in Addis Ababa, 89.4% in Amhara and 80% in SNNPR report regularly.

In addition to provision of services to their clients, 127 (38.5%) conduct community resource mapping.

Discussion
This survey has attempted to provide baseline information on the quality of the urban health extension services through a quantitative assessment of the process quality of the UHEP by looking at adherence to standards set by the program at national level.

The findings of the study showed that most of the services in the health extension package are being delivered under the supervision of the facilities included in the survey. However, the extent of services being provided differs from package to package, as well as from region to region. For instance, even though two postnatal visits by UHE-ps are expected within a week after delivery, as prescribed in the guidelines (1), they were not strictly conducting these visits –only 19.5% of those providing that service were doing so twice a week.

The findings of the study showed that excellent performances were observed in: conducting home visits; counseling of mothers; giving HIV/STI-related services (95.1% reported giving the services, of whom 74.2% were doing so weekly); reporting epidemics; providing antenatal care (87.6% provide the services – most of them every week); coordinating hygiene and environmental sanitation activities (99.4% coordinate – most of them weekly); referring pregnant mothers (95.4% reported referring – the majority of them every week); and giving health education for behavioral change (92.4%, with the majority conducting this service weekly). Most of the UHE-ps in Amhara and Dire Dawa (both 100%), Oromia (95.2%), and Harari (88%) provide family planning services, while only 44% of them do so in SNNPR. The high family planning service provision in most of the study regions can be explained by the availability of the methods evidenced by the facility assessment for this study, which showed the availability of condoms in 22 and oral contraceptives in 19 of the 26 facilities surveyed (7).

A number of UHE-ps (about 24% of the 330 total) reported conducting normal delivery services, even though only two out of the 26 visited facilities (where the UHE-ps are based) had delivery kits. Even though UHE-ps are not expected to provide delivery services, those who claimed to have done so might have found themselves in a situation where there were no alternatives**.** The other activity that is expected of the UHE-ps is they should undertake at least two postpartum visits: the first within 48 hours of delivery and the second within seven to 10 days. Despite the provision of ANC, the level of delivery and providing PNC services is minimal. Only UHE-ps in Tigray reported assisting deliveries, while only a few in other regions reported doing so. This might be due to problems related to the availability of equipment, as shown in the facility assessment (7). Despite UHE-ps' high scores (85.2%) in an assessment of their knowledge of PHC (7), which was part of the wider study, the provision of PNC service is very minimal, except in Harari, where 96% of the UHE-ps provide PNC. Even though other studies mention the lack of

skills on the part of HEWs to account for the low involvement in postpartum care, knowledge score among studied UHE-ps is high (above 85% correct on postnatal care). Therefore, the reasons for low involvement need to be further investigated.

The frequently undertaken activities under the disease prevention and control component were found to be HIV/AIDs and STI-related services (95.1%), tracing defaulters from TB treatment (88.5%), and following reactions and complications of anti-TB treatment (72.1%). These are very commendable activities, as HIV/AIDS and TB prevention and control are the major packages under the disease prevention and control component of UHEP. Furthermore, the provision of preventive communicable disease service, such as blood pressure measurement and urine testing by 64.2% of the UHE-ps, is a very positive finding that must be strengthened.

There were also services for which the performances can be considered high (vitamin A supplementation – reported 71.8%; and follow-up of TB treatment – reported 72.1%) and moderate (facilitating immunization – reported 63%; registering illnesses on regular basis – reported 63.4%; and follow-up of NCD cases – reported 64.2%).

Growth monitoring, which is one of the important services for children, is conducted by the majority of UHE-ps. However, only 20% in Harari conduct growth monitoring and none of those in Dire Dawa do so. The poor performance in these areas is obviously due to a lack of equipment and/or proper guidelines to perform the service, since as mentioned above, only 50% of the visited health facilities had the equipment necessary to weight infants.

Even though the proportions are very low, there are also commendable services in terms of visits to schools (79.1%), youth centers (43%) and prisons (20%).The majority of those conducting these visits claimed to do the visits on average every month, even though they are expected to make two visits per month. The reasons for low school health services and youth center visits in Harari need to be explored.

Some UHE-ps were also found to perform activities that are not mandated within the national standard. For instance, 84 (25.4%) UHE-ps claimed to give delivery service (reported in all regions except Addis Ababa), and 25 (7.6%) claimed to treat children under 5who have eye and skin infections, as well as pneumonia (reported in Amhara, SNNP, and Tigray). Another service where most UHE-ps (82.1%) spent their time, especially on a monthly basis, is the provision of adolescent RH services: the majority (72%) provided counseling services and distribution of condoms (80%) to adolescents. These findings suggest the need for close supervision and monitoring of the activities of UHE-ps so that they can be consistent with the implementation manual.

On the other hand, some of the reported services can be said to have low performance, considering the national standard. Only 24.2% reported to give curative services for hookworm and for treatment of malaria during pregnancy. The provision of curative services to children under the age of 5 is also reported to be low (22%). In addition, it is worth noting that first aid kits were available in only 50% of the surveyed facilities. Similarly, in only half (50%) of the visited health facilities were infant weighing scales available, which makes it difficult for the UHE-ps to properly discharge their responsibilities.

An important finding this study revealed is that majority of the UHE-ps (93%) send reports regularly, either every week or every month. Another encouraging trend the study showed is the regular use of job aids/guidelines by the vast majority of UHE-ps (98.8%) for their day-to-day work. All have the guidelines, and only 1.2% reported not using them in their day-to-day activities. The facility survey showed that almost all the health facilities surveyed have guidelines relating to family health service, disease prevention, reproductive health, family planning, hygiene and environmental sanitation, and HIV testing and counseling.

Conclusions

Comparing the extent of adherence to standards set by the UHE-ps implementation manual shows that the most regularly provided service packages were: environmental sanitation and counseling of mothers; essential nutrition action; HIV/AIDS and STI-related services; antenatal care; adolescent RH services; family planning services; and facilitation of immunization services. On the other hand, low performances of UHE-ps were reported in: curative services for pregnant and children; delivery-related services; and follow-up of treatment for leprosy cases. Based on the proportion of UHE-ps delivering the specific services, some services are not provided adequately. These services include PNC, facilitating immunization for mothers, provision of service for non-communicable diseases control, provision of iron folate treatment for anemia, curative hookworm and malaria treatment for pregnant women, and curative service for children under 5 to treat intestinal parasites and diarrheal diseases. Even though environmental health is a component that is performed by the UHE-ps, structural challenges are identified as related to construction of waste disposal and toilet facilities that include scarcity of land and space (8).

Efforts must be made to strengthen the program through scaling-up the good practices identified, as well as building on the opportunities for improvement suggested in this study. Efforts should be made to increase the provision of the services that are found to have very low coverage, and strengthen the good starts in the provision of services such as adolescent RH in youth centers and health services in schools and prisons.

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