

# Assessment of the Training of the First Intake of Health Extension Workers

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## Abstract

**Introduction:** Ethiopia's poor health status is due primarily to communicable diseases, poor nutrition, and lack of access to health services in general and for most of the rural, nomadic pastoralist and fringe areas in particular. In response, the government has launched a Health Extension Program (HEP) for which training of Health Extension Workers (HEW) has been started. This study assesses the first year's HEW training program in terms of its inputs, processes and output.

**Methods:** The Method of the study included a questionnaire survey and an in-depth study of all the training centers except one.

**Results:** All the Technical and Vocational Education and Training Institutes (TVETIs) studied were found to lack adequate facilities to receive the HEW trainees including classrooms, libraries ICT, water and latrines. The selection of HEW was flawed, most being from woreda towns and not the rural villages they will be working in. Most trainees had very low grade point average. Trainees did not have adequate orientation on their future job at recruitment. Trainees in some regions did not receive stipends while they did in others. However, trainees expressed a high level of commitment to work in rural areas. The number of trainers was low and very few were female or with degree. Top-up of salaries were given in some regions but not others and trainers saw their employment status as ambiguous. Teaching and learning conditions were constrained with very little practical training.

**Conclusion:** Major issues are discussed and recommendations made on improving future training, improving the knowledge and skill of graduates through continuing education and on future training to replace attrition. [*Ethiop.J.Health Dev.*2007;21(3):232-239]

## Introduction

Ethiopia is suffering from a health problems due primarily to communicable diseases, poor nutrition, and lack of access to health services (1). Since 47 percent of the population lives below the poverty line and income per capita is only around USD 100, most people cannot afford health care, and consequently the average life expectancy at birth remains only 46 years. The main 'modern' health care provider is the government, which manages most of the country's 5,873 health station/health posts, 600 health centers and 131 hospitals (2).

Modern health services only cover about 60% of the population, with little access for most of the rural, nomadic pastoralist and fringe areas. Even these limited services are underutilized due to economic and social barriers. The low rate of health care utilization is indicated in the fact that only 30% of pregnant women receive antenatal care and only 10% are attended by a health professional during delivery (2, 3). Recent initiatives (Millennium Development Goals, Sustainable Development and Poverty Reduction Program) have accelerated the anticipations in development and the related requirements to upscale health services have amplified the underlying human resources for health (HRH) crisis.

In response to the country's health crisis, the government introduced in 2003 the Health Extension Program (HEP) as part of the primary health care service (4). The HEP is an innovative health service delivery program that aims for universal coverage of primary health care by 2009. It will place two government-salaried female HEWs in every *kebele*, with the aim of radically shifting the emphasis of

the country's healthcare system to prevention and improve the uneven resource distribution. The magnitude of the effort that is being undertaken can be best appreciated by noting that the number of new health service staff positions that will be created under HEP in less than five years is more than double the number that was created in the previous decades (5).

Training of about 2,700 HEWs was completed by the end of 2004 in 11 Technical and Vocational Education Institutes/Centers (TVETs); 7,000 HEWs were in training in 2005 and over 30,000 HEWs will be trained by 2009. Thousands of other health care services staff, particularly at the HC level, will receive training to aid in the accelerated implementation of the HEP (6).

The curriculum and teaching materials have been developed on the basis of limited experience from the pilot projects carried out in one region and inputs from similar programs carried out in other countries (7,8). As any new program, it is bound to face challenges because "well-established programs are usually assumed to be 'good' until proved otherwise, whereas innovative programs are assumed to be 'poor until it is proved otherwise" (9).

The experiences from this first training can provide important information which can be used to develop and refine the program for future years. It is essential that a rigorous, professional assessment of the current program is undertaken in order to draw lessons for the future.

The objective of the study was to assess the first year's HEW training program in terms of its inputs, processes

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and output in order to recommend improvements for subsequent trainings. Specifically, issues related to recruitment process and outcomes; adequacy of the curriculum; quality of the training process; perception of trainees, trainers and other stakeholders; and needs for continuing education were assessed.

### Methods

The Center for National Health and Development in Ethiopia (CNHDE) undertook the assessment in 2004. A former member of the Education Faculty at Addis Ababa University, with expertise in training evaluation, (now on UNESCO assignment in MOE) provided expertise in educational planning and evaluation. The staff of the CNHDE developed the assessment methodology based on previous experiences in Ethiopia (10, 11, 12, 13, 14, 15) and abroad (16, 17, 18) of which the following were the main components:

*Questionnaire survey* to assess the opinions of students, trainers and status of facilities on various aspects of the training program.

#### *In-depth study of the training centers*

CNHDE staff members carried out the in-depth and on-site assessments of all the training centers operational for the 1<sup>st</sup> intake (except the training center in Mettu). Assessments were undertaken through visits, interviews, observations and group discussions. In addition, discussions were held with area health service offices including RHB, WHO, HC, and the Woreda administration. Instruments developed for the questionnaire assessment were adapted for use in interviews with health service offices.

### Results

All the Technical and Vocational Education and Training Institutes (TVETIs) studied were found to lack adequate

**facilities** to receive the HEW trainees (Table 1). They did not have enough time or information to prepare the facilities. Organizational arrangements varied from one institution to the other, but often the HEW trainees were perceived as being completely external to the institution.

**Classrooms** were inadequate in almost all centers. Most used classrooms prepared for elementary or secondary school students. In some centers, classes were taught in temporary corrugated iron structures. Even though the HEP Implementation Guidelines indicated that there should be 20-30 HEW trainees per classroom, TVETIs were asked to provide one room for 50 trainees, and most had much higher number of trainees per room (Table 1). Some had what could be considered adequate conditions in terms of trainees per room. Often, trainees were so crowded they had problems taking notes. In a class room in one center, students were seated four to a desk, which was designed for three children, and were hardly able take notes. An extreme example is, where there were enough chairs and desks for only half the trainees, which meant that half of the class had to sit on the floor or on makeshift arrangements (such as stone slabs).

**Libraries** were almost nonexistent for the first intake of HEW in all TVETIs (Table 1). Some had rooms, but none had books relevant to HEW training. Those with libraries had few books on other vocational subjects, and reading material was generally out of date. Recently some HEW-relevant books (modules, books prepared for health officers, nurses, etc.) have been received but most training centers had not yet worked out the modalities of their utilization as the contents and numbers of copies vary from less than 10 to over 200.

Facilities for **Information and Communication Technology (ICT)** are inadequate. Some centers (5 of the 10) have a few computers for the regular TVET trainees

Table 1: Training of the First Intake of HEW: State of Training Facilities, 2004

TVETI	No. Student	Class-room	Library (capacity)	ICT (PC)	Water /latrine	Demo Room	Practice Site
Axum	200	4	--	--	?	--	±
Mekele	197	4	±	--	??	--	±
Dessie	396	8	45	25	++	--	±
D/ Marcos	323	6	--	--	±	?	±
Assela	154	3	50	--	±	50-	±
Fiche	150	6		--		15-	±
Goba	153	3	100	26	++	(2)40-	±
Shashemene	146	3	40	34		#	±
Butajira	375	6	S	45	±	#	±
Dilla	375	13	S	39	++	#	±

-- Do not exist, ? = Almost inexistent, ± = Exists but dubious functionality, # = Under preparation, S = Small, ++ = Adequate

(Table 4.1), but even there the number of computers was inadequate. Most trainees had only lectures on ICT and never used a computer. Sometimes, lack of access to computers resulted from TV staff being unwilling to allow HEW trainees to use the facilities. For example, in Dessie, there was an ICT room with 45 computers however, there were conflicting report between the TVETI staff and HEW trainers on whether HEWs had access to them.

**Water and latrines** were inadequate in almost all TVETI except Dessie and Dilla. In addition, most of the toilet facilities were very unsanitary. In some centers such as Mekele, we were persuaded not to visit them. The TVETI in Axum was judged to be in the worst condition.

The **selection** criteria for HEW trainees varied slightly from document to document (7, 19) and between regions. However, of the core criteria, only *sex*, all female, and *completion of 10th grade of general education* were fully adhered to. In fact, quite a high number have completed 12<sup>th</sup> grade and there were also a large number of trainees who have been out of school for many years and had difficulty in following the training program.

An important criterion, being '*From the kebele of future assignment (or neighboring kebele or woreda)*', was not adhered to in most cases as very few HEW trainees were recruited from the kebele proper. A large number were from towns because of flaws in the selection process. Recruitment for Mekele, for example, was done through advertisement in schools, which meant that most recruits are from towns and particularly from towns where there are TVETIs.

The **selection process** as a rule was supposed to start at the kebele level. In practice, at least for the first intake, trainee selection was carried out primarily by the Woreda Committee chaired by Capacity Building with the woreda health office (WHO) and woreda education office (WEO) as members. Although WHOs have membership on the Woreda Committee, most of the WHOs expressed that they were excluded from involvement in the final decisions. Trainees were recruited mostly from woreda towns, which were prompted essentially by the high number of unemployed youth in these towns.

Speaking the **language** of the community/region seems to be presumed in most regions; only SNNPR had 'speak the language of the kebele' as explicit criteria. However, ensuring that these criteria are met during the HEWs' assignment will not be an easy task since most trainees have been recruited from urban areas.

**Other criteria:** (mentally/physically sound, active participant, etc): There was no age limit so some trainees over age 30 have been recruited. This had led to a number of difficulties in training as some have children

and other family responsibilities. The mentally and physically sound criteria were not rigorously applied as there was, in most cases, no medical check-up consequently there were few handicapped and pregnant women. This has impacted on the learning process and is bound to impact on future assignment.

**Low Grade Point Average:** According the HEP Implementation Guidelines, the minimum GPA required for admission is 1.2, in order to get students from the rural kebele level. The pool of potential applicants (females possessing an education of grade 10<sup>th</sup> to 12<sup>th</sup> grade) is very large. However, all reported that the HEW training program has not attracted the better students. This, coupled with the fact that most of these have been out of school for a long time, has created difficulties in following the courses.

**Orientation** was inadequate. Most trainees seem to consider being a HEW as only a stepping stone to becoming a nurse. Some of them claim that they have been promised as such during orientation. However, all have been clearly informed that they will be working in rural kebeles and have, except in Tigray, signed agreements to serve in kebeles. *Stipend* is provided to trainees in some regions but not in others.

Trainees express **high commitment and willingness to work in rural areas**. Attrition (about 1%) was low. Most say they are committed to work in kebeles and change the life of villagers. Even trainees who were recruited from the towns believe they can adapt easily to rural community life, as most have moved to towns only recently.

All **trainers** were full-time, mostly sanitarians (43%) and public health nurses (41%). There were very few female trainers (11%) or degree holders (6%). In most centers there is a home-science teacher, who covers the nutrition and related subjects. On average, there were 37 trainees per trainer (Table 2).

Amhara and SNNPR do not give any salary top-up to trainers while Oromia and Tigray provide 300 Birr per month. This *varying top-up policy* has led to resentment among the trainers in Amhara and SNNPR as they are well aware of the practices in the other regions.

Trainers view their employment status as ambiguous. Except for Tigray, they have been transferred to the education sector. This means that they were no longer in the government health sector's employment structure and were not considered for staff benefits such as in-service training, upgrading, and free medical treatment. Trainers stated that they felt that they were being bypassed for these opportunities only two participated in short workshops during the year.

Table 2: Training of the First Intake of HEW: Number of Trainers by Qualification, 2004

TVETI	Student	HO	PHN	Sanitarian	Other	Total	Notes	
							†	°
<b>Axum</b>	200	1	1	2	-	4	1	1
<b>Mekele</b>	197	1	1	2	-	4	1	1
<b>Dessie</b>	396	-	5	5	1	11	1	0
<b>D Marcos</b>	323	-	6	7	1	14	1	1
<b>Assela</b>	154	-	2	2	1	5	-	-
<b>Fiche</b>	150	-	2	2	1	5	0	0
<b>Goba</b>	153	-	2	2	1	5	0	0
<b>Shashemene</b>	146		3	3	1	7	-	-
<b>Butajira</b>	349		2	2	1	5	1	0
<b>Dilla</b>	349		3	3		6	2	1

† = Female, ° = Degree holder, HO = Health Officer, PHN = Public Health Nurse

On the other hand, trainers do not seem to be included in the employment structure of the Technical and Vocational Education and Training Commission. Since the HEW trainer position is considered a temporary assignment, they do not know how they will fare after the training 'campaign' is over after 3-4 years. In general, they feel caught between TVE Commission and RHB and are apprehensive about the future. Due to this uncertainty, there is tension between trainers and management in almost all TVETI.

There is a high degree of commitment among the trainers in spite of the problems cited above. All understand clearly the policy and implementation principles of the HEP and seem quite committed to it despite implementation problems and their own grievances. All trainers underwent a one-month TOT (training of trainers) program organized by the FMOH. All trainers appreciate the TOT training methodology. They believe that the TOT was good in preparing them for their tasks, but all groups independently stated that the training would have been more effective if it had been given by Ethiopians who would have been more sensitive to issues in the cultural context. There also seems to have been some language problems during the TOT.

There was *no proper planning of the training process* at the institute level. Programming seems to have been left to the discretion of the trainers themselves as the curriculum guide provides only a very general sense of the sequencing of the courses.

The situation in Mekele is a good illustration. As the coordinator for the second intake said, "We [the trainers] have worked out our plans but those who direct the program have no plan." The common courses, which should have been given prior to starting the other courses have not been started because of apparent budgetary constraints (the TVETI staff would have to be paid), or because there are not enough TVETI teachers. In

Butajira, they are trying what they call a 'self-contained' method in which a trainer handles all the main courses for a class of trainees.

*English as language of instruction* has proved problematic. Most trainees were clearly not able to follow the course in English due to their limited use of this language, poor educational background and/or the fact that they have been out of school for many years. A large number were unable to understand standard written text in English. The usual practice was for the trainer to write the text on the black board in English for students to copy; otherwise explanations (and discussion if any) were carried out in Amharic or the regional language. Both trainees and trainers emphatically suggested that the courses should be given in the local language.

The first intake of trainees had no *books* of any kind. Single copies of the modules were available only for the trainers. In some TVETI the staff duplicated their notes for distribution but these were often limited in number due to a lack of paper, etc. Most trainees left the centers with the notes copied from the blackboards alone.

The curriculum prescribed 70% *practical training* but, in almost all cases, there were no facilities (demonstration room or models, health services near by) for practical training; therefore nearly all the courses were 95% theory. Some TVETIs had assigned rooms for demonstration (e.g. Asela, Goba had two rooms as shown in Table 1) but none had demonstration materials. In some cases, (e.g. Debre Markos and Dilla) the trainers and trainees have tried to build their own models from local materials. A few institutions (e.g. Mekele and Butajira) borrowed demonstration materials from nearby health professional training facilities.

In most cases **apprenticeships** were arranged at the eleventh hour. Issues of whether HEWs would undertake field placements in HCs or even hospitals were not

resolved until the last minute. Supervision and responsibilities were not clearly defined and therefore the trainees did not have enough exposure to procedures they were supposed to carry out. To remedy this situation, an additional month of a better organized apprenticeship was carried out in almost all regions. These supplementary apprenticeships were of markedly better quality, but were still carried out with a great deal of uncertainty.

The experience from Dessie provides a typical illustration of problems with the apprenticeship program for the first intake of trainees. In Dessie, students were assigned to HC and HP in nine woredas for their apprenticeship. Work assignment and supervision was assumed to be given by health workers at service delivery points (SDP) who were supposed to be given orientation on HEP. In most cases, the health workers had little idea of what HEP was or what was expected of them during the apprenticeship. Consequently, a number of trainees wasted almost a month before doing any practical work and others spent most of their time in the outpatient department (OPD) and almost no community work.

The trainers were not involved in supervision because it was assumed that the professionals in the service delivery points could provide adequate supervision and guidance. Later assessment showed major deficiencies, and it was decided to extend the apprenticeship by a month. However, shortcomings such as lack of adequate exposure and practice in injections (vaccinations, family planning) and in assisting delivery of infants persisted.

The apprenticeship was carried out either during the *mehar* harvest period (Amhara and Tigray) or the rainy season (SNNPR) hampering access to the villagers. In Mekele and Axum for example, students were sent for their apprenticeship at the height of the harvesting period. Many households left very early in the morning for the fields and came back very late. It was therefore very difficult for the trainees to work with them for planned activities. Trainees had to go to the households at five o'clock a.m. in order to meet them before they left for the fields.

In some regions (e.g. Tigray) there was no plan for a uniform. In others (e.g. Amhara), white gowns were ordered at the end of the training period but had not yet been distributed to trainees. In clinical contexts, (the HC, for example) trainees were difficult to distinguish from clients.

The first intake was not budgeted, but rather relied on extra-budgetary allocations and, in a number of cases, on subsidies from the TVETIs. The health professionals continued to draw their salary mostly from the health sector (their previous place of employment).

It was difficult to get a complete picture of the

operational budget of the training program because TVETIs varied in their use of common utilities and resources from other governmental departments. In fact, most TVETIs had to subsidize the HEW training from their internal income. For example in Dessie each student was allocated Birr 133.8, but the estimated cost of the training per student was Birr 353.5 – the balance was subsidized from the TVETI's internal income.

### **Future plans**

At the time of this study, the training institutions had just taken or were preparing to take the second intake of trainees. Woredas were anticipating the deployment of the first group of HEWs in the field. It was therefore important to know the level of planning and readiness at the different levels of the health sector for HEW deployment, particularly at the level of the Woreda Health Office (WHOs).

The **institutes** were not given ample time to do pre-planning to accommodate the HEWs training. There was still ambiguity on the sense of ownership of HEP by TVETIs, as well as the ad hoc relationship between the Regional Health Bureau (RHB) and TVE Commission.

**Woredas** seemed to be well acquainted with HEP but there was a tendency to leave HEP to the focal person. Information and sensitization of kebeles before the assignment of HEW both during apprenticeship and their final assignment was deficient. All woredas visited had only budgeted for the salary of HEW at least for the remaining months of the fiscal year. There seemed to be little awareness/concern for operational budget.

Preparations for **supervision** were limited. Most woredas were seriously understaffed, operational budget were restrained, and many lacked adequate vehicles. Our visit and interviews indicate that woreda health officials and health center (HC) heads envisage direct and substantial involvement of the HC.

The trainees spontaneously raised the issue of upgrading training and hinted they have been promised that they will be given priority for upgrading training to nursing. They also stress the need and importance of continuing education and anticipate its early implementation. Once the campaign training is completed, there will be need to plan for future replacement training of HEW. Future training will be needed to fill HEW posts created by attrition, the creation of new kebeles and the upgrading of a certain number of HEW.

### **Discussion and conclusions**

The HEW training is a new venture and, as should be expected of any new undertaking, has its transition problems. The challenge is to constructively appraise the program to date and draw lessons from its strengths and weaknesses.

The most encouraging aspect of the program is that most trainees seem positively interested towards their eventual assignment in spite of not being recruited from rural kebeles and the hard conditions under which they have trained. The same disposition was noted for mid-level trainees earlier (20). The trainers are confident in their training ability, have positive attitude to HEP in general and to the training program in particular.

The TVE institutes have provided classrooms and a number of other resources (library, staff room) from their very often limited resources. Most have also subsidized the budget of the HEW training from internal income by other departments. This is certainly an important indication of ownership and commitment to the program and has permitted the program traverse some critical moments (e.g. lack of demonstration materials). The support in giving the common courses and some of the supportive courses has also been critical. The Institutes with their large faculty also present the potential for wider professional interaction between staff (unfortunately not fully exploited because the HEW staffs are over burdened).

The selection process was dominated by the Technical and Vocational Education (TVE) sector with minimal involvement of the health sector. Most trainees were selected from woreda towns (not rural kebeles) and this could have a distorting effect in the future development of the HEP. Another major weakness is that the program seems to have attracted trainees with much lower grades compared, for example, to those in the regular TVE programs. One reason was that recruitment of the first intake started late and the better students were already enrolled in the other fields. In other cases, the potential trainees seem to prefer other areas such as education.

In most cases, the trainers are too few in numbers and therefore are overloaded. In Oromia the ratio of trainees to trainers was relatively good (30:1), where as in Tigray and SNNPR the ratios were 50:1 or even higher. It is clear that when the ratio of trainers to trainees is very high, trainers cannot interact sufficiently with individual trainees nor adequately guide their development. Trainers complained that they could hardly recognize the students let alone monitor their development. Their limited number also makes supervision during practical and apprenticeship very difficult. For an all-female student body, the number of female trainers was very low.

For trainers, uncertainty about the future is one of the most critical problems of the program. They feel insecure about their status as they feel lost between the TVE and the health sectors.

The teaching/learning process suffers from lack of textbooks, reference materials, inadequate practical/demonstration facilities and a compromised

apprenticeship program in spite of last minute remedial efforts.

There are no detailed guidelines on programming the courses which is left to the trainers. In these conditions, local initiatives, such as the self-contained method in Butajira would not have sign-posts against which to check. While this approach may have some merits, it may also detract from the quality of instructions in a number of fields, which require experience and expertise. In practice, this approach has meant that instructors are teaching outside their area of expertise, such as a public health nurse teaching and giving practicals on sanitation or an environmental health technician teaching family health.

The first HEW graduates will be going to their kebeles virtually without any *reference materials* except their own notes. It is clear that they will be faced with a number of challenges and issues not addressed or adequately articulated during their training. It is therefore important to provide the HPs with simple, practical reference materials in the most important fields preferably in the local language or in Amharic. The MOH has printed the modules and some additional materials both in Amharic and English. It has also developed, through the Carter Center, in association with MOE and USAID a series of 'Lecture Notes for Health Extension Trainees in Ethiopia.' The RHB in Tigray is translating the modules and intends to distribute them to HPs as soon as possible. These are commendable undertakings that should be emulated by other stakeholders. It is now important to get these materials in the hands of HEW as soon as possible. In addition to the use of English, it is doubtful that the content of some of the subjects could be effectively understood by HEWs.

The operational budget for HEW training was clearly inadequate. HEW training programs were as most TV training programs in general (19,20), under-resourced. In this situation, it would seem logical to try as much as possible to mobilize local resources to support the program. All HEW training TVETIs are located in relatively large towns with a number of government and NGO institutions, including RHB, health professional training facilities, hospitals, HCs. These institutions could be approached for support in terms of teaching staff, and demonstration materials, (e.g. Butajira and Mekele have used demonstration materials from nursing schools). Presumably the staff of these institutions is already heavily burdened, and the budgets of the TVETI may not be adequate to cover the additional costs of using these staff. Nevertheless, ways of deriving support from these institutions should be proactively sought.

The issue of uniforms for trainees and eventually HEWs needs to be clarified.

### The Future

The first group of HEWs is being deployed but woreda health offices (WHOs) and Health Centers (HCs) in woredas seem ill-prepared to receive and put them effectively to work. Most WHOs do not have adequate staff and budget to ensure proper supervision and support. Only salaries of HEW have been budgeted with no provision for operational expenses for HEP and the additional tasks of WHOs related to the HEP. Community mobilization in support of HEP has hardly started.

Financial support to HEW activities should be seriously considered and explicitly addressed. HEP is bound to impact significantly on the WHOs' operational budget (for logistic support and supportive supervision) but little thought and preparation seems to have been given to the issue. Given the general budgetary constraints, the program could suffer unless conscious measures are taken urgently both for improved operational budget for WHOs and operational budgets for Health Posts (HPs). If extra-budgetary resources (community contribution, donations, etc.) are envisaged, it must be made explicitly known to all concerned, and sensitization and mobilization of such resources should be started well ahead of the deployment of the HEWs.

As duly stressed in the HEP Implementation Guideline (21) supervision is key to the success of community-based public health program as shown by experience (CHA, TBA, CBRHA, etc. see also 22, 23). From our visits and interviews, however, it is clear that the conditions are far from adequate. It is also one of the weak points of the Ethiopian health system (24). There seems to be ambivalence on the nature and magnitude of the involvement of the HC in the supervision of HEWs. Though they have the same constraints as WHOs, HCs constitute significant additional resource in support of HEW both in terms of technical human resource as well as logistic support. However, mixed signals are being sent from the regional and federal level on whether they will participate in the program, and on the nature of their participation.

Continuing education (CE) is critical to the success of HEP. New developments are bound to come (the role of HEW in ART, the introduction of HEW to stronger tools for community mobilization such as Community Conversations now being adopted by HAPCO, new developments in malaria, the requirements of the New Global Child Survival Partnership, etc). There is a need, therefore, for continuing education as well as remedial measures for some of the deficiencies in pre-service training. The MOE TVE Strategy (7) clearly mandates tracer studies in order to take remedial steps. Continuing education is also necessary for the trainers to keep up with developments. As one of the trainers (Dessie) said,

"I hear that there is a change in the drug for malaria but I do not even know its name."

Little thought seems to have been given to plan for future replacement training of HEW. Future training will be needed to fill HEW posts created by attrition and the creation of new kebeles. This will be a new venture and will have to be well thought through to live up to the HEP expectations. There are very few data on attrition in public health services in Ethiopia (24). Kinde and Kenso (25) estimated the attrition rate at 10% "based on empirical wisdom". They showed that attrition was highest for the most peripheral (rural) facilities. A recent study (26) uses a high 9.6% for MD and a low 3.2% for nurses. Based upon these experiences, an attrition rate of 5-7% per year (due to marriage, movement into the private/NGO sector, etc....) could be expected for HEW. Assuming that another 5% of HEWs per year will aspire to upgrading their education and professional status after a few years, some 2500-3000 would have to be trained each year.

There are a number of questions pertinent to recruiting and training replacement HEWs, including: How are their replacements to be selected; from which kebeles? Who should run the training program? Should not the health sector play the leading role, as mandated by the TVE Strategy (7), to avoid some of the shortcomings of the current arrangements? Where will they be trained? The RHB in Tigray is envisaging their training in nursing schools. The strong points for this arrangement are not difficult to see but are they the best place for HEW training focused on prevention and control? Could the numbers involved, at least in the big regions, warrant a dedicated school/training center(s)?

It is recommended to start recruitment as early as feasible so as to attract better GPA; give clear guidelines on selection; make sure it starts at kebele level and make it as participatory and transparent as possible. The number of trainers should be increased (by at least 50%, with one or two at degree level) and their employment status (duties and privileges) should be clarified.

Textbooks should be provided to trainees as soon as possible. Start at least with the modules in Amharic. Each HP (HEP) should have at least one copy. Eventually, study, prepare and distribute the modules and other reference materials in other languages. Demonstration rooms with adequate teaching aids should be organized. The apprenticeship program should be better design and organized to ensure ways for more active involvement of the trainers, WHO and HC in supervision.

In preparing the future working conditions of HEW, WHOs and HP operational budgets should be increased; HEP operational plans including cost (supervision, logistics etc) at the WHOs level clearly worked out; plans

for the remedial/continuing education of HEW prepared; and the possibility of introducing stipend for trainees and top-up for trainers explored.

#### Acknowledgement

This study was supported by the Bill and Melinda Gates foundation grant to the Center for National Health Development in Ethiopia. The logistic support and overall cooperation of the FMOH, RHBs and WHOs is highly appreciated.

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