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TRIP REPORT

Health Facility Survey in the Southern Nations and Nationalities People's Region (SNNPR)



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**HEALTH FACILITY SURVEY
IN THE
SOUTHERN NATIONS AND NATIONALITIES PEOPLE'S REGION
(SNNPR)**

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ACRONYMS

AICF	Action Int. Contre La Faim
AIDS	Acquired Immune Deficiency Syndrome
AIDSCAP	AIDS Control and Prevention Project
ANC	Antenatal Care
ARI	Acute Respiratory Infections
BASICS	Basic Support for Institutionalizing Child Survival
BESO	Basic Education System Overhaul
CDD	Control of Diarrheal Disease
CHA	Community Health Agent
DALY	Disability Adjusted Life Years
DHS	Demographic and Health Survey
EDA	Emergency Development Assistance
EPI	Expanded Programme on Immunization
ESHE	Essential Services for Health in Ethiopia
FP	Family Planning
GM	Growth Monitoring
HC	Health Center
HE	Health Education
HF	Health Facility
HFS	Health Facility Survey
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HS	Health Station
HW	Health Worker
ICD	International Classification of Disease
MCH	Maternal and Child Health
MOH	Ministry of Health
NGO	Non Governmental Organization
OPD	Out Patient Department
ORS	Oral Rehydration Salts/Solution
ORT	Oral Rehydration Therapy
PCS	Population Communication Services
PHC	Primary Health Care
PHN	Population, Health, and Nutrition
RHB	Regional Health Bureau
RTC	Regional Training Center
SNNPR	Southern Nations and Nationalities People's Region
STD	Sexuality Transmitted Disease
STTA	Short Term Technical Assistance
TB	Tuberculosis
TBA	Traditional Birth Attendant
TGE	Transitional Government of Ethiopia

TTBA	Trained Traditional Birth Attendant
USAID	United States Agency for International Development
UNICEF	United Nations International Children's Fund
WHD	Woreda Health Office
WHO	World Health Organization
ZHD	Zonal Health Department

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EXECUTIVE SUMMARY

Health Facility Survey in the SNNPR: Preparation for the Essential Services for Health in Ethiopia (ESHE) Project

Working with Ministry of Health and zonal officials, BASICS conducted a health facility survey from March - May 1995 in four zones (Sidama, Hadiya, Kat and North Omo) of the Southern Nations and Nationalities People's Region. The purpose of the survey and information gathering was to develop a situational analysis necessary for the selection of priorities and action for health services development in the region. The survey results from a sample of health facilities provide an understanding of the present capacity for service provision and serve to highlight gaps, both in terms of services and resources. The survey data will assist in defining an "essential service package" as well as provide information related to the health information system, and aid health planners in the proposed redesign effort.

The survey focused on the following aspects of health service delivery:

- health service capabilities (coverage, access and outreach)
- delivery capacity (personnel, staffing and training)
- health service provision (curative and preventive), drugs, vaccines, medical supplies, physical facilities, family planning, deliveries, EPI
- epidemiological profiles for diseases of importance in terms of morbidity, and utilization of preventive services, such as antenatal and postnatal care, family planning and growth monitoring services
- management issues (supervision, planning, record keeping, information use and needs, financial data).

In addition to the sampled health facilities, information was gathered from zonal and woreda management offices, NGOs, Sidama and regional planning bureaus, and from a review of available documents.

The survey was carried out using structured questionnaires, observations, review of health facility registers, and routine report forms. A population weighted sampling procedure was used based on woreda population and number of health facilities. A total of 13 health centers and 36 health stations (24 government, 12 NGO facilities) were sampled. A total of four zonal and 22 woreda health offices were also visited.

The data collection team consisted of data collection assistants (BASICS/Awassa), an epidemiologist (Regional Health Bureau) and Dr. Paul Freund, the BASICS resident advisor. In addition, the team was assisted by zonal and woreda health personnel. Survey data were entered and analyzed in Awassa using EPI INFO 6, an epidemiological software program.

Summary of Findings and Major Implications of the Health Facility Survey

- **General**

The overall impression gained during the health facility survey is that health workers are genuinely interested in improving the services they provide. However, they have heavy workloads, poor working conditions, little supervision, no incentives and are lacking essential supplies and equipment. Key to the success of improving health services will be support to health centers and health stations through provision of essential commodities and training courses and improved supervision.

Currently, health centers and health stations have weak links to the community. While health workers recognized that many of the health problems they encounter could be alleviated through better community education, many are constrained by a shortage of staff and resources. Health workers also noted that community health agents (CHAs) could play a major role in educating communities on issues such as improved environmental health and hygiene and better nutrition and child care.

- **Coverage, Access and Outreach**

Average catchment populations for health centers and health stations varied a great deal. The majority come from nearby villages (63% HCs, 57% HSs) while eight percent of the health center users and six percent of the health station's patients come from distant villages averaging 34 kms. and 16 kms. respectively. Access is restricted by physical obstacles such as rivers, mountainous terrain and poor roads. A major factor affecting access is the period of heavy rains (June to August). The mean distance to the nearest referral unit for health centers and health stations is 49 kms.. A significant number of health stations (25%) had no outreach activities.
- **Traditional Birth Attendants and Community Health Agents**

Forty seven percent of health stations reported no TBAs in their catchment area, while 39 percent reported no trained TBAs. Forty two percent of health stations reported no active CHAs in their area while the remaining health stations had an average of three CHAs. The survey found only one functioning health post and many posts reported by health facility staff as existing were found to be inactive.
- **Delivery Capacity**

Staffing

Shortage of staff was a frequently voiced complaint by personnel in health centers and health stations. Although NGO health centers are relatively better off in terms of overall staffing, they have shortages of health assistants. Specific categories of personnel that were most frequently mentioned as inadequate include MCH nurses, nurse midwives, and pharmacy and x-ray technicians. Shortage of skilled technical manpower affects the ability of health workers to deliver quality services and is likely to become more critical as demand and workload increase.

Specialized training

The survey results indicate that there remains a large gap between those who received specialized training and those who did not in both health centers and health stations. The largest percentage of courses were for family planning, followed by ORT/CDD, EPI, and AIDS/STD. Training is important as it not only maintains skills and improves the quality of service, it also provides motivation for health workers.

Drugs and Equipment

The availability of drugs and vaccines was fairly good in both health centers and health stations which may be a reflection of the recent infusion of drugs under the EDA. Health facilities situated in urban townships were relatively better off than those in more peripheral areas. Ferrous sulphate and ORS was reported to be out of stock by many facilities, with an average stock out period of three months.

Essential medical supplies were available in most health centers, but health workers complained of old, outdated and broken equipment. This included broken microscopes, refrigerators, and sterilizers. Equipment shortages were common in health stations. The most frequent items not available included blood pressure apparatus, microscopes, diagnostic sets, scales, sterilizers and cold boxes.

Physical Facilities

Water was available in 40 percent of health stations and electricity in 50 percent of health stations. However, adequate and regular supply of both is problematic for many health stations.

- **Services Provided**

All health centers provided antenatal care, under five consultations, EPI, health education, family planning and tuberculosis services. Only seven health centers provided postnatal

services only five offered growth monitoring. Most offered services were available daily, though tuberculosis services were generally offered once per week

ORT corners were present in 61 percent of health stations but were not always used as an area to retain children with moderate dehydration or to demonstrate the preparation and administration of ORS. Growth monitoring was offered in only five health stations. Three health stations did not offer EPI and four did not offer ANC. All but one health station offered STD services during normal OPD hours (6-8 hours/day). The majority offered family planning (78%) while eight Catholic-operated NGO health stations did not. Tuberculosis services were offered by 36 percent of health stations.

Maternal and Child Health

Health centers reported an average of 177 deliveries per year, while health stations averaged 25. Several health stations did not maintain delivery books.

Immunization

Accurate immunization coverage was difficult to determine in health centers and health stations as many were using unrealistic or inaccurate target populations. Coverage for health centers was: BCG 52%, polio 44%, DPT1 47%, measles 29%, and fully immunized 22%. For health stations, coverage was BCG 48%, polio 49%, DPT1 48%, measles 26%, and fully immunized 36%.

Family Planning

The number of new family planning acceptors for the past six months was low relative to program objectives (142 per HC, 81 per HS). Oral contraceptive supplies were adequate in both health centers and stations.

- **Epidemiological Profile**

Five diseases--acute respiratory infections (ARI), malaria, diarrhea and worms--account for 60 percent of total OPD attendance at both health centers and health stations. This data needs to be considered when reviewing current reporting requirements.

Seasonal variations were evident for diarrhea, malaria, and ARI health center and health station attendance. Declines noted for all diseases during the months of July, August, and September are probably due to access problems related to the period of heavy rain.

Malnutrition cases, as determined in health centers as 60 percent of weight/age and in health stations by gross signs and symptoms, are significant in all zones, with clear seasonal variations (peaks in July-October). Measles outbreaks noted from January to June in three zones (Kat, Hadiya, and North Omo) are probably epidemics and should not be interpreted as a regular disease pattern.

In OPD attendance, males outnumber females significantly (58% of health center attendance and 55% at health stations). Adults (over 15 years of age) constitute 62 percent of health center OPD and 60 percent of health station attendance, while children under five make up 21 percent of health center and 25 percent of health station OPD attendance. There is a need for more community-based research to determine factors contributing to age and sex utilization patterns.

ANC attendance varied significantly, especially among health stations. The absence of nurses and trained midwives is a major factor deterring women from seeking antenatal care. Estimated ANC coverage is 21 percent of pregnant women for health centers and less than ten percent for health stations. Miscarriages before seven months and pregnancy complications are significant problems in all zones. There is a need for more MCH nurses and/or nurse midwives as well as for expanded TBA training programs.

Family planning coverage averaged less than three percent of couples in union for both health centers and health stations. Stocks of oral contraceptives were adequate and a fairly large percentage of staff has been trained in family planning. There is a need for more intensive family planning education, especially for men. Community-based delivery programs should be expanded.

OPD coverage rates average 29 percent of catchment population for health centers and 16 percent for health stations. Under five coverage is 40 percent for health centers and 25 percent for health stations.

- **Training Implications**

Health workers expressed the need for training in such areas as supervision, information, and general management including leadership skills. Some also mentioned the need for training in communications skills and community participation. A human resource inventory and training strategy need to be developed. Before a long term training strategy can be developed, the quality of case management by health workers will need to be assessed. The training capacity in the regions should be strengthened through support of the proposed RTC, provision of short term technical assistance and training of trainer courses.

- **Research Implications**

The health facility survey and community demand study are the beginning of a continuing research agenda for the ESHE project. Research will be important because it helps to answer key operational questions; it enables health officials to plan and correct deficiencies; it strengthens the capacity of the MOH and other institutions in research methodology, monitoring, and evaluation; and it helps to maintain a dynamic project with an ability to identify and deal with operations research issues as they arise.

Topics for research include investigation of rural drug vendors, community-based research on health services utilization, maternal mortality, traditional practices, perinatal mortality, quality of service delivery, sustainability factors in regard to CHAs, and infant feeding practices.

- **Managerial Issues**

The infrequency and inadequacy of supervision were among the most serious managerial issues encountered during the health facility review. Supervision is frequently for financial and administrative purposes rather than technical. Few health centers or health stations had a supervisory schedule or used checklists. Woreda and zonal personnel responsible for supervision have rarely received training in how to carry out supervision.

Health workers in health centers and health stations noted a number of problems affecting their job performance including low salary, poor working conditions, heavy work load, no incentives, lack of transport, lack of supervision, and no career advancement.

Data collection and record keeping: While the majority of health centers and health stations maintained registers and produced graphs and charts depicting disease patterns, most had only vague ideas on the usefulness of data. Only 30 percent of health centers and 21 percent of health stations received feedback on routine information compiled and reported to zonal or woreda offices.

The majority of health workers noted that they would like to know more about the communities they serve and would use the information to provide health education and strengthen environmental health activities.

All health centers and health stations collected fees for drugs and consultations. Only NGO facilities retained fees collected, while government health facilities sent fees to woreda or zonal health offices. An examination of records for the amount collected in one

month indicates that the amount for one year would be approximately 60 percent of the operating cost of a government health center and 81 percent for a health station. Health workers said if they were allowed to retain fees they would use the money to give incentives to health workers, improve the facility, purchase drugs, expand outreach, carry out supervision, and expand community services.

- **Implications for the Health Management Information System**

The survey noted a number of problems related to the design format of current reporting forms, accuracy of reporting and calculation of EPI coverage rates. Many of the existing problems can be corrected through changes in formats, training, and regular quality supervision.

There is a need to review the current system to streamline the HMIS and to train health workers in the use of data. Hospital and health center monthly reports, which include 125 disease codes, are cumbersome and time consuming as well as difficult to analyze. The fact that only a small percentage of health centers and health stations ever receive feedback on the data they collect and report to woreda/zonal/regional headquarters leads to an attitude by many health workers that the data is useful only at higher levels for annual reports. The HMIS needs to focus on data for decision making so that health workers see the relevance to their activities of the data they collect. Health workers noted that they would like more information related to the community, including nutritional habits, traditional healers, environmental sanitation and water resources.

Training of CHAs and TBAs, combined with supervision and reporting by CHAs, can serve as a way to maintain linkages between health facilities and communities. CHAs and TBAs can also be used to collect vital event data, to monitor nutritional status, and report epidemics.

Conclusion

The survey results are summarized in Table A below, which includes the major findings, implications, actions, and priority for each category of findings. The results should be regarded as a beginning upon which further work will build. Under ESHE, it is envisaged that project funds will support ongoing operational research and monitoring activities throughout the life of the project. The findings will be shared widely and used as a basis for collaborative discussions with the regional health council and planning bureaus and zonal/woreda offices to plan specific project interventions.

In general, the findings of the survey suggest a strong basis from which to build an improved, sustainable health delivery system, but this can only be achieved through carefully planned interventions that emphasize support and supervision of health facilities, systems strengthening, and improved community-based health services. Moreover, it should be emphasized that project support can only be successful and sustainable if there is capacity building, collaboration, and consensus regarding the aims and goals of the project. This collaboration must include health and other related sectors, NGOs, and most importantly, involvement of the community in the design, planning, and implementation of activities.

Table A Narrative Summary of HF Results and Implications				
Data Category	Major Findings	Issues Arising from Implications	Actions	Timing/Priority
Health Facility Capacity A. Catchment Area	Wide variation in catchment areas, inaccurate/unrealistic calculations, rapidly increasing populations & lack of manpower results in low coverage rates	Need clear guide- lines for calculation of catchment area. EPI/FP training needs to teach how to calculate targets	Training and coordination with EPI/FP programs Training for zonal/woreda staff	Medium
	NGO-facilities have high utilization rates, although coverage may be same as for govt facilities Workload is high in government health stations due to high population and low manpower. Poor distribution of staff: health centers in urban townships have 4-5 health assistants; facilities in rural areas have only 1 or 2 health assistants	Manpower issue depends on availability, policies on distribution Quality of service will deteriorate as workload increases in both NGO and government health facilities	Policy coordination with MOH-RHB as ways to alleviate problems Address as health policy issue	Medium Medium
B. Outreach	Outreach expansion constrained by lack of manpower, funds, transport	Immunization coverage not as high as it could be	Improve and expand coverage, supplement for fuel, perdiems	High

Data Category	Major Findings	Issues Arising from Implications	Actions	Timing/Priority
C. CHA/TBAs	<p>Few health posts are functional, due to lack of supervision, drugs, community support</p> <p>Some Community Health Agents are assisting in outreach activities but full potential has not been utilized</p> <p>Health stations have little knowledge of TBA activities in their catchment areas</p>	<p>Need to involve community health agents in clinic activities and outreach; monitoring of nutrition, vital events registration in communities</p> <p>Improving linkages with health facilities and communities is essential - CHAs must have their support. A dynamic relationship should exist or be fostered.</p>	<p>Need to evaluate selection criteria for training programs</p> <p>Develop sustainable approaches to ensure community health agent functioning</p> <p>Coordinate with NGOs & RHB on training activities for CHA/TBAs</p> <p>Link community health agents to rural development workers</p>	<p>Test community animator approach;</p> <p>Operations research on community level financing of health services</p> <p>High 1st year</p> <p>High 1st year</p>
D. Referral	<p>Referral is very weak - the many obstacles and constraints deter patients from seeking care at health centers or hospitals (carts, transportation.)</p>	<p>Results in death and disability by deferred treatment or failure to refer</p>	<p>Work with RHB to develop referral system.</p> <p>Consider implementing recommendations in Community Demand Survey</p>	<p>High</p>
E. Staffing	<p>Government health facilities currently understaffed. NGOs also short of health assistants. Tend to concentrate on curative care.</p>	<p>Restructuring of health system (public health officers, nurses, environmental health) is good.</p>	<p>Coordinate/support regional training facility; examine issue of manpower policy</p>	<p>Medium</p>

Data Category	Major Findings	Issues Arising from Implications	Actions	Timing/Priority
F. Training	<p>Wide gap between trained and untrained in specialized courses</p> <p>Those trained do not share information with other staff</p> <p>Some people attend multiple training courses</p>	<p>Affects job performance and motivation</p> <p>Affects morale of health workers</p> <p>Inefficient use of scarce resources</p>	<p>Increase number of courses, review selection procedures, explore alternative training approaches</p> <p>On the job and distance learning training</p> <p>Require in service sharing of information</p>	High
G. Physical Facilities	<p>Provision of privacy for STD/FP a problem in some health facilities</p> <p>ORT corners not being used effectively</p> <p>Lack of water/electricity</p>	<p>Deters many from seeking treatment for STD/FP</p> <p>Missed opportunity for detecting mal-nutrition, mothers lose confidence in ORT treatment,</p> <p>Affects general function of health facilities</p>	<p>Need to evaluate clinic patient flow, find ways to ensure privacy</p> <p>Need to revitalize CDD program (case management of CDD/ARI), ensure ORS supplies, supervision of those trained in CDD</p>	Medium
H. Drugs/Equip. Vaccines	<p>Drug supply fairly good, except ferrous sulphate and ORS out of stock for long periods</p> <p>Long list of needed equipment. Many are old, broken, not working</p>	<p>Quality of services provided suffers due to inadequate essential drugs and equipment</p>	<p>Improve drug distribution system</p> <p>Procure essential equipment, drugs like ferrous sulphate & ORS</p>	High

Data Category	Major Findings	Issues Arising from Implications	Actions	Timing/Priority
I. Preventive Services	Health centers were providing 69% of essential package; health stations 61%. Three health stations not offering EPI, 2 no ANC, many no school health and inadequate environmental health services	Related to lack of personnel but can be overcome in many cases	Training in integrated case management Improved staffing. (Issue to be addressed in long term under MOH reorientation program)	High High
J. Supervision	Supervision is inadequate and virtually lacking in many health facilities. No schedules or checklists, no training in supervisory skills. Supervision mostly admin/financial rather than technical	Health posts were rarely supervised, which probably contributed to their demise Quality of work deteriorates, problems are not corrected, health worker morale deteriorates no check on quality of training	Training in supervisory skills for health center/health station staff, especially as new community health agents are being trained Develop checklists, encourage use of supervision schedules	High
K. Family Planning	Although contraceptives are available, low usage due to lack of awareness. Demand for injectables but not available	Low contraceptive prevalence, lack of confidence in oral contraceptives	Coordinate with PSI, AIDSCAP, FGAE to increase awareness of family planning. Consider community based distribution systems and distribution of injectables	High
L. Maternal Health	Antenatal care attendance is low, few deliveries occur at clinics	High maternal mortality rate, no follow-up for high risk pregnancies	Issues to be identified/clarified by maternal reproductive survey	Medium

Data Category	Major Findings	Issues Arising from Implications	Actions	Timing/Priority
M. Immunization	Immunization coverage difficult to assess, inaccurate targets based on unrealistic catchment areas	Provides inaccurate view of true immunization coverage situation	Training in EPI must emphasize target calculation and better monitoring	Medium
N. Health Worker Performance Factors	No incentives received, lack of training, salary discrepancies, poor working conditions, overload of work	Results in low morale, affects quality of work	Consider incentive schemes for health workers, address as policy issue	Medium
O. Planning/ Record Keeping	Few catchment area maps Health workers had only vague idea of what data meant and were used for Problems in accurate record keeping, inaccuracies in completing monthly returns, complexity of forms for health centers No feedback on reports sent	Results in inaccurate data, tendency to view record keeping as a perfunctory exercise with no relevance to health facility activities	Need to emphasize data use in training courses and improve feedback on reports, streamline reporting forms, establish HMIS task force Train RHB in EPI-Info, select key indicators for program monitoring, EPI, CDD, OPD, family planning, training, etc.	1st year, High
P. Health Education	Lack of health education materials, health education sessions held en masse for 20-30 people (lecture), need for more information on community nutrition, traditional medicine, hygienic practices, etc.	Quality and effectiveness questionable	Conduct IEC assessment, develop IEC strategy. Focus on community level, develop materials for caretakers. Train health workers in communication skills	Medium

Data Category	Major Findings	Issues Arising from Implications	Actions	Timing/Priority
<p>Q. Epidemiological Profile - Outpatient Department Coverage</p>	<p>High morbidity from diarrhoea, malaria, ARI, worms and eye/ear/ skin infections.</p> <p>Five diseases count for 60% of OPD attendance, seasonal variations due to restricted access during rains. Males over age 15 predominate</p> <p>Malnutrition and measles significant problems</p> <p>family planning coverage <3%</p> <p>EPI coverage low</p> <p>OPD coverage low</p> <p>Maternal problems, pregnancy complications</p>	<p>Mortality from diarrhoea, malaria probably high in community</p> <p>Perinatal and under-five mortality probably high but clinics dealing mostly with over 15 age group</p> <p>Interaction between malnutrition & measles results in high mortality</p> <p>Increasing pop.</p> <p>Measles outbreaks</p> <p>Significant number of population not receiving care</p> <p>High maternal mortality</p>	<p>Strengthen CDD, malaria and ARI programs</p> <p>Minor eye/ear/skin infections can be treated by community health agents</p> <p>Follow up with additional OR on reasons for high over representation of males >15.</p> <p>HE of HWs to educate and advise mothers</p> <p>Community level focus on education of mothers (literacy) to encourage women to go</p> <p>Use of CHAs and TBAs to develop better referral mechanisms and education of mothers</p> <p>Monitor high prevalence diseases, OPD and other selected indicators, Vit A, Growth monitoring, Increase outreach, family planning awareness increased through education, CBD</p> <p>Strengthen facility capacity - drugs/ equipment/staff, increase outreach, train TBAs to identify high risk pregnancies</p>	<p>Medium-High</p>

Data Category	Major Findings	Issues Arising from Implications	Actions	Timing/Priority
R. Regional, Zonal, & Woreda Management	<p>Some weak, with no clear demarcation of responsibilities</p> <p>Woreda heads often hold multiple jobs</p> <p>Lack of training in supervision; planning/record keeping disorganized in many offices</p>	Poor supervision of health facilities	Conduct supervisory skills training	High

I. BACKGROUND: THE SNNPR AND THE HEALTH FACILITY SURVEY

A. Introduction

The purpose of the health facility survey and information gathering was to provide a situational analysis necessary for the selection of priorities and action. The survey results from a sample of health facilities provide an understanding of the present service provision capacity and serve to highlight gaps both in terms of services and resources. This data will assist in defining an 'essential service package' as well as provide valuable information related to the HIS and assist with the planned redesign strategy. The survey focused on the following categories:

- health service capabilities (coverage, access, and outreach);
- delivery capacity (personnel, staffing, and training);
- health service provision (curative and preventive), drugs, vaccines, medical supplies and equipment, physical facilities, family planning, deliveries, EPI;
- epidemiological profiles for diseases of importance in terms of morbidity, and utilization of preventive services such as antenatal and postnatal care, family planning, and growth monitoring services; and
- management issues (supervision, planning, record keeping, information use and needs, financial data).

Information gathered from the woreda and zonal health offices focused on management issues and also served as a way to meet key officers to introduce the aims and objectives of the ESHE project.

The data results reported here should be regarded as a beginning. This will be followed by ongoing operational research and monitoring activities throughout the project.

B. Background: Southern Nations and Nationalities People's Region

In 1993, the Transitional Government of Ethiopia divided the country into 14 administrative regions as part of an effort to strengthen the regions by decentralizing manpower and materials. Soon after the division, five of the southern regions (regions 7-11) reunited to form the Southern Nations and Nationalities People's Administrative Region (SNNPR). This new region has set up its own institutions at regional, zonal, and woreda levels to facilitate administration.

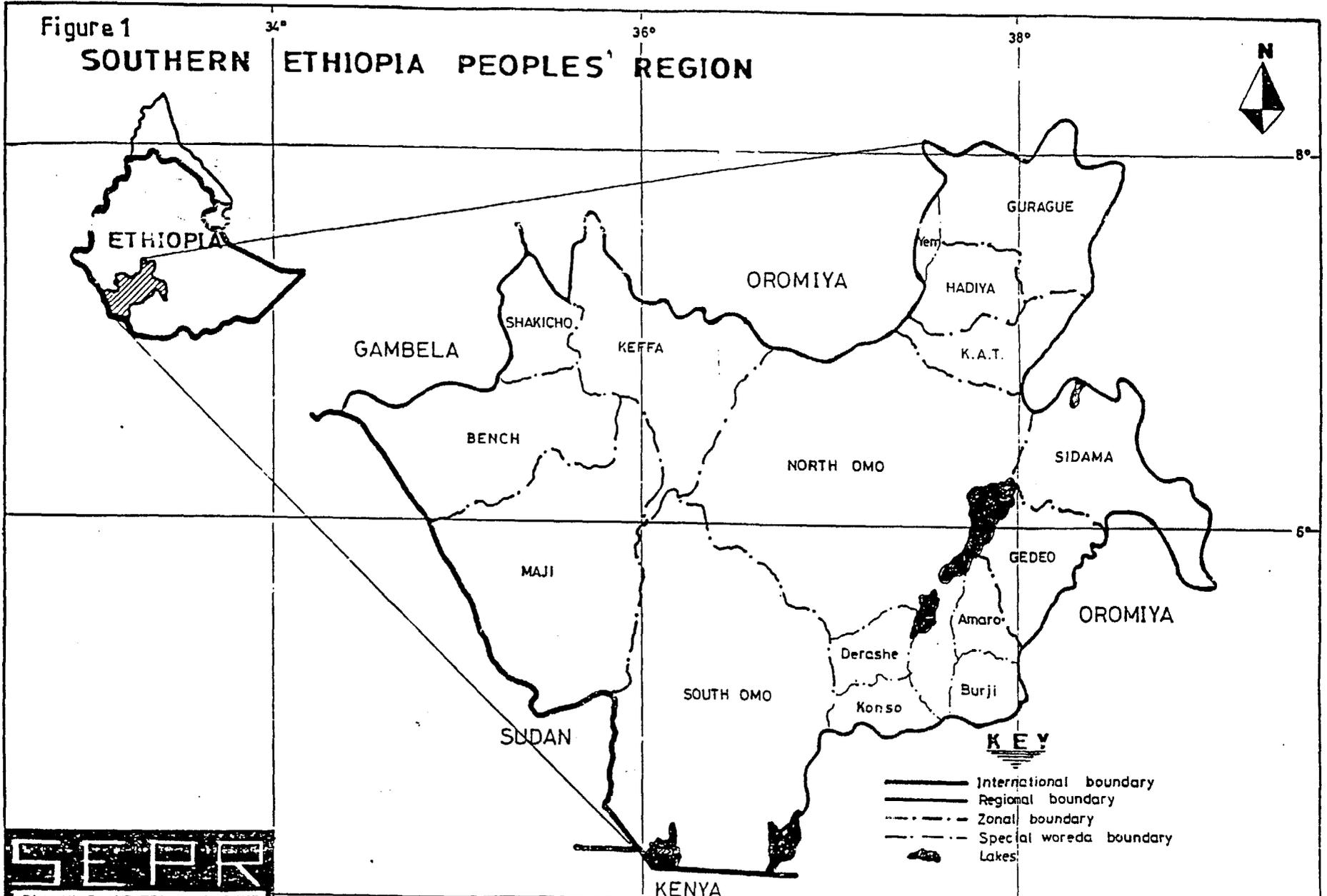
Administratively the region is divided into 11 zones (with 90 woredas) and five special woredas based on ethnicity and language. The Southern Ethiopia People's Administrative Region is located in the southwestern part of the country bordering Kenya to the south, Sudan in the Southwest, Gambella Administrative Region on the Northwest and Oromiya in the North and East. The region lies between 4° 03' and 8° 05' latitude North and 34° 11' and 38° 33' longitude East (see map, Figure 1). The SNNPR has approximately 120,000 sq. km. of land mass which accounts for ten percent of the total area of the country.

The population is estimated to be 12 million (1994), accounting for 20 percent of the population of Ethiopia. Roughly 49.9 percent is male and 50.1 percent female. About 6.5 percent resides in urban centers and towns. There is little information on urbanization rates but informal data collected by the regional planning bureau indicate these rates are increasing in the region. Currently there are more than 78 towns with a population exceeding 2,000. Population density varies widely, from 289 persons/sq. km. in Sidama Zone to six persons/sq. km. in Maji. Density also varies at the woreda level, for example Damot-Gale (North Omo) has a density of 652 /sq. km while in Mursi Bodi (South Omo) density is two persons per sq. km. The overall density for the SNNPR is estimated at 93 persons/sq. km.

The SNNPR is the most ethnically diverse area in Ethiopia with more than 45 different ethnic groups. This accounts for 50 percent of Ethiopia's ethnic groups. The groups are classified linguistically into Semitic, Omotic, Kushitic and Nilotic language families.

Figure 1

SOUTHERN ETHIOPIA PEOPLES' REGION



SEPR

PLANNING AND ECONOMIC DEVT
BUREAU

Date Jan. 1994
Scale 1:300,000

CAUTION - The delineation of boundaries on this map must not be considered

The region also exhibits diversity of agro-ecological or climatic zones. These include hot lowlands, warm midlands, and cool highlands. The mean annual rainfall ranges from 500 to 2200 mm and the mean diurnal temperature ranges from 15C⁰ to 30C⁰.

The roads and communication infrastructure in the region are poorly developed. There are, for example, only 298 kilometers of asphalt roads and 1,315 kilometers of feeder roads in the region.

Social Infrastructure: Education and Health

Education:

There are 110 kindergartens, 1789 primary, 243 junior and 62 senior secondary schools. Of the total regional population of 12 million, only 611,887 regular students are enrolled (1993/94). Out of the total estimated school age population, 502,341 (22 percent) are registered in primary schools. Of the total children and teenagers, 58,965 (10 percent) and 40,281 (5 percent) are enrolled in junior and senior secondary schools respectively.

Health:

The region is underserved with respect to health institutions. The coverage rate is estimated by the regional health bureau to be less than 26 percent. The availability of health institutions by zone is shown in Table 1.

Table 1: Distribution of Health Institutions in the SNNPR (1994)					
Zone	Hospitals	Health Centers	Health Stations	Health Drug Vendors	Health Posts*
North Omo	3	9	96	72	62
South Omo		2	22	5	36
Sidama	1	5	64	83	23
Gedio	1	2	27	31	-
KAT	-	3	13	26	67
Hadiya	1	1	17	26	-
Gurage	1	2	32	11	-
Keficho	-	1	23	12	-
Bench	1	1	22	11	-
Shekicho	-	2	7	4	-
Maji	-	1	7	-	-
Yem	-	-	10	-	-
Derashe	1	-	6	1	-
Konso	-	1	5	-	-
Burgi	-	-	3	-	-
Amaro	-	-	6	1	-
Total	9	29	360	283	188

Note: Many of the health posts are not functional.

II. THE HEALTH FACILITY SURVEY

A. Methodology

Data collection for the health facility survey was carried out from March to May 1995 using structured questionnaires for health centers, health stations, and health posts, and for zonal and woreda health management offices (see Appendix G). Preliminary questionnaires were developed and discussed with regional health bureau (RHB) staff and Sidama zonal office personnel. After receiving comments and suggestions from the health bureau, draft questionnaires were reviewed by USAID/Ethiopia's HPN Office, USAID/Washington, and BASICS/Washington operations staff. The instruments were shortened and restructured to focus on four key areas:

- (1) health service coverage;
- (2) service delivery capacity (services delivered, personnel, training, drug and equipment availability);
- (3) epidemiological profile (diseases treated, OPD attendances, family planning, ANC, GM); and
- (4) management issues (financial data, health information, and supervision).

The questionnaires were modified further to incorporate suggestions by Ato Amare Bedada (Family Guidance Association of Ethiopia, Awassa), Dr. Suzanne Hurley (CDC/Atlanta) and Dr. Kate Stewart (MACRO Inter.). The survey also benefitted from discussions with Sjoerd Postma, a BASICS consultant working with the MOH on the health systems design activity.

Prior to beginning data collection, a letter explaining the purpose of the survey was drafted and submitted to the RHB who translated it into Amharic and sent it to zonal health offices. Zonal personnel were asked to communicate the information to all woredas in their respective zones. In addition, a general letter of introduction was obtained from Ato Tsefey Abera, head of administrative and social services of the regional council. The letters of introduction proved to be very valuable and facilitated the work of the data collection teams.

A guide was developed for completion of the questionnaire and the data collection team was trained in how to collect the information required and proper completion of the questionnaires. Subsequently, the questionnaires were tested in Sidama Zone at each level (health center, health station, health post and zonal/woreda management). The time required to complete the questionnaire for health centers averaged four hours, health stations two hours, and one hour each for health posts and zonal/woreda management offices. The forms were again revised prior to beginning data collection in four survey zones: Sidama, Hadiya, KAT, and North Omo.

The data collection team consisted of the BASICS resident adviser, Ato Wundimu Amede, Ato Dargie Tshome, and Dr. Tadele Gebeheyu, epidemiologist from the regional health bureau (RHB). In addition, assistance was provided in each of the zones visited by the zonal office head who assigned a person to accompany the team. The team's strategy was to visit zonal offices and then woreda offices to introduce the purpose of the survey and to obtain advice on logistics and accessibility of the health facilities to be sampled.

At each surveyed institution, the general survey procedure included information collection questionnaires, observation, and a review of records. In the majority of cases, the head of the health center or officer in charge of the health stations was interviewed. If the head or key officer was not present, an appointment was made to return at another time or date. The registers reviewed included registers for OPD, MCH, vaccine, delivery book, outreach, supervision, finance, family planning, as well as drug and vaccine stock supply records. Data were obtained for an epidemiological profile through a one year retrospective review of 12 diseases (malaria, fever of unknown origin, diarrhea, ARI, skin/eye/ear infections, worms, TB, anemia, STDs, malnutrition, maternal problems, and measles). Sex desegregated data were collected from health centers; health stations record only the totals for diseases treated on monthly returns. OPD data were collected by sex and age (<5, 5-14, more than age 15). Preventive service data were collected for ANC attendance, postnatal care, family planning, growth monitoring, and deliveries. In a number of health centers, column totals were not calculated on monthly returns which necessitated adding the figures for each disease to obtain OPD attendance by age. Supplemental

information was gathered from the regional planning bureau, the regional health bureau, zonal and woreda health offices, and the UNICEF regional office.

Data collection proceeded smoothly in all zones and the majority of the selected health centers and health stations were visited. However, the team had difficulty locating functioning health posts. Health posts that were said to be active by health center or health station personnel were often found to have stopped functioning one or two years ago.

Data collection was completed by mid-May, 1995. A data entry screen for EPI INFO 6 was created in BASICS/Washington by Dr. Pat Kelly and edited in Awassa. Because of the large number of data entry points, the data set was divided into eight different files, including separate files for health centers, health stations, training, and epidemiological profiles. Data entry was completed in two weeks. After data cleaning, data analysis was begun with preliminary results available for the community demand survey consultant who arrived in early June. Early drafts of the results, including graphs of disease trends, were shared with Dr. Lamisso Hayesso (former head RHB now vice minister of health) and Dr. Amenu Bulbula (former head of Sidama Zone health department).

B. Sampling

The four focus zones (Sidama, Hadiya, KAT, and North Omo) were selected by the RHB in collaboration with the Regional Council. The Regional Council had also suggested Keficho as one of the focus zones. However, due to time constraints and inaccessibility of the area, sampling in this zone could not be undertaken as part of the current survey.

Sampling issues for the health facility survey were discussed with Ato Feleke Dana (RHB Statistician) and Dr. Amenu (Sidama Health Zone). A weighted sample was selected based on woreda population size (see Appendix 5) using data obtained from the regional planning bureau. A one-quarter sample size was selected based on the number of health stations in the zone and distributed according to the woreda population. The health stations to be visited were then randomly selected. To enable comparisons to be made between government and NGO facilities, separate samples were taken for each category, with the ratio of government facilities sampled to NGO facilities sampled matching the actual ratio for the region. (See Appendices 2 and 3) All health centers were sampled in Sidama, KAT, and Hadiya, while four were selected from North Omo's most populous woredas. A total of 22 woredas in the four zones were included in the survey. The final sample is shown in Table 2.

Table 2: Distribution of Health Centers and Health Stations Surveyed by Zone

Health Centers			
Zone	Government	NGO	Total
Sidama	3	2	5
Hadiya	1		1
KAT	3		13
North Omo	4		4
Total	11	2	13

Health Stations			
Zone	Government	NGO	Total
Sidama	9	4	3
Hadiya	4	4	8
KAT	3	3	6
North Omo	8	1	9
Total	24	12	36

NB-Survey sample also included 22 woredas and 4 zonal offices.

III. SURVEY RESULTS: HEALTH CENTERS

A. Coverage and Access

The 13 health centers surveyed (11 government and 2 NGO) were located in 11 different woredas and distributed throughout the four focus zones. In three of the zones, all health centers were visited; only four of the nine centers located in North Omo were visited.

The average catchment area for health centers was divided into two categories: population within a five kilometer radius and population within a five to ten kilometer radius. The catchment population within five kms. averaged 29,345 people, with a range from 6,000 to 95,000. The average for a five to ten km. radius was 29,249 (ranging from 5,000 to more than 115,000).

Calculation of catchment areas to determine coverage involved reviewing 100 continuous cases from OPD registers. Surveyors identified the three most frequently represented villages on the assumption that these would be the villages closest to the health center. Similarly, it was assumed that the three least frequently mentioned villages would be indicative of the farthest edge of the health center's catchment area. Table 3 below shows the average distance of these two groups of villages from the health center. While the majority (80 percent) came from nearby villages (2-10 km), approximately 8 percent came from an average of 34 km away.

Percent of population from nearest villages	63
Average distance (km)	8
Percent of population from farthest villages	8
Average distance (km)	34

The average number of kebeles served by a health center is 19, with an average population per kebele of 2,000. Most health center staff could not provide the number of villages in their catchment area. For the five who had the information, the average number of villages was 45.

Health center staff were asked to identify the major physical obstacles that hamper access. Their responses included lakes, rivers, mountainous terrain, and road conditions especially during the rainy season.

B. Referral

The average distance to the woreda health office from the surveyed health centers was five kilometers, while the distance to the nearest urban center averaged 31 kms. The average distance from the health center to the nearest referral unit (hospital) was 49 kms. Eighty five percent of the health center respondents noted that they experienced problems with referral. The reasons cited included: inability of patients to pay hospital expenses for medicines or treatment, lack of transport, high cost of transport, long distances, overloads at the hospital and that patients often waited two to three days before receiving treatment. The number of referrals from health centers to hospitals is very low relative to data from other countries in Africa: ten percent for inpatients, and seven percent for deliveries.

C. Outreach

The number of outreach sites is presented in Table 4.

Number of Sites	# of HCs with specified # of outreach sites
None	2
3	1
5	1
7	1
9	4
10+	4

Of the 11 centers with outreach, the average population was 44,081 and the majority (90 percent) visited the sites at least once per month. The methods used to mobilize communities included megaphones, letters sent to kebele officials, sending schedules to peasant associations, and using Oxfam health animators.

Five health centers were able to provide financial details on outreach expenditures for fuel and perdiems for the past year. The distribution is shown in Table 5.

Category	Government HC	NGO HC
Fuel	1,141	1,016
Perdiems	3,542	3,470

D. Traditional Birth Attendants and Community Health Agents

The number of traditional birth attendants (TBAs) and community health agents (CHAs) currently active in the health center's catchment area is detailed in Tables 6 and 7.

TBAs			Trained TBAs (TTBAs)		
Number of TBAs	Number of HCs	Percent	Number of TTBAs	Number of HCs	Percent
None	8	62	None	4	31
2	1	8	2	3	23
3	1	8	4	1	8
14	1	8	16+	5	38
16+	1	14			
Total:	13	100	Total:	13	100

Number CHAs Reported	Number of HCs	Percent
None	6	46
2	1	8
3	2	15
8	1	8
17	1	8
19	1	8
27	1	8

Five health centers utilized community health agents to assist in mobilizing communities for outreach activities. The methods used included using the health center megaphone and informing households several days before the outreach day. At two health centers, community health agents were involved in clinical services such as assisting at MCH clinics with growth monitoring and immunization. Other community health agents assisted health center staff during outreach sessions by organizing the working area, registering patients, and providing health education talks.

E. Delivery Capacity

1. Personnel and Staffing

The shortage of staff was a frequently voiced complaint by personnel in health centers and health stations. Although NGO health centers are relatively better off in terms of overall staffing, they have shortages of health assistants. Health centers also reported shortages of MCH nurses, nurse midwives, and pharmacy and X-ray technicians. For example, in 13 health centers there were only five nurse midwives, three MCH nurses, eight pharmacy technicians, and one X-ray technician. Clearly, shortage of skilled technical manpower affects the ability of health workers to deliver quality services, especially as the demand and workload increase. Table 8 summarizes the available technical and administrative staff by category for the health centers visited.

Table 8: Total Staff Found in 13 Surveyed Health Centers			
Technical Staff		Administrative Staff	
Category	Number	Category	Number
Doctor	38	Administrator	4
General nurse	38	Archivist	3
MCH nurse	3	Accountant	5
Midwife nurse	5	Cashier	10
Specialized nurse	2	Auditor	2
Health assistant	149		
Pharmacist	2		
Pharmacy technician	8		
Laboratory technician	16		
X-ray technician	1		
Sanitarian	13		
Total	277		24

The health personnel required was difficult to determine objectively because there were no established staff registers available. A subjective assessment made by questioning the health center head revealed that in the majority of cases they required double the current number of health assistants and three times the number of nurses. All health center heads complained of a shortage of pharmacy and laboratory technicians.

2. Specialized Training

The number of health personnel who attended specialized training courses is listed in Table 9. The majority received the training within the last five years with an average course duration of two weeks. CDD and family planning courses were the most frequent, followed by AIDS/STD and EPI courses. Facility management courses have been recently offered with support from WHO. There remains a large gap between those trained and untrained in health centers. Health staff frequently complained that they did not receive the specialized training they needed to improve their skills, that the same people attended courses when offered, and that those who were trained did not share their knowledge with other staff members.

Table 9: Health Center Technical Staff Having Received Specialized Training (for all surveyed HCs combined) (n=277)		
Category	Number trained	Percentage*
ORT/CDD	24	9
Malaria	7	3
AIDS/STD	14	5
Growth monitoring	3	1
ARI	2	1
Family planning	24	9
EPI	16	6
Facility management	6	2

*Percentage of total technical staff working in 13 health centers.

3. Health Services Provided

a. Curative

The majority of health centers offered services for STD, FP, and TB through special clinics. The offered services were provided eight hours per day for five days per week. Leprosy services were offered in seven health centers, while none had eye or dental services available. Several health workers noted that they would like to offer these services but had no staff or equipment. Malaria as a specialty clinic was available in nine health centers. (See Table 10 below.)

Category of Clinic	# HCs with Service	Percentage with Service
STD	12	92
FP	12	92
TB	13	100
Leprosy	7	54
Eye	0	0
Dental	0	0
Malaria	9	69

Inpatient services were available in seven of the health centers; these seven had an average of eight beds available. The total number of inpatients in 1994 ranged from 17 to 2960 (in Bushulo NGO HC-Sidama). The average was 687 patients with an average length of stay of 6.4 days. Three hundred and twenty-eight patients were referred to hospitals in 1994.

b. Preventive services

All health centers provided ANC, under five, EPI, health education, and TB services. (See Table 11 below.) The majority offered these services on a daily basis, with the exception of TB services, which were usually provided once per week. Health education was usually given according to a schedule, in group sessions of 30 minutes per day or several times per week. The health education talks were usually given prior to the start of under five, EPI, or ANC services. Only seven health centers provided postnatal service. The reason offered by HWs for not providing this service is that the demand for postnatal service is low. Results from the community demand survey show that although not ranked as a high priority, there is a demand for postnatal service. ORT corners were present in seven (54 percent) of the health centers. However, the effectiveness of the corner as an area to demonstrate ORS preparation and use is doubtful. Many ORT/CDD registers were improperly kept and there was little evidence of the assessment for nutritional status or other problems.

Table 11: Surveyed Health Centers with Specified Preventive Services (n=13)		
Type of Service	# HCs with Service	Percentage
ANC	13	100
Postnatal	7	54
Under five	13	100
Family planning	13	100
ORT	7	54
EPI	13	100
Growth monitoring	5	38
Health education	13	100
School health	2	15
Malaria	9	69
TB	13	100

All health centers provided FP services, including the Catholic NGO operated health center, which gave natural family planning advice. Growth monitoring was available in only five health centers and school health in two. Health centers offered on average 69 percent of the essential package of preventive health services, as defined by the World Bank (see Section IX).

c. Laboratory tests

Laboratory tests offered by health centers were often restricted due to the lack of laboratory technicians and essential materials such as laboratory reagents, microscopes, and culture media. Eight centers provided stool/urine and parasitology examinations, while seven were able to do hematology tests, six pregnancy tests, and only three bacteriological exams (Table 12).

Table 12: Health Centers Providing Specified Laboratory Service (n=13)		
Lab Test	Number of HCs with test	Percentage with test
Stool/urine	8	62
Hematology	7	54
Bacteriology	3	23
Parasitology	6	46
Pregnancy test	8	62

d. Drugs and medical supplies

The availability of drugs in health centers was good with the exception of ferrous sulphate, metronidazole, and ORS. These drugs were out of stock for an average of three or more months (See Table 13). The majority had received their last drug supplies one month prior to the survey, while two had received supplies more than three months ago and one more than five months ago. Vaccine supplies had also been received by the majority of centers one month prior to the survey, while one received them more than three months ago. All surveyed health centers had vaccines available at the time of the survey.

Drugs	Centers with Drug	% with Drug	For Centers without Drug: Average Time Out of Stock*
Co-trimoxazole	13	100	-
Procaine penicillin	13	100	-
Chloroquine	13	100	
Mebendazole	12	92	2
Tetracycline	13	100	
Aspirin	13	100	
Paracetamol	12	92	5
Ferrous sulphate	8	62	5
Metronidazole	10	77	4
ORS	10	77	4
Streptomycin	11	85	4
Tetracycline eye ointment	12	92	5
Vaccines			
BCG	13	100	
DPT	13	100	
Measles	13	100	
Polio	13	100	
TT	13	100	

* Code:out of stock: (1)=more than one week (2)=more than two weeks
(3)=over a month (4)=more than 2 months (5)=more than three months
(6)=more than six months

Essential medical supplies were available in most health centers but many health workers complained about old, outdated, and broken equipment. (See Table 14.) Five health centers had broken microscopes, some broken refrigerators, and six inoperable sterilizers. Four health centers had no diagnostic sets, two had no Salter scales, four had no delivery sets and one was without a

cool box. Other supplies that were needed but not available included: suture material, gauze, bandages, reagents, blood pressure apparatus, autoclaves, nasogastric tubes, vacuum extractors, catheters, dental instruments, and forceps. The most frequently mentioned items were delivery beds, delivery sets and blood pressure apparatus. The HWs interviewed noted that these items had been requested repeatedly for several years but were always out of stock. Many also complained that the supplies of needles/syringes and rubber gloves were inadequate for their needs.

Table 14: Health Centers Without Specified Equipment/Supplies (n=13)		
Item	# HCs where item not available	# HCs where item not working
Microscope	1	5
Stethoscope	4	3
Examination bed	1	-
Refrigerator	-	9
Salter scales	3	-
Standing scales	-	4
Vaccine carriers	-	-
Cool box	1	
Sterilizers	1	6
Delivery sets	4	-
Delivery beds	2	2
Speculums	2	

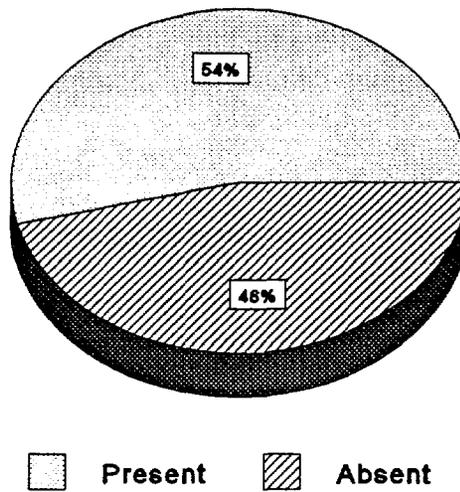
Only two of the health centers said that their transport was adequate. The majority had one vehicle and /or motorcycle. However, these were reported to be frequently out of order or in the garage undergoing repairs. One health center had no transport and relied on the woreda office car.

e. Physical facilities

Almost half of the health centers had no ORT corner due to insufficient space, and two said space was a limiting factor in providing confidentiality for family planning and STD services. While seven health facilities (54 percent) have an ORT corner (see Figure 2), many are not being used effectively. This finding was confirmed by a recent WHO health facility survey on diarrheal disease case management (June - July 1995).

Figure 2:

**Presence of ORT Corner
In Health Centers (N=13)**



Water supply was available in all but one health center, although health workers noted that the supply was inadequate. Several factors were cited as contributing to inadequate water supply, including: an inadequate pipe system, a small reservoir, and an old leaching supply system. One health center obtained water from a nearby river. Ten health centers had electricity; in four of these the supply was inadequate for the refrigerator, or there were frequent power interruptions causing problems for proper vaccine storage.

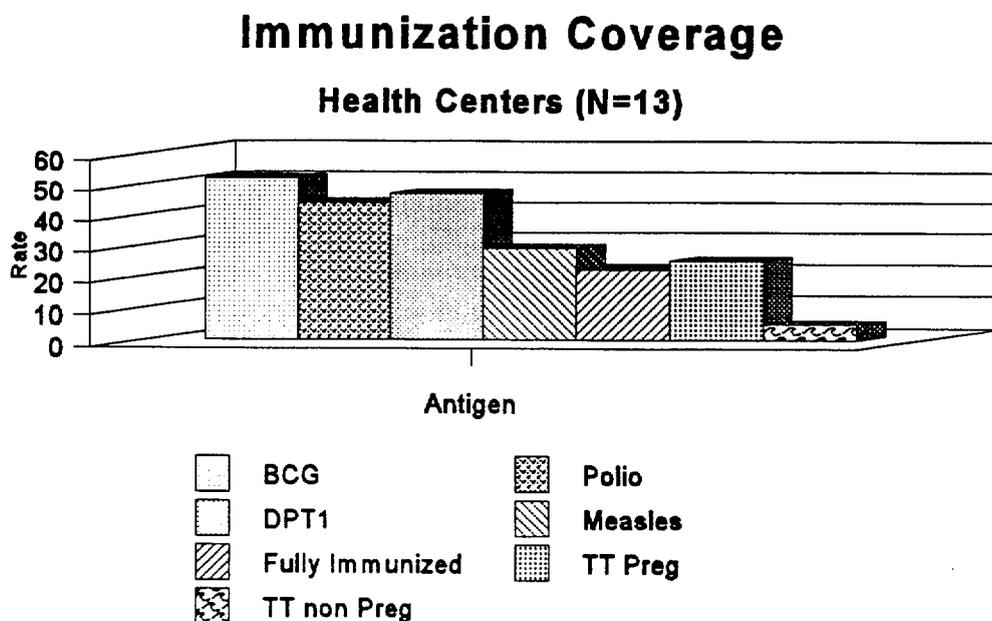
f. Maternal health

Surveyed health centers reported an average of 177 deliveries per year, with a range from ten to 764. An average of 15 deliveries were referred to hospitals. In a few health centers, the number of referrals was not recorded. Most did not record stillbirths. The number of low birth weight infants (<2500 gms) was calculated by reviewing delivery books for all births for the past year. The average number of LBW infants was nine.

g. Immunization

Determining accurate immunization coverage proved to be problematic as the majority of the health centers visited were using unrealistic or inaccurate target populations. When asked how the immunization targets and coverage figures were calculated, the health centers responded by saying they received their targets from the zonal or woreda health office. The health office, in turn, said that health centers were supposed to set their own targets and calculate coverage based on their catchment area. Vaccination registers were reviewed and coverage rates for each antigen were recalculated, looking at both static and outreach sites. Although this resulted in more reasonable coverage rates, problems still remained when the size of the catchment area given by the health center was inaccurate. Keeping in mind the limitations of the information available, coverage rates found by this method are consistent with rates available from RHB/UNICEF for the SNNPR. The coverage rate for BCG is 52 percent, polio 44 percent, DPT1 47 percent, measles 29 percent, TT (15-49 yrs) for pregnant women 25 percent, and TT non pregnant five percent. Twenty-two percent were fully immunized, according to MOH guidelines (DPT3 plus measles). (See Figure 3.) Dropout rates for DPT 1-3 and polio 1-3 averaged 33 percent. An extensive EPI review scheduled for October 1995 should provide more accurate coverage estimates.

Figure 3:



h. Family planning

The number of new family planning acceptors for the last six months was low relative to program objectives (the mean number of new acceptors per health center = 142). The estimated coverage for family planning is four percent, based on six-month data for new acceptors. All health centers had adequate stocks of oral contraceptives; the most common were Microgynon, Eugynon, Lo-Feminol, and Neogynon. The average stock was 630 cycles. Only three health centers had Depo Provera available and many health workers interviewed noted that there was a demand for Depo Provera, but it was not supplied. Foam tablets were available in four health centers. Supplies of condoms varied widely: three health centers had fewer than 30 in stock, four had 100-600, and three health centers had several thousand. The most common brands available were WHO Greenmate, Hi Life, and Oasis. Hiwot condoms, the brand socially marketed by PSI in Ethiopia, were not found in the surveyed health centers.

Family planning records were reviewed to determine the number of contraceptives issued for the past one year. The number of oral contraceptives issued averaged 1637 pill cycles, 1 IUCD, 67 foam tablets, and 1488 condoms per health center. Health workers noted that foam tablets were not generally accepted by women.

A review of stock control cards revealed that eight health centers either did not use control cards at all or they were incomplete and inaccurate. Stock control is an important area that may require emphasis during specialized family planning training courses.

In the majority of health centers, the HWs interviewed said that their contraceptives did not expire. However, a check of expiration dates on condoms revealed that many had expired. There appeared to be no problems in receiving oral contraceptives ordered. Many health workers complained that injectables were never received, though there was a demand for them.

Family planning information is recorded on a woman's health card and registration book, which are kept at the clinic. The number of family planning consultations including the number of new, repeat, and continuing acceptors are also recorded on the polyclinic monthly return, which is sent to the woreda health office. In addition, some health centers complete the Family Guidance Association form. In a number of instances surveyors noted that there was confusion between what constituted a repeat and a continuing family planning consultation. According to guidelines from the MOH, a repeat family planning consultation is up to two visits, while a continuing acceptor is three or more visits.

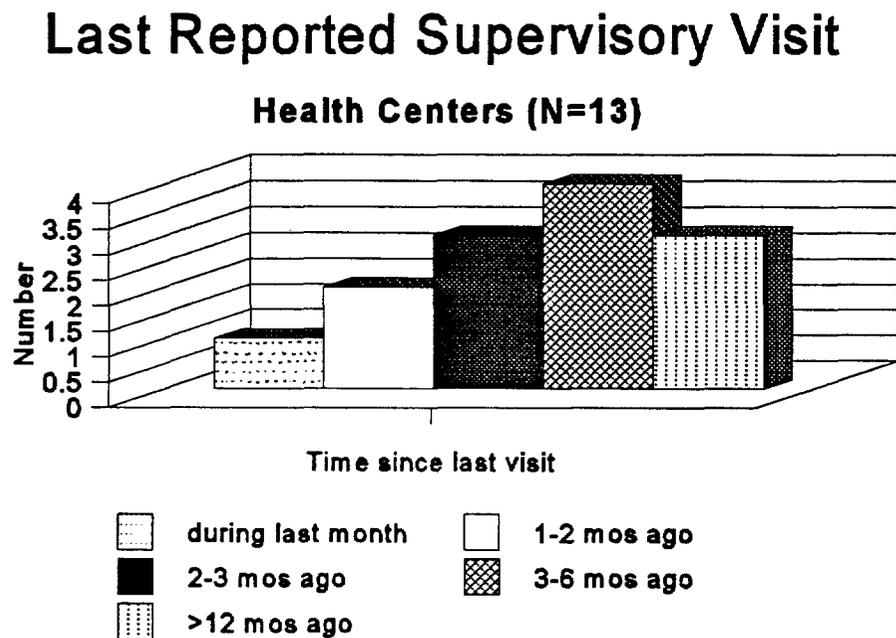
F. Managerial Issues for Health Centers

1. Supervision

The infrequency and inadequacy of supervision were among the most serious managerial issues encountered during the health facility review. Health center staff complained that they were unable to carry out supervision of health posts due to lack of transport and personnel. Only five health centers supervised health posts in their catchment area, and these were infrequently visited. Three health centers had a plan for supervision and four had written checklists or protocols.

Health centers also received infrequent visits from woreda or zonal health offices. The average last reported supervisory visit of the health center was on average more than three months ago, and three centers had not been supervised for more than a year (Figure 4). One health worker said that the health center had never been supervised in the past three years. Supervision often consists of an observation or group interview rather than a review of records or on the job training. Moreover, supervisory visits are frequently for financial and administrative purposes rather than technical. Supervision of health centers was usually carried out by MCH or EPI coordinators and occasionally by the woreda head and administrative staff. Woreda and zonal personnel remarked after they observed survey teams reviewing records that they had never been taught how to carry out supervision. This is an area which should be addressed through supervisory skills courses for woreda/zonal staff and health center staff.

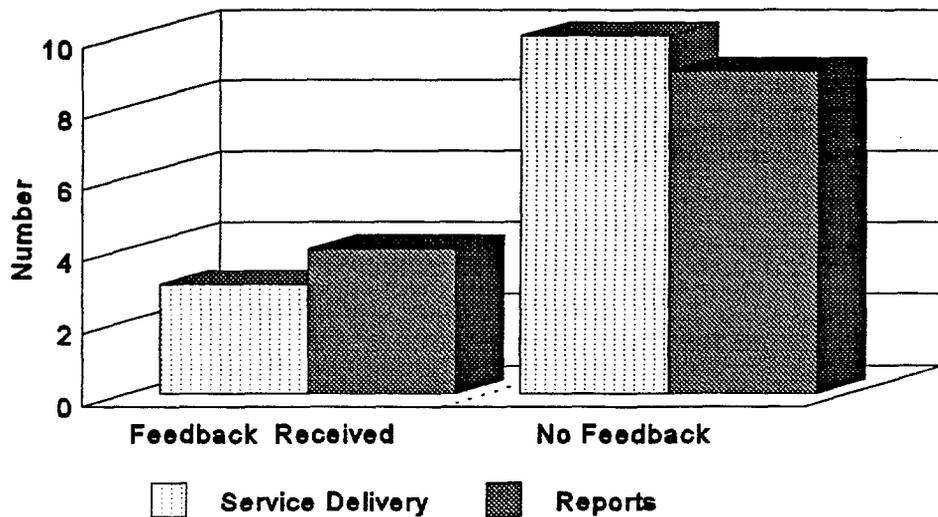
Figure 4:



Feedback was received by only three of the health centers (Figure 5). Indicative of the types of feedback received was a letter from the woreda health office commenting on weak performance and the need to improve the health information system and outreach.

Figure 5:

**Feedback on Services Delivered and on Reports
Health Centers (N=13)**



2. Health Worker Job Descriptions/Performance Factors

Seventy five percent of the health centers maintained records with information on health worker performance. When HWs were asked to identify the major problem affecting the ability to perform their job well, 54 percent said low salary, 38 percent poor working conditions, 46 percent lack of incentives, and 46 percent listed other problems including the heavy work load, lack of transport, no promotion, lack of supervision, low budget for the health center, and the fact that recent graduates (HAs) are promoted before those with long experience and seniority. Only one respondent said he did not receive his salary on time. In fact, several remarked that receiving their salary promptly was their only incentive.

Housing was provided for health workers in only five of the health centers, two of which were NGO facilities. Only two (15 percent) of the respondents said they received incentives or rewards which included recognition from the HA training school for work done for the school.

3. Planning and Record Keeping

The majority of health centers (62 percent) did not have a catchment area map locating villages, schools, and outreach sites. Those health centers with graphs or charts usually had lists of the top ten diseases. In three of the health centers that displayed maps, interviewees said they did not use the maps to respond to epidemics or for any other purpose. Three respondents said the information was used for compiling annual reports and for planning purposes. Only one noted that the top ten diseases list was used in planning for and requesting drug supplies.

When asked what the displayed information shows regarding health problems in the area, three said it shows nothing, others said it shows distribution of disease and cases seen, two said coverage for OPD and EPI, and one reported that the map allowed for the location of cases during epidemics. Eight respondents said that they had special health problems in their catchment area including worms, shigella, schistosomiasis, malaria, hypertension, typhoid and pneumonia.

Only four (30 percent) of the health centers said they received feedback on routine information compiled and reported to the woreda health office (see Figure 5). The feedback received included comments on the quality of the reporting, corrections to the TB report, and requests for clarification of information in their annual reports.

The survey included questions to elicit opinions on what specific information HWs would find most useful to improve facility management and to improve the health of people in their catchment area. In response, four noted that they would like to know about community dissatisfaction with their services, three noted the need for ways to measure health worker performance, and seven mentioned that it would be useful to know how community health agents were functioning, the state of village health committees, traditional healers, nutritional habits in the community, environmental and hygiene habits, sources of water, causes of skin infections and number of pit latrines.

When asked what they would do if they had this information, the majority said they would provide health education, and strengthen environmental health activities. Several said they would provide courses for community health agents and educate traditional healers on the dangers of harmful traditional practices.

In response to what they would do differently if they had the information, the majority said they would communicate the problem to higher officials, and several said they would discuss the issue with community leaders. Some remarked that they would expand outreach and health education activities.

4. Finances

All health centers collected fees for drugs and consultations. Two, both NGO health centers, retained the fees for use in the health facility, while all government health centers sent the fees to the woreda or zonal health office. By examining financial records kept by the health center

cashier, surveyors were able to obtain the amount collected for the past month. The average was 6,000 Birr, ranging from 500 to 8,000. If the average amount is constant throughout the year, the amount collected would be 72,000 Birr or approximately 60 percent of the operating costs for a government health center. The average number of patients treated free (exempt) was 268, which is approximately 20 percent of all OPD and IPD patients.

Four health centers received additional support from donor agencies, including Redd Barna, Ethiopian Red Cross, and SIDA for such activities as EPI outreach, MCH, and prison health services. The average amount received was 5700 Birr per year.

Respondents were asked what they would do with the collected fees if allowed to use them at the health center. In response they said they would add rooms to the health center, provide incentives for work, expand outreach, buy drugs and equipment, improve the water sources, carry out supervision, provide training, expand community services, train community health agents/TBAs, expand primary health care activities, improve maternity services, construct pit latrines, and improve environmental sanitation in communities.

G. Epidemiological Profile

1. OPD and Preventive Services

The preventive service profile included 12 month retrospective data on OPD attendance by sex and age, and attendance for ANC, postnatal, family planning and growth monitoring services. The total OPD and under five attendances by month (Figures 6 and 7) shows a decline from May to August. Overall more males (55 percent) attended OPD services (Figure 8). The age distribution reveals that the majority of OPD attenders are over age 14 (62 percent), while 17 percent are aged 5-14 and 21 percent are under age five. (Figure 9). ANC attendances demonstrate an erratic pattern with a peak in February and sharp declines in August and September (Figure 10). Family planning consultations show a similar pattern with a peak in February and decreases in August and September (Figure 11). The estimated coverage for family planning is 4 percent based on six month data for new acceptors.

Figure 6:

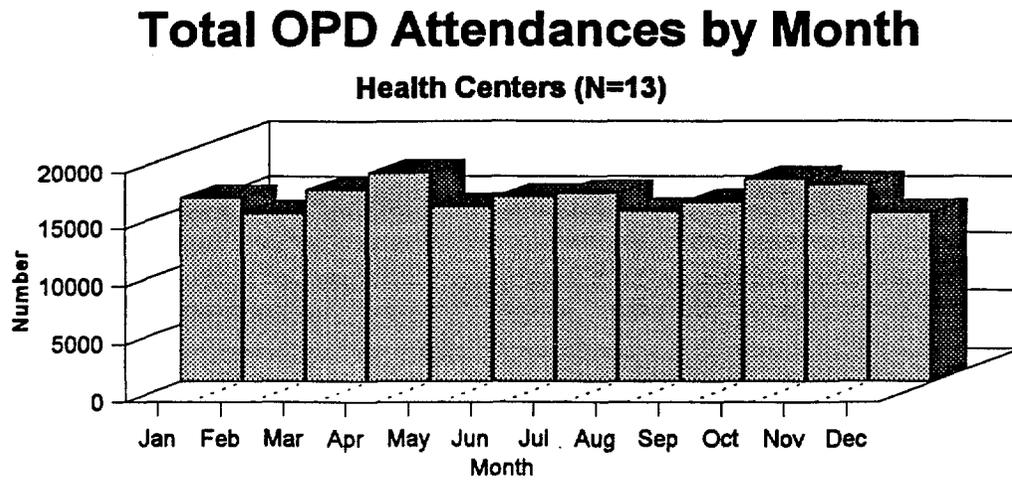


Figure 7:

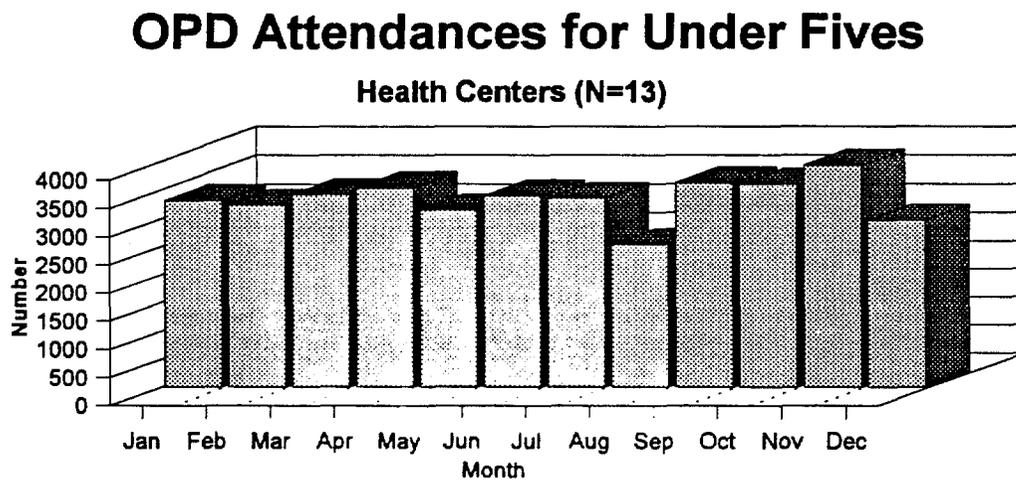
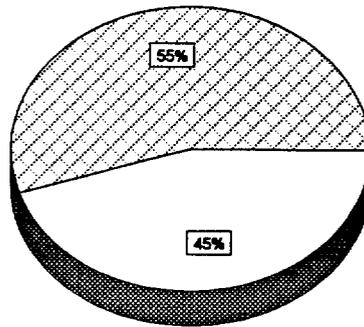


Figure 8:

Sex Distribution of OPD Attendances

Health Centers (N=13)

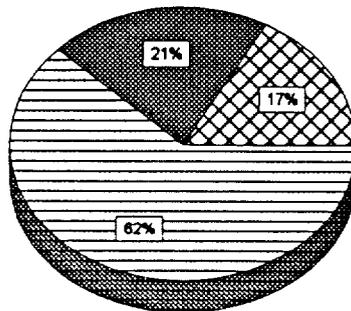


Male Female

Figure 9:

OPD Attendances by Age Category

Health Centers (N=13)



Age 5-14 Under Five
Age over 14

Figure 10:

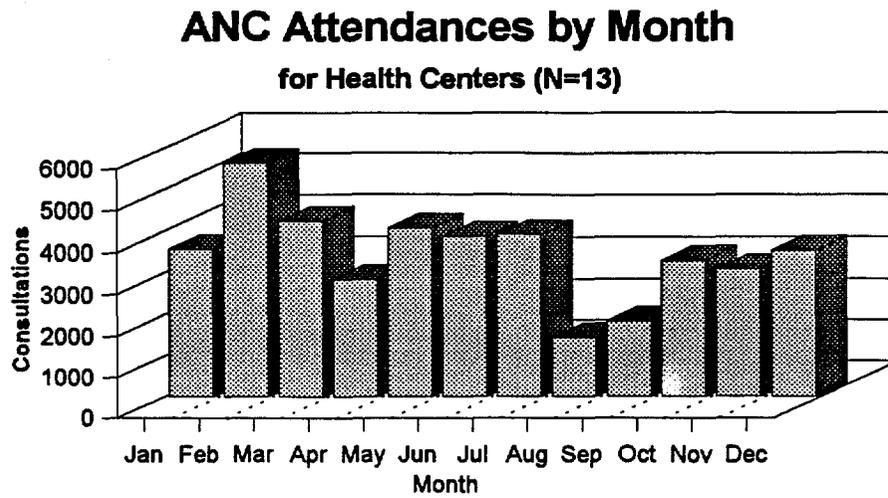
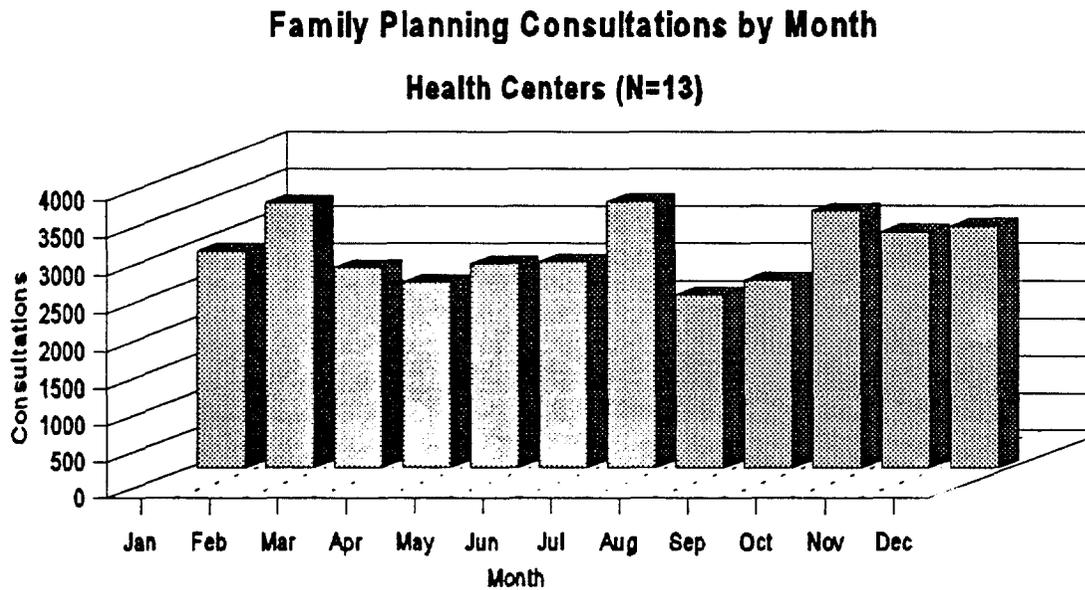
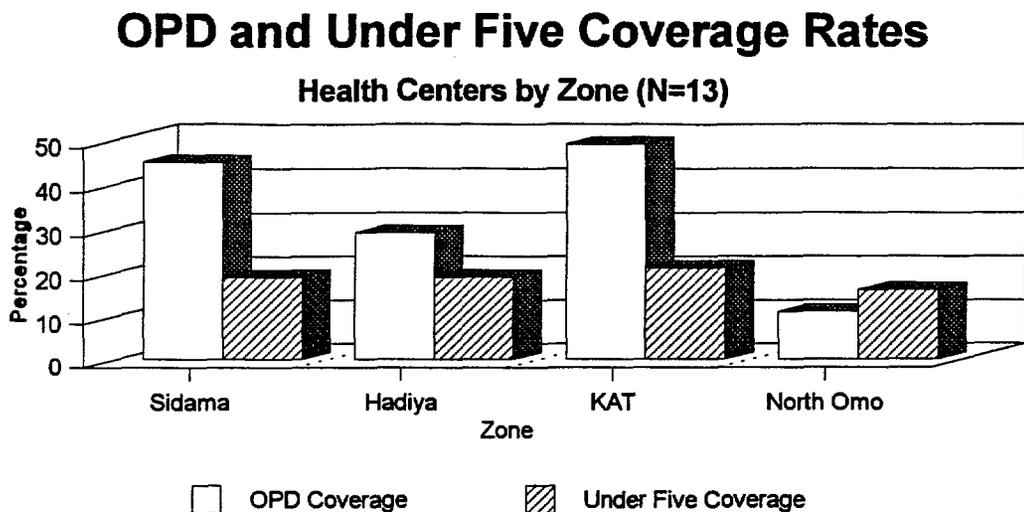


Figure 11:



OPD coverage rates were calculated by dividing the total number of OPD visits in one year by the catchment area population. The OPD coverage by zone is shown in Figure 12. KAT has the highest rate, followed by Sidama, Hadiya and North Omo. The survey also calculated the number of visits each month by children under five as a percentage of the estimated under five catchment population. These under five coverage rates are similar for all four zones, averaging 20 percent (see also Figure 12).

Figure 12:



The average workload for each health center was determined from total OPD attendances, number of technical staff, and number of OPD days per month. The average number of patients seen per day is 67 per health center. However, health centers vary a great deal in the total number of OPD patients, ranging from 5,180 for the past one year to more than 15,280.

2. Disease Patterns

The epidemiological profile and analysis were based on retrospective outpatient morbidity data for ten diseases selected according to known prevalence: TB, malaria, fever, skin/eye/ear infections, diarrhea, ARI, anemia, STDs, worms, and maternal problems. One year, January to

December 1994, was selected as the time frame to enable an analysis of seasonal variations in disease prevalence. Eco-geographical and possible socioeconomic conditions would be partially reflected when comparing disease prevalence across the four focus zones. Gender differences in disease patterns as reflected in OPD attendance were also possible to determine, since monthly morbidity data reported at the health center level were differentiated by sex. Morbidity data are reported on the monthly outpatient form according to the abridged WHO International Classification of Diseases (150 codes).

Prevalence

Five diseases -- worms, ARI, diarrhea, malaria and skin/eye/ear infections -- account for 60 percent of total OPD attendance in health centers (Figure 13). These five diseases plus TB, STDs, fever, and anaemia together make up nearly 70 percent of total OPD. The disease distribution by zone (Figure 14) reveals that for Sidama worms are the most frequent cause of morbidity, for Hadiya diarrhea is most prevalent, and for North Omo malaria cases are markedly higher than other causes of illness. In the zone of KAT, diarrhea cases, skin/eye/ear infections, and worms are all significant causes of morbidity, with ARI close behind

Figure 13:

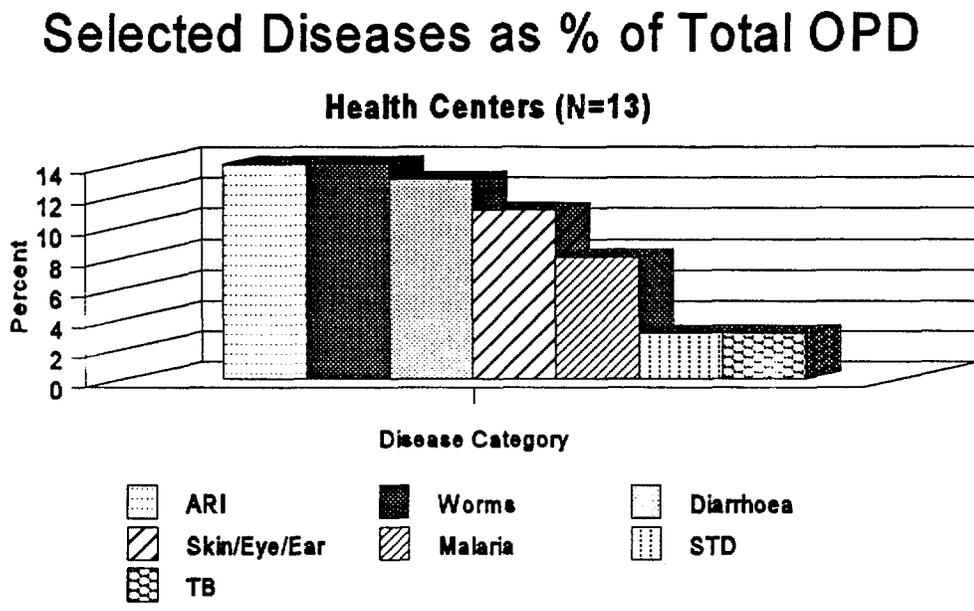
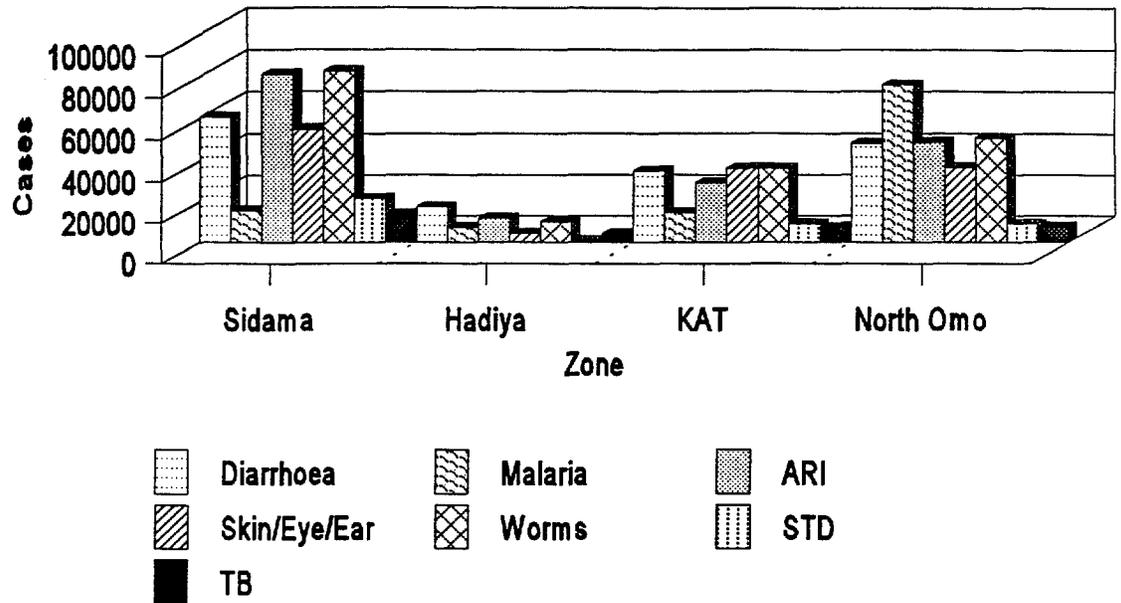


Figure 14:

Selected Diseases by Zone

Health Centers (N=13)



Seasonal Patterns

Seasonal variations are evident in diarrhea with peaks from Jan-March declining from April to September and rising again in October (Figure 15). This pattern corresponds to the national seasonal variation in diarrhea. Malaria also shows seasonal fluctuations peaking in April/May and July, declining in August and September, and then rising markedly from October to December (Figure 16).

Figure 15:

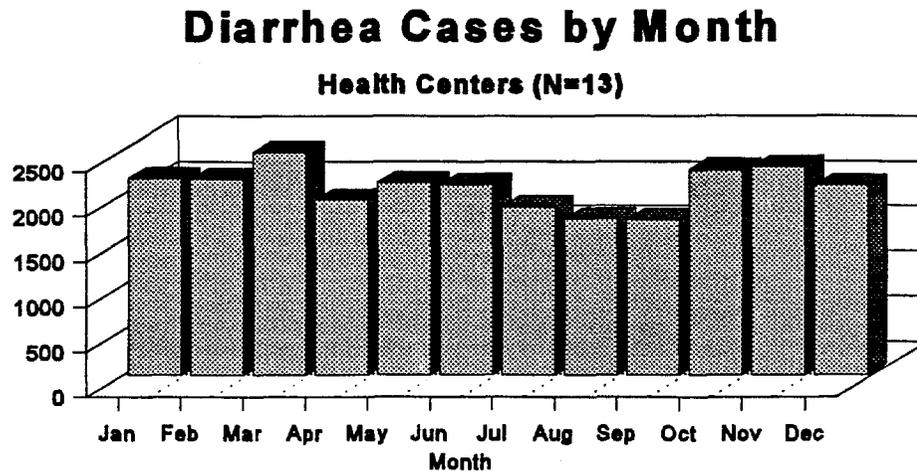
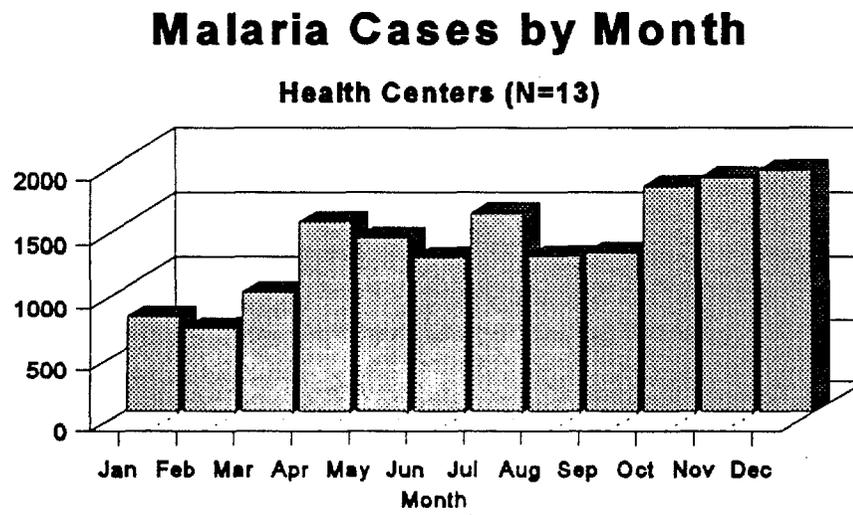


Figure 16:



ARI is fairly high throughout the year with slight declines from May to September, rising from October to November, and then declining in December (Figure 17). The majority of ARI cases occur in the population over age fifteen (Figure 18).

Figure 17:

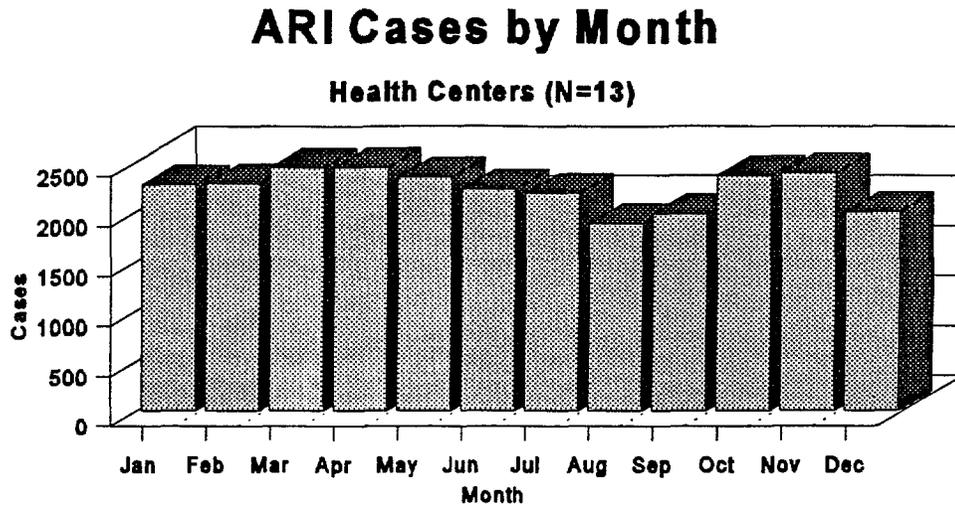
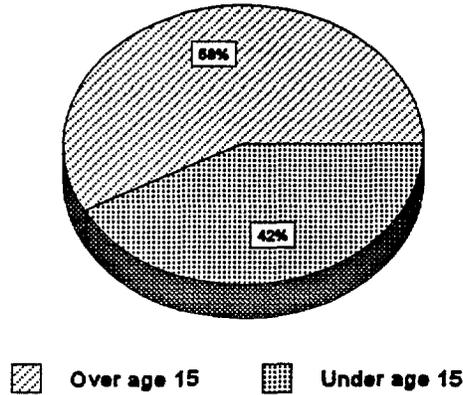


Figure 18:

ARI Cases by Age Category

Health Centers (N=13)

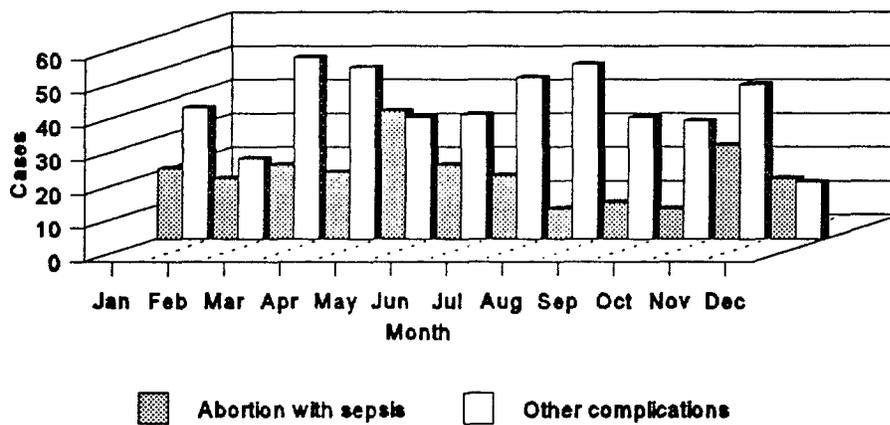


The survey data for maternal problems, including sepsis resulting from early termination of pregnancy and other complications, do not show any marked seasonal variation. This may reflect the extreme acute nature of this type of health problem. (See Figure 19 below.)

Figure 19:

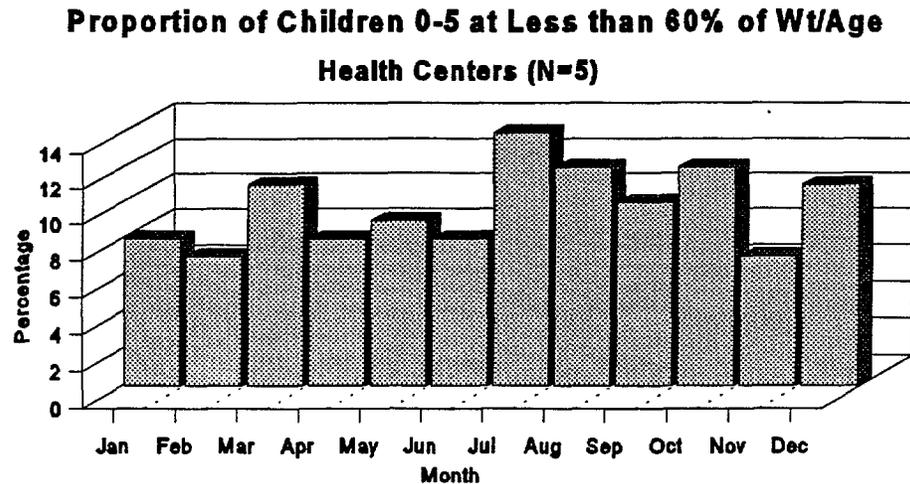
Maternal Problems

Health Centers (N=13)



Malnutrition data from growth monitoring results were available in five health centers. The number of under fives less than 60 percent of weight for age increases from July-October, often referred to as the "hunger season." (Figure 20) The peak in July is one month later than the peak observed in health station malnutrition (see Figure 34) which may be a reflection of the fact that the more severe cases of malnutrition are referred from health stations.

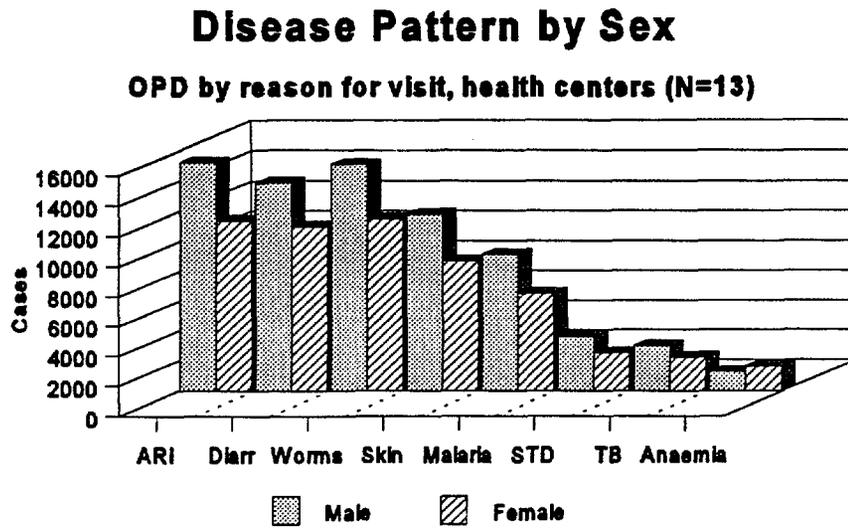
Figure 20:



Sex and Age Patterns

The disease pattern by sex shows that for all disease categories except fever and anemia more males than females attend sought care at health centers (Figure 21). Overall more males (55 percent) attend OPD services (See previous Figure 8).

Figure 21:



IV. SURVEY RESULTS FOR HEALTH STATIONS

A total of 36 health stations (24 government and 12 NGO) were included in the sample, distributed across the four zones (see Table 2, page 19). The health stations were located in 22 woredas.

A. Coverage

The average catchment population living within a five kilometer radius of the health station (based on estimates of the interviewee) averaged 15,766 people while the population within a five to ten km. radius was 19,814. There is a wide gap between the MOH standard of 10,000 people per health station (Comprehensive Health Directory) and the estimated average catchment population within ten kms. of 35,580. This situation sheds some light on the frequently voiced complaints by health workers that they have difficulty coping with expanding workloads, especially with only one or two health assistants. Clearly, the population has expanded beyond the delivery capacity of health stations. Under these circumstances it makes sense to restructure the current system as proposed by the MOH.

As for the health centers, calculation of health station catchment area to determine coverage was done through a review of 100 continuous cases recorded in the OPD register.

Percent of population from nearest villages	57
Average distance (km)	6
Percent of population from farthest villages	6
Average distance (km)	16

The average catchment area results are shown in Table 15. The average distance from the health station to the woreda health office, as well as the nearest urban center, was 16 kilometers. Surveyed health stations serve an average of seven kebeles and 11 villages. The major physical obstacles believed to hamper access include rivers, mountainous terrain, and poor roads, especially during the rainy season.

B. Referral

The nearest referral unit was a hospital for 34 of the 36 surveyed health stations (94 percent). For two of the health stations, a health center was the nearest referral unit. The mean distance to the referral unit was 49 km. All health workers said that they experience problems in referral.

According to the interviewees, the major problems faced by patients are: the long distances involved, lack of transport, high transport costs, inability to pay per diem for ambulance drivers, long waiting time at the hospital (2-3 days), high cost of exam fees and medicines, crowding at the hospital, poor services at the hospital, and the belief that a referred patient will die.

The data on the number of referrals should be interpreted with caution, as it was found that many health stations did not keep accurate records on referrals. Data were therefore collected from 15 health stations which did maintain accurate records; for these the referral rate for deliveries was 22 percent (219/1012). Information on the number of referred outpatients was rarely recorded.

C. Outreach

Nine health stations (25 percent) had no outreach activities (Table 16). Four did not respond. The remaining health stations had an average of five outreach sites with a mean population of 21,182. The 23 health stations that conducted outreach visited the sites at least once per month. The methods they used to inform and mobilize communities included visits by health station staff, announcements at church and PA meetings, annual schedules sent to PA officials, informing OPD attenders, and letters sent to kebele officials. Some NGO health stations used school students and others had a system of community team leaders called 'corporals' who were responsible for informing the community. Community households were often informed through a megaphone by the kebele PA. Some peasant association officials spread information by word of mouth or house to house visits. Thirty nine percent of the health stations used community health agents to mobilize communities.

Number of Sites	Government	NGO
None	6	3
1	-	1
2	-	2
4	3	3
5	4	3
6	3	-
7+	4	-
Total Responding	20	12

The majority of the funds available for government health station outreach activities (fuel and per diems) came from UNICEF and other NGOs (Catholic Church, Mekane Yesus, Redd Barna). Even though NGO health stations have fewer outreach sites, they spend considerably more funds for outreach activities than government health stations. (See Table 17.)

Category	Government HS	NGO HS
Fuel	441	5,753
Per diem	850	3,529

D. Traditional Birth Attendants (TBAs) and Community Health Agents (CHAs)

Forty seven percent of the health stations (17) said there were no TBAs in their catchment area, while 14 (39 percent) said there were no trained TBAs (see Table 18). The remaining health stations, those aware of TBAs in their area, have an average of two TBAs and three trained TBAs. In some areas, NGO-supported training of TBAs had taken place within the past year.

Table 18: Number of TBAs and TTBA's in the Health Station Catchment Area (n=36)					
TBA			Trained TBA		
Number of TBAs	Number of HSs responding	Percent of all HSs	Number of TTBA's	Number of HSs responding	Percent of all HSs
None	17	47	None	14	39
1	5	15	1	5	14
2	3	9	2	4	11
3	4	12	3	5	14
4	3	9	4	3	8
5+	4	12	5+	5	14
Total	36	100		36	100

When asked to identify community health agents active in their catchment area, respondents at 16 health stations said they had none (Table 19). In the other health stations, there were an average of 3 community health agents. However, many of those said to be active were no longer functioning as community health agents or had only recently been trained in Sidama in a course held in January 1995.

Table 19: Number of CHAs in Catchment Area as Reported by the Health Station (n=36)		
Number of CHAs Reported	Number of HSs responding	Percent of all HSs
None	16	42
1	5	14
2	2	6
3	7	20
4	2	6
5+	4	1
Total	36	100

Respondents from 14 health stations reported that community health agents assisted with outreach activities. They mobilized communities using the health station megaphone, informed communities through church gatherings and house to house visits, and helped the outreach team to organize the work area and register attendances. Two were involved in assisting with health education and MCH activities at the health station.

E. Delivery Capacity

1. Personnel and Staffing

Table 20 shows the distribution of technical staff in the health station surveyed for government and NGO facilities. MCH nurses and midwifery nurses were available in NGO stations. The shortage of HAs in a large number of health stations severely restricts the ability of the clinic to offer outreach services. Three clinics had only one HA, while 11 had two. Several health stations, especially those near townships or urban areas, were relatively over staffed with five to six health assistants each. NGO facilities had more nurses but fewer health assistants than government health stations.

Category	Government (n=24)	NGO (n=12)
	Number of staff	Number of staff
General Nurse	4	7
MCH Nurse	2	2
Midwife Nurse	-	5
Health Assistant	67	25
Sanitarian	3	-
Total	76	39

Administrative staff was limited to a cashier in six health stations, while two had an archivist and two an administrative officer.

2. Specialized Training

The distribution of specialized training courses attended by health station staff is depicted in Table 21. The largest percentage received training in family planning (30 percent), followed by EPI (22 percent), and CDD (18 percent). All courses were offered within the past five years and averaged two weeks in duration.

Table 21: Health Station Staff Having Received Specialized Training (for all Surveyed HSs Combined) (n=115 staff)		
Type of Training	Number Trained	Percent
ORT/CDD	21	18
Malaria	1	1
AIDS/STD	7	6
Growth Monitoring	5	4
ARI	1	1
Family Planning	35	30
EPI	25	22
Facility Management	2	2

3. Health Services Provided

a. Curative services

All but one health station (98 percent) offered STD services daily during normal OPD hours (6-8 hrs/day) (see Table 22). The majority offered family planning (78 percent), while eight Catholic-operated NGO health stations did not. Tuberculosis services were offered by 13 (36 percent), usually consisting of screening and referral to a health center or hospital. Leprosy treatment was offered by seven health stations (19 percent).

Table 22: Health Stations Offering Specified Clinic Services (n=36)		
Service	Number of HS with service	Percentage with service
STD	35	97
Family Planning	28	78
TB	13	36
Leprosy	7	19
Eye	3	8
Dental	2	6
Malaria	27	75

b. Preventive services

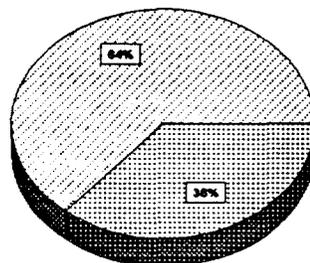
Table 23 shows the types of preventive services offered by health stations. Most of the services offered were available daily, though TB services were generally offered once per week. Of the 36 health stations surveyed, three did not offer EPI services. In two, the refrigerator was out of order for over a year and in one there were no sterilizers or needles and syringes.

ORT corners were present in 61 percent of health stations surveyed (see Figure 22) but were not always used as an area to retain children with moderate dehydration or to demonstrate the preparation and administration of ORS. Several health workers said they simply gave packets to mothers with verbal instructions only.

Figure 22:

Presence of ORT Corner

Health Stations (N=36)



Present
 Absent

In the 32 offering ANC services, most made them available on a daily basis during OPD hours (6-8 hrs/day). Three gave the service one or two days a week. Four health stations did not offer ANC services. Two of these health stations were NGO World Vision clinics who said they had insufficient staff to provide the service. Only three health stations offered postnatal services. Most health workers said women do not see the value of coming to the clinic once delivery has occurred.

Growth monitoring was offered in only five health stations in spite of the fact that the number of malnutrition cases is significant. Seven stations lacked Salter scales. Health workers remarked that mothers fail to bring their children to the clinic once the vaccination schedule is complete. One health station did not offer any under five services.

Health education was usually offered on a scheduled basis for 30 minutes or for one hour, five days a week, prior to the start of ANC or other clinic services. School health was offered by only 12 health stations (33 percent), usually through visits to schools on a monthly or bimonthly basis. Family planning was available in 28 health stations (81 percent). The surveyed health stations were found to offer an average of 61 percent of the essential package of preventive services as described in Section IX (Defining the Essential Package of Health Services).

Service	Number with service	Percentage
Antenatal	32	89
Postnatal	3	8
Under five	35	97
Family planning	28	78
ORT corner	24	64
EPI	33	91
Growth monitoring	5	14
Health education	36	100
School health	12	33
TB prevention	15	42
Environmental health	17	47
Malaria	27	75

c. Diagnostic and laboratory services

The ability of health stations to provide basic laboratory services was severely restricted due to the lack of microscopes, reagents, and essential equipment. NGO health stations were better equipped with diagnostic and laboratory equipment and were able to offer examinations for stool/urine (23 percent), and hematology, including blood smears and anemia tests (17 percent).

d. Drugs and vaccine supplies

Drugs

The situation in regard to essential drugs was fairly good; most health stations received supplies on a regular basis. However, three health stations received their last drug supplies more than eight months ago. Due to the expiration of their drug import licenses, clinics operated by World Vision were experiencing a temporary drug shortage. This generally positive drug supply situation may in part be a reflection of the infusion of essential drugs through the Emergency Recovery and Reconstruction Program (ERRP) in 1994.

It should also be noted that the situation in terms of health station drug supply varies depending on the location of the station. Stations located in urban townships were better supplied and experienced fewer stock outs. More isolated rural health stations complained of drug shortages and difficulties in collecting drugs from woreda offices. The most serious drug shortages were for ferrous sulphate and ORS, with shortages ranging from one month to more than six months (Table 24). (The Essential Drug List can be obtained from the Ministry of Health.)

A number of rural drug vendors were visited during the course of the survey to determine availability of drugs, costs, and other types of treatment they provided. The drug vendors visited were generally well stocked with essential drugs, including ORS, worm medicines, antibiotics, eye ointments, and antifungal preparations. Costs were usually higher than in public facilities, ranging from 20 to 80 percent. Drug vendors are well utilized in spite of the higher cost because of their proximity to communities. Vendors also provide injections and some give health education to their customers. During the community demand study conducted from June to August 1995 in selected villages in the same four zones, it was found that people complained about some vendors whom they regarded as exploitative and who provided inappropriate treatment. In light of their importance as community-based health providers, more research should be conducted on rural drug vendors.

Vaccines:

Vaccines were available in 33 health stations (92 percent). The remaining the three health stations did not offer EPI services (see Table 24).

Drug	Stations with drug currently available	Percentage with drug	For health station without drug, time out of stock*
Co-trimoxazole	23	66	5
Procaine penicillin	33	92	2
Chloroquine	28	78	3
Mebendazole	31	86	4
Tetracycline	30	83	4
Aspirin	31	86	3
Paracetamol	27	75	3
Ferrous sulphate	21	58	5
Metronidazole	27	75	3
ORS	26	72	4
Tetracy. eye ointment	33	92	4
Vaccines			
BCG	33	92	4
DPT	33	92	4
Measles	33	92	4
Polio	33	92	4
TT	33	92	4

*Code: (1)=over a week, (2)=2 weeks, (3)=over a month, (4)=2 months, (5)=over 3 months, (6)=over 6 months, (7)=more than a year.

e. Equipment, medical supplies, and transport

Equipment shortages were noted in many health stations. (Table 25). Microscopes were unavailable in 25 of the stations (69 percent) and out of use in five (14 percent). Diagnostic sets were not present in 20 (56 percent). While many had stethoscopes, the number was not adequate. Examination beds were not available in four stations and many complained that their exam beds

were very old. One health station had no refrigerator and six had refrigerators which were not working. In terms of vaccine storage and cold chain equipment, four stations had no sterilizers and in 12 others they were not working; cold boxes were absent in 14 (39 percent). Surgical gloves were regarded as inadequate in nine health stations. Syringes/ needles were not available in two stations, and were available but inadequate in five.

Health workers provided a long list of essential equipment that was needed but unavailable including, in order of mentioned frequency: blood pressure apparatus, delivery beds, delivery sets, diagnostic sets, microscopes, scales, cool boxes, minor surgical sets, syringes and needles, vacuum extractors, dental equipment, and ORT supplies.

Item	# HSs where item was not available	# of HSs where item was not working or out of use
Microscope	25	5
Diagnostic Sets	20	6
Stethoscope	4	11
Exam bed	4	
Refrigerator	1	6
Scales (Salter)	7	2
Scales standing	7	5
Vaccine carrier	2	5
Cool box	14	2
Sterilizers	4	12
Delivery sets	19	-
Delivery bed	16	
Speculum	21	-
Sterile gloves	-	Inadequate = 9
Syringes (Needles)	2	Inadequate = 5

Twelve health stations had no transport available (33 percent). Eleven had motorbikes, many of which were old and usually out of order, seven had vehicles (land cruisers or land rovers), and two used mules purchased by AICF (a French NGO).

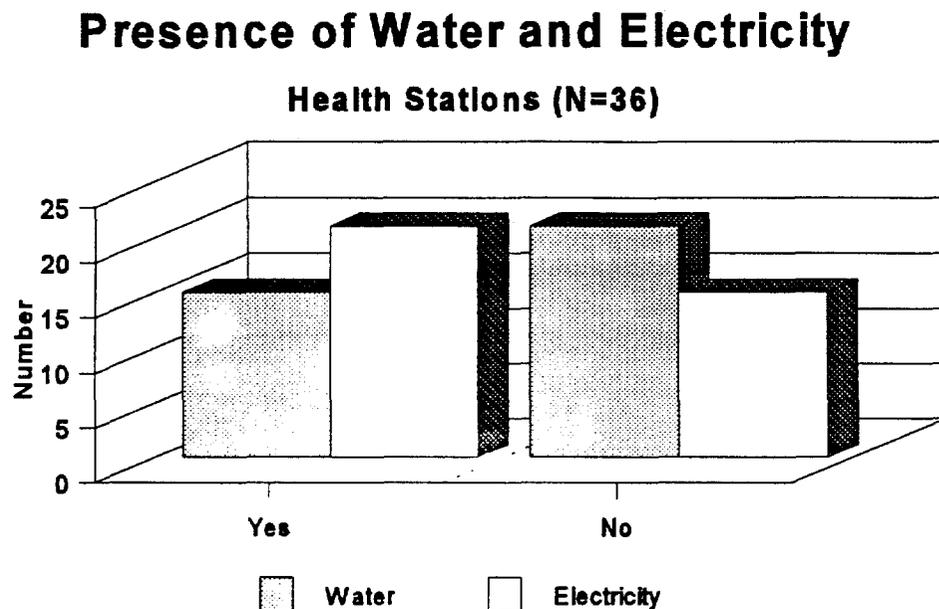
f. Physical facilities

As mentioned earlier ORT corners were present in 64 percent of the health stations. However, many lacked equipment for demonstrating ORS preparation. A review of the ORT registers showed that few patients with moderate dehydration were retained in the corner and assessment of nutritional status was rarely done.

Confidentiality (screened area or separate room) was not provided for STD/FP patients in nine stations (25 percent). Those unable to provide this confidentiality said they had insufficient space to do so.

Lack of adequate or good quality water was observed in 16 of the health stations (44 percent) (see Figure 23). Only 11 said that they had no problems with water supply. The problems noted by respondents included use of roof catchment rain water, collecting from rivers or streams often long distances away, poor or broken pipe distribution system, and erratic generators for pumps.

Figure 23:



Fourteen health stations had an electrical supply but 10 of these (71 percent) experienced problems including frequent power interruptions, difficulties with solar power battery and generators which were frequently out of order.

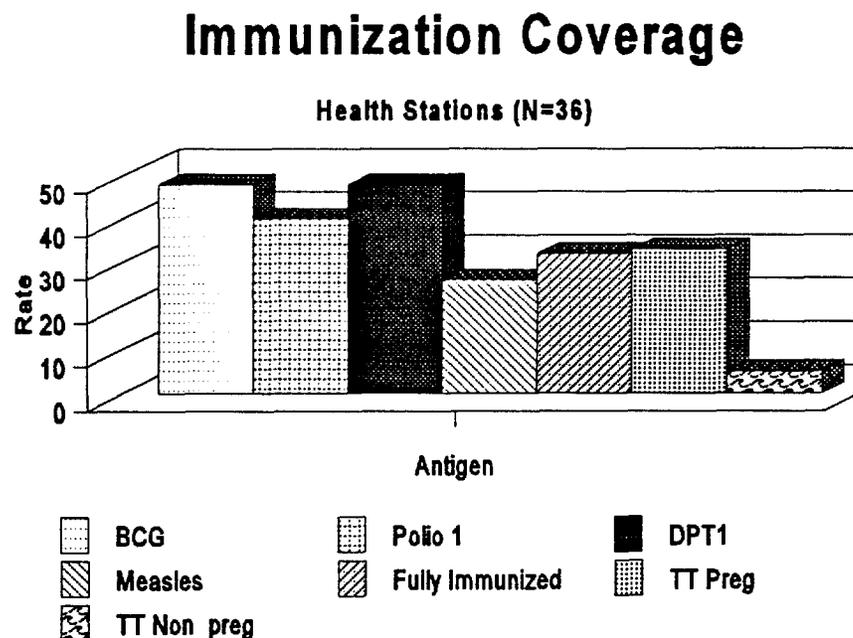
g. Maternal health services

The number of deliveries at health stations averaged 25 over a one year period. Several stations did not maintain a separate delivery register and recorded the number of deliveries on the monthly MCH form. The majority of deliveries take place in the community and only those attended by a trained TBA are reported. All health stations surveyed reported referring a total of 190 women to health centers or hospitals for delivery.

h. Immunization coverage

As with the health centers, obtaining accurate data on immunization coverage was difficult due to discrepancies in the target populations the health stations used in their calculations. In one health station for example, there were three different target populations displayed on the wall for the same year. For several health stations, the number of kebeles they were responsible for changed from year to year. All of the health workers interviewed for the survey said they received their immunization target numbers from the woreda or zonal health office; few knew how to calculate EPI coverage themselves. To compensate, survey teams determined actual vaccinations given for each antigen (both static and outreach) from EPI registers, then calculated coverage based on the catchment area of the health station. The resulting figures are more realistic but in some cases still subject to error due to inaccurate estimates of a health station's catchment population. The average coverage rates were: for BCG 48 percent, polio 49 percent, DPT1 48 percent, measles 26 percent, TT (15-45 years) pregnant 33 percent, TT non pregnant five percent, and fully immunized (DPT3 plus measles) 36 percent. Figure 24 shows EPI coverage by antigen. The average dropout rate for both DPT 1-3 and polio 1-3 is 30 percent.

Figure 24:



The 33 percent immunization rate for TT pregnant is probably overestimated. During the community demand study of EPI coverage by zone, additional data were collected from zonal health offices to provide some basis for comparing the results obtained from the health facility review. These results are presented in Appendix 7.

i. Family planning

For the 28 health stations providing family planning services, the availability of contraceptive stocks was assessed by reviewing stock control cards when available and by physically inspecting the stocks to determine brand, expiration dates, and quantity. Supplies were adequate in all stations, given a mean 81 family planning acceptors per health station for past six months. The oral contraceptive supply averaged 100 cycles for Eugenon, Microgynon, and Neogynon. Depo Provera and foam tablets were available in one health station. Condom stocks (Sweet Home, Hi Life, Million, Sultan, Greenmate) averaged 504 per health station. Eleven of the health stations did not use stock cards while in six they were used but not accurately completed.

The majority of health workers interviewed said they always received the contraceptives they ordered on time and rarely experienced stock outs. Several mentioned that they received only oral contraceptives even though women expressed a demand for injectables.

The forms completed for family planning include the family guidance card and woman's health cards, kept in the health station. Information is also recorded in the polyclinic report and Family Guidance Association acceptors report, which are sent to the woreda office.

F. Managerial Issues for Health Stations

1. Supervision

Health personnel were asked when the clinic was last supervised and if available supervisory records were inspected. Thirty-nine percent (14) were last supervised more than three months ago and five percent more than four months ago (Figure 25). The supervision was often for administrative purposes and often only financial records were reviewed. The majority (19 of 36 or 54 percent) received no feedback as a result of the supervision (Figure 26). Examples of feedback that was received include a request to improve the family planning record system, and comments on the need to increase outreach and to improve refrigerator maintenance. Two respondents from health stations received written letters of encouragement for good service and five received written comments from the woreda or zonal health office describing problems and weaknesses and the need to improve. In the remaining cases, discussions were held between health station personnel and health office staff.

Figure 25:

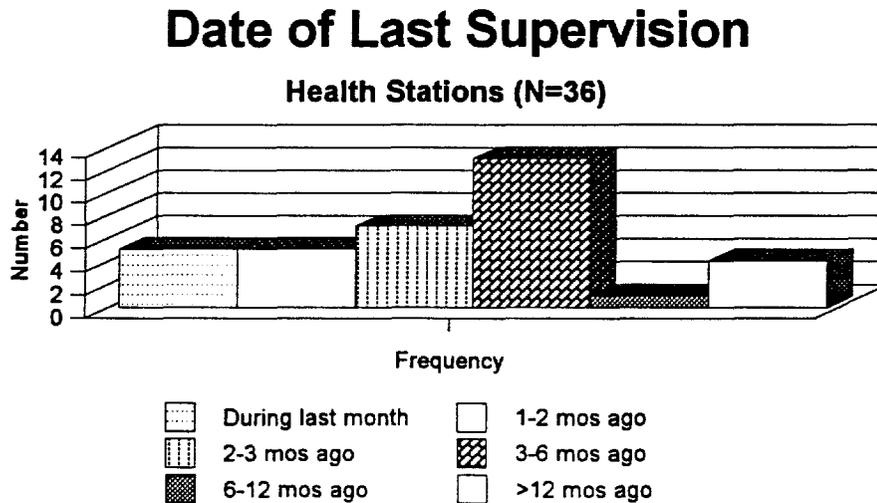
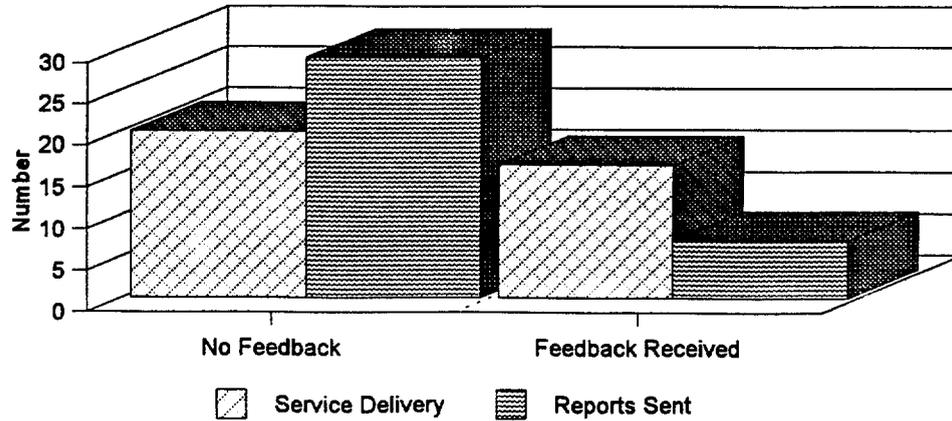


Figure 26:

**Supervision with Feedback and Feedback on Reports Sent
Health Stations (N=36)**



Seventy seven percent (28) of health stations did not supervise the health posts in their catchment areas. Five supervised one health post each, and three supervised three health posts. The frequency of supervision was monthly for six stations and bimonthly for two. Only three health stations had a supervision plan and one used a checklist.

2. Health Worker Performance Factors

Written job descriptions were available in one (NGO) health station, while eight health stations (20 percent) kept records of health worker performance. At each health station, the interviewee was asked for his opinion on factors that affected the health workers' ability to perform their job well. The main factors are shown in Table 26. Four mentioned the lack of community participation as a factor affecting their job performance and one health worker said he experienced problems because he does not speak the local language.

Factor	Number Responding	Percent
Low salary	21	58
Poor working conditions	16	44
Lack of incentives	10	28
Problems with community	5	14
Other	8	22

Other factors affecting performance included work overloads, shortage of staff, old health station, lack of training courses, low per diems for outreach, health assistant living far away from family, drug shortages, no on the job training opportunities, and discrepancies in pay between health assistants performing the same work. Only one health worker noted that he failed to receive his salary on time due to problems in the woreda health office. The majority of health workers (34 percent) said they received no incentives for their work. Of two who reported receiving incentives, one received a letter of congratulations on a job well done, and one respondent from an NGO station received a cash bonus for good performance.

3. Planning and Information

Catchment area maps locating villages and outreach sites were found in five health stations. Eight health stations had no charts or graphs displayed. The most frequently seen graphs depicted the top ten diseases seen at the clinic during the year. Ten health stations (28 percent) had EPI monitoring charts and a few had charts of various clinic activities including family planning, MCH, and health education.

When asked what the information shows, the majority of respondents said the graphs show common illnesses of the area. Some said they reflect health worker performance in terms of the number of patients seen, and five noted that the graphs helped them to understand the nature of patients using the facility (children and adults). Three health workers said they did not know what the graphs showed. The problems mentioned by health workers as unique to their catchment area included malaria, STDs, pneumonia, diarrhea, dysentery, malnutrition, and anemia.

Feedback on information and reports sent was received by seven health stations, or 21 percent (see Figure 26, section on Supervision). The types of feedback included comments on incomplete reports and requests for additional information for woreda or zonal annual reports.

Health workers were asked for their ideas on what information would help them to improve their performance and to improve the health of the people in their area. Six health workers said they would like to know more about community needs and community satisfaction with the services provided. Other responses included information on: the characteristics of ANC attendance; drug vendors; health education effectiveness; traditional healers; malpractice by traditional healers and harmful traditional practices, especially as related to pregnancy and maternal health; nutrition habits; environmental health; effectiveness of treatments provided; *chat* consumption and its effects; drinking water source; Vitamin A deficiency; food availability; infant feeding practices; and causes of postpartum infection.

When asked how they would use this information, the majority of health workers said they would provide better health education, some remarked that they would plan with the community to achieve their requested needs, and others said they would broaden the scope of environmental health services. Others said they would hold discussion with community leaders and higher officials to obtain their support for affecting changes. Several health workers expressed a need for surveillance of health practices in the community. They commented that the community needs to be educated on the dangers of certain traditional practices such as treating swollen tonsils by squeezing them. They also mentioned the need for continued community health education and suggested training community health agents to provide more health education at the community level. Health workers regarded information on environmental health and nutrition as a high priority. This reflects their concern with the prevalence of water borne diseases, worm infestation, and nutritional problems in their area.

4. Finances

All but one health station collected fees for services and drugs. Only two health assistants in government health stations said they received support from other sources, namely Catholic Relief Services and UNICEF. The funds were for MCH activities and for per diem and fuel to conduct EPI outreach. For government health stations the average income from fees was 883 Birr/month. If this level remains constant over one year, the amount would be 10,596 Birr, or 81 percent of the average operating budget for government health stations. If government health stations were allowed to retain fees, they could expand outreach, health education, and other clinic and community services.

The average amount collected by all NGO health stations was 2,166 for one month or approximately 26,000 Birr per year. This is twice the average operating budget allocated to government health stations. Six NGO facilities retained the fees for use by the clinic. For these six, the average income from fees for the month preceding the survey was B1,244 ranging from B40 to B6,569. The average number of exempted patients was 74 (30 percent).

Health workers were asked how they would use the money if allowed to retain fees at the point of collection. In response, they said money would be used to construct additional rooms for the health station, open more outreach sites, conduct training, provide incentives for TBAs and for health workers, expand primary health care, buy drugs, hire more staff, improve the water supply, build staff houses, open health posts, purchase motorbikes, upgrade the health station to health center level, and build ventilated improved pit latrines for the health station.

Finally, training courses the health workers would like to receive in order of frequency mentioned were: EPI, MCH, CDD, AIDS/STD, family planning and nutrition. Management and leadership courses were also mentioned by several health workers. Other training requests included cold chain management, midwifery, statistics, TB drug management, community participation, and laboratory techniques.

G. Epidemiological and Preventive Services Profile for Health Stations

1. OPD and Preventive Services Utilization

Retrospective data on outpatient attendances were obtained by reviewing health facility registers and summary monthly returns. Outpatient and Under five attendances by month (Figure 27 & 28) show a decline during the months of May-August which probably reflects access difficulties experienced during the rains. Attendances by sex (Figure 28) show a higher percentage of males (54 percent) than females (45 percent) using outpatient services at health stations. OPD attendances by age category indicate that the majority of patients are over 15 (60 percent), followed by those under age five (25 percent) and age five to 15 (15 percent) (see Figure 29).

Figure 27:

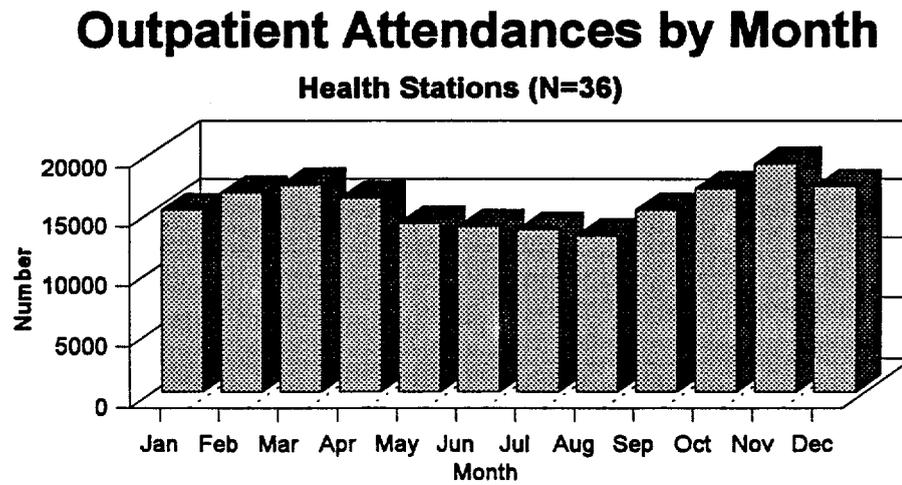


Figure 28:

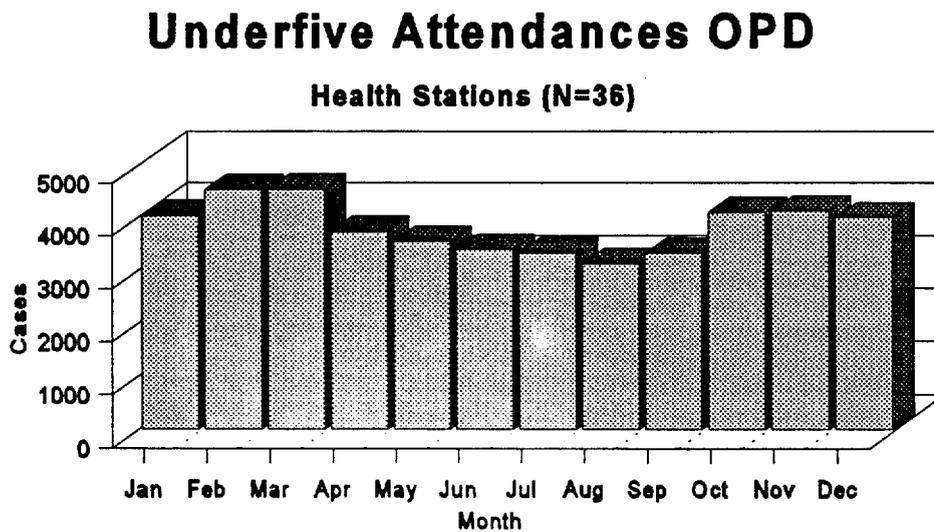


Figure 29:

Outpatient Attendances by Age Health Stations (N=36)

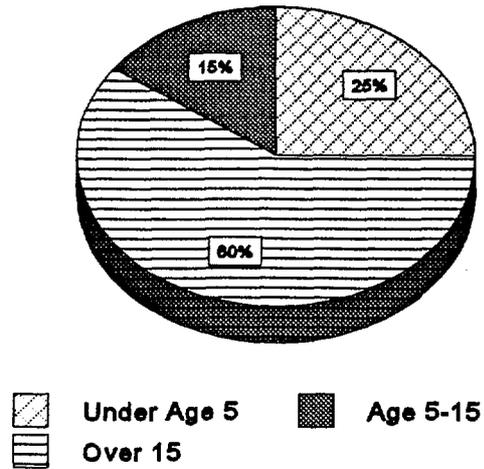


Figure 30:

Outpatient Attendances by Sex Health Stations (N=36)

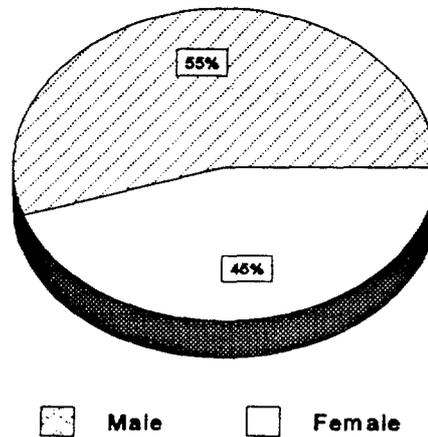
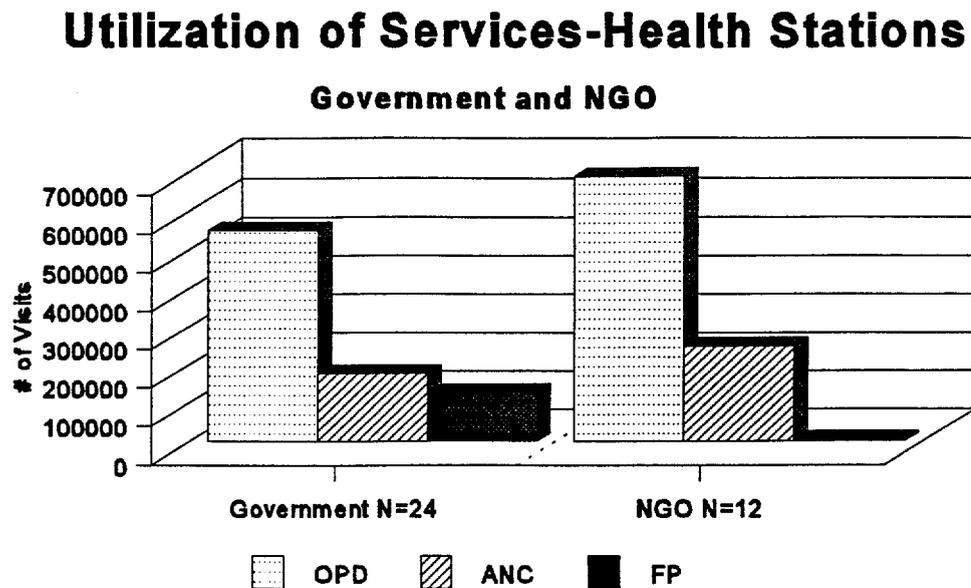


Figure 31 compares utilization of OPD, ANC, and family planning services at government and NGO health stations. Although half the number of NGO facilities (12) were sampled compared to government facilities (24), total attendance for OPD and ANC is markedly higher at these stations. Family planning was higher in government stations as only two NGO stations offered the service.

Figure 31:



2. OPD and Under Five Coverage Rates

OPD coverage rates were calculated based on the total OPD attendance for one year as a percentage of the estimated catchment population. For government health stations (Figure 32), OPD coverage is highest in North Omo, followed by Hadiya, KAT and Sidama. For NGO facilities (Figure 33) the pattern is different, with the highest OPD coverage in KAT followed by Hadiya, North Omo and Sidama. Under five coverage, based on under five monthly visits as a percentage of the estimated catchment population under five, is highest in KAT for all health stations. A possible reason is that KAT has a large number of NGOs providing MCH and EPI outreach services. Other reasons which could account for the differences may be discovered through additional research.

Figure 32:

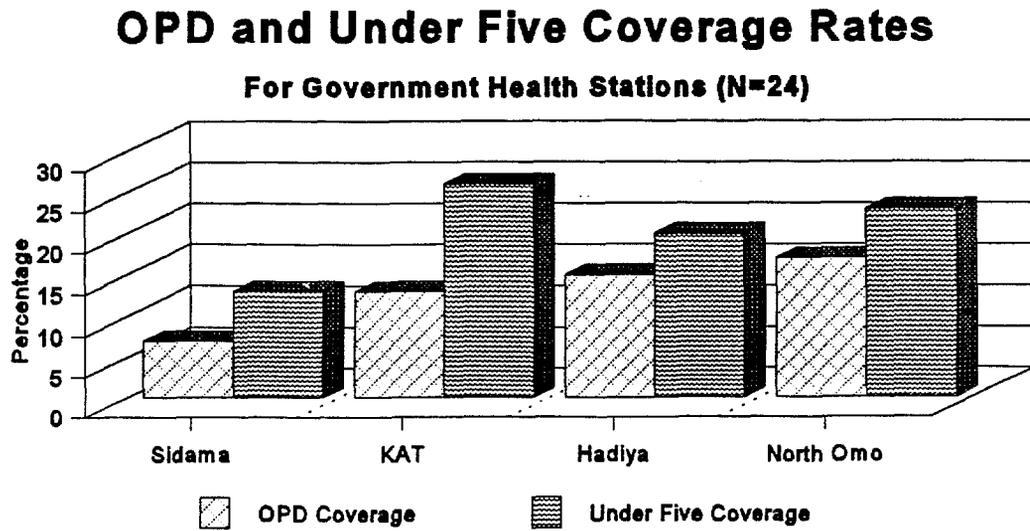
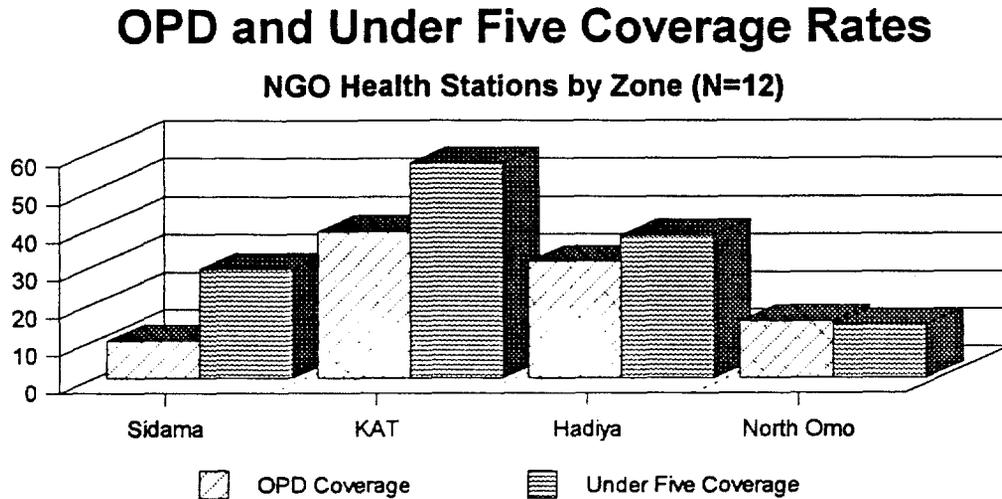


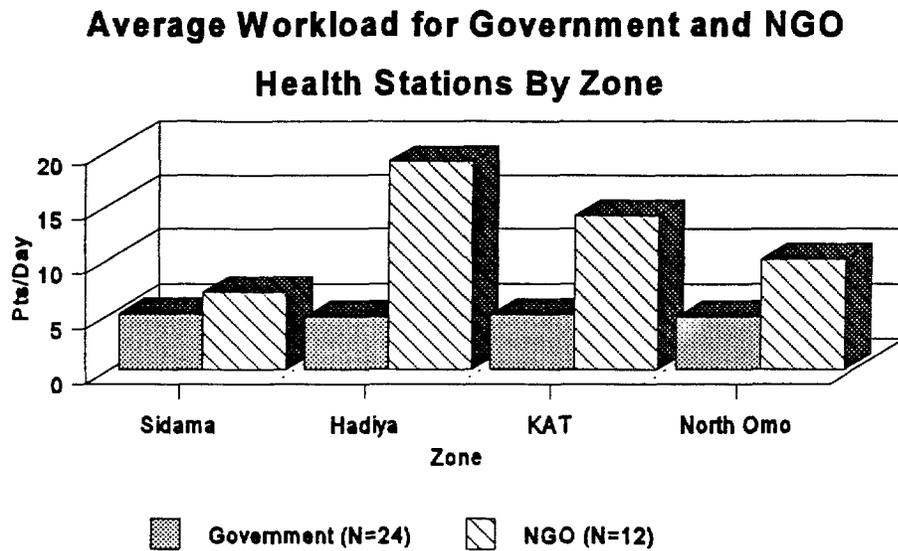
Figure 33:



3. Workload

Average workloads were calculated for government and NGO health stations using information on the OPD attendance and the number of health workers to arrive at the average number of patients treated per health worker per day (see Figure 34). There are marked differences between government and NGO facilities, with an average workload for NGOs of 13 patients/health worker/day versus five patients/health worker/day for government stations.

Figure 34:



4. Disease Patterns

Retrospective disease prevalence data were collected for a one year period from out patient monthly morbidity reports. The diseases were selected to reflect those with known high prevalence, and included tuberculosis, malaria, fever of unknown origin, skin/eye/ear infections, diarrhea, ARI, STDs, anemia, and worms. In addition, data was obtained on measles, maternal problems, and malnutrition. Only the results are presented here; a more complete interpretation of the results are detailed in Section VIII (Implications of the Epidemiological Profile).

Prevalence

Five diseases, namely malaria, skin/eye/ear infections, diarrhea, worms, and ARI, constitute 60 percent of total OPD attendance at health stations (Figure 35). Diseases patterns show some notable differences by zone, as indicated in Figure 36. Malaria is the most prevalent cause of care seeking in North Omo, but is a relatively low part of the total morbidity in Sidama. Worms are the single largest reason for OPD visits in both Sidama and Hadiya, followed closely by diarrhea and skin/eye/ear infections in Sidama and by diarrhea and ARI in Hadiya. Skin/eye/ear infections are the most frequently seen in KAT.

STDs are a more significant reason for OPD visits in Sidama than in the other zones, probably a reflection of the socioeconomic characteristics of the area and urban Awassa. Skin/eye/ear infections are relatively high in all zones and along with worms place a high demand on the health station's services.

Figure 35:

Disease as a % of Total OPD Attendances

Health Stations (N=36)

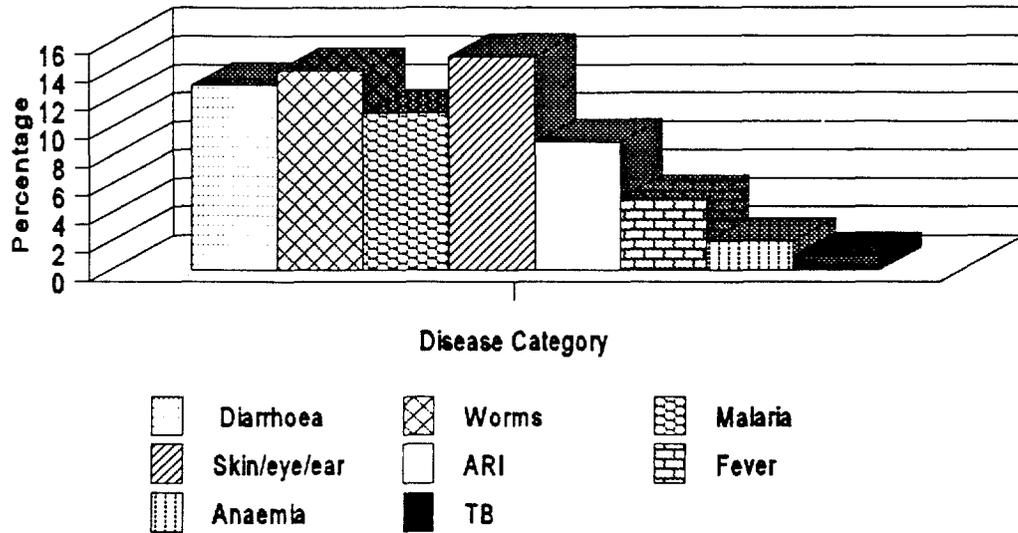
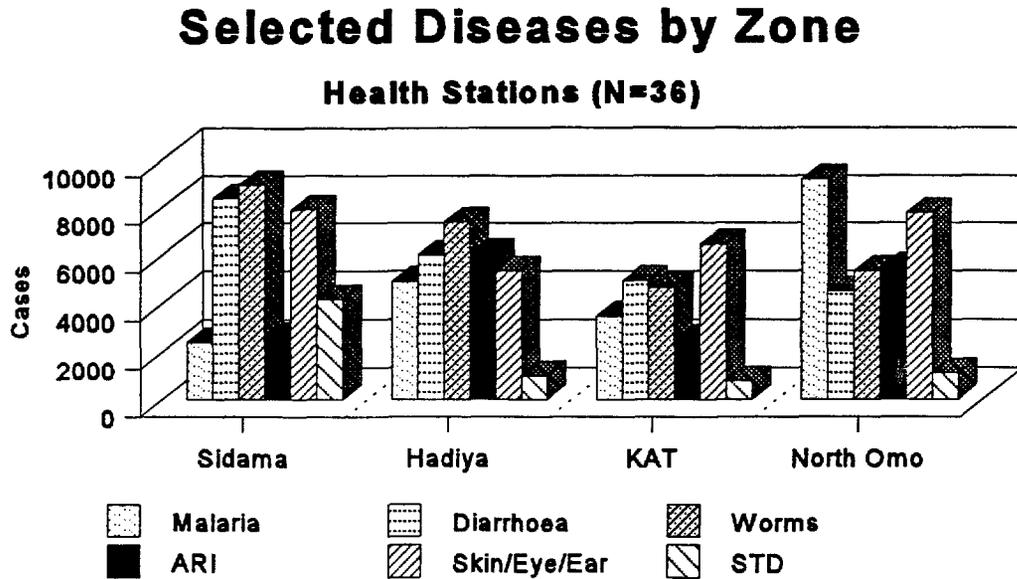


Figure 36:



Seasonal Patterns

A number of diseases show marked seasonal variations irrespective of a general fall in OPD attendance during May-August, which is the period of heavy rains. Measles for example, shows a high incidence from January to June and falls significantly from July to November with a slight rise in December (Figure 37). This may be partially explained by seasonality factors. Malaria cases show peaks in May and July with a steady rise beginning in August that peaks in October and declines thereafter (Figure 38).

Figure 37:

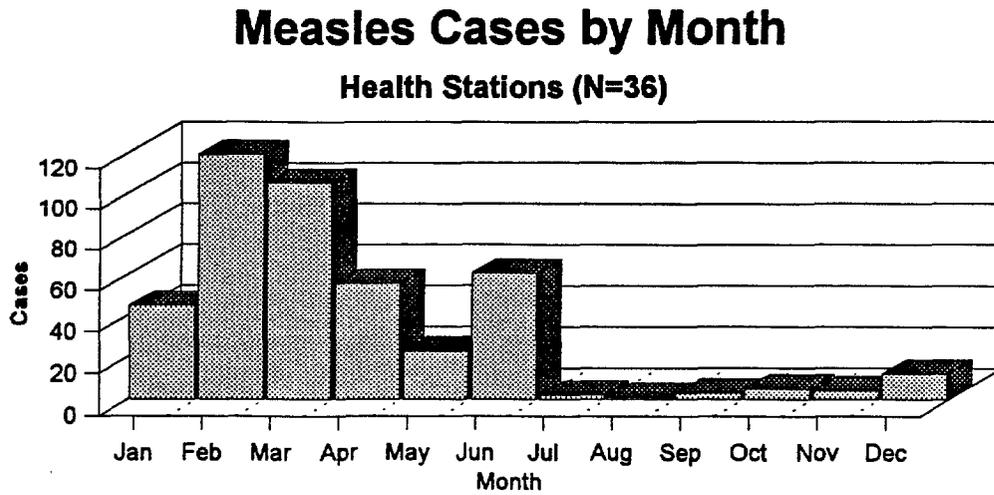
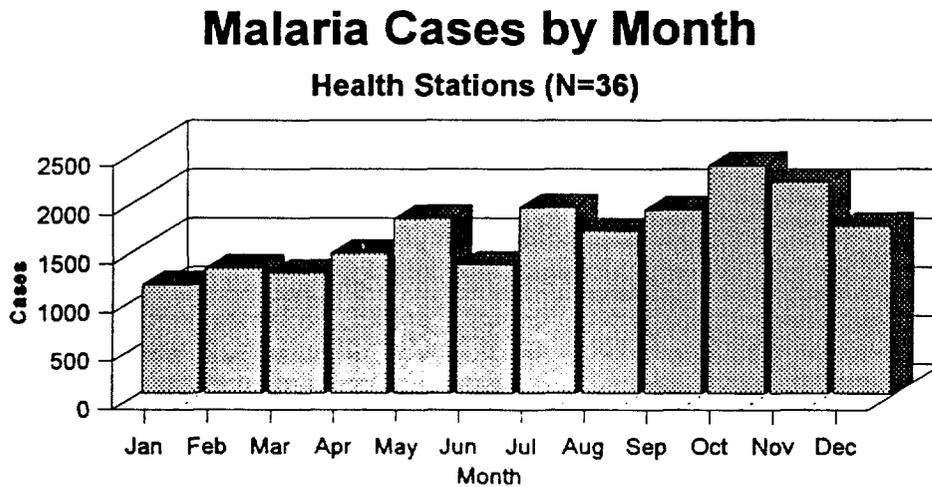


Figure 38:



Diarrhea cases are high from January to May and fall steadily from June to September. The numbers rise again in November and decline in December (Figure 39). This pattern is consistent with diarrhea seasonality patterns from national data. ARI (Figure 40) shows a consistently high number of cases with only slight rise and fall throughout the year. The declines observed from

May to July may be due to problems of access during the rains and may not represent a seasonal pattern in the disease.

Figure 39:

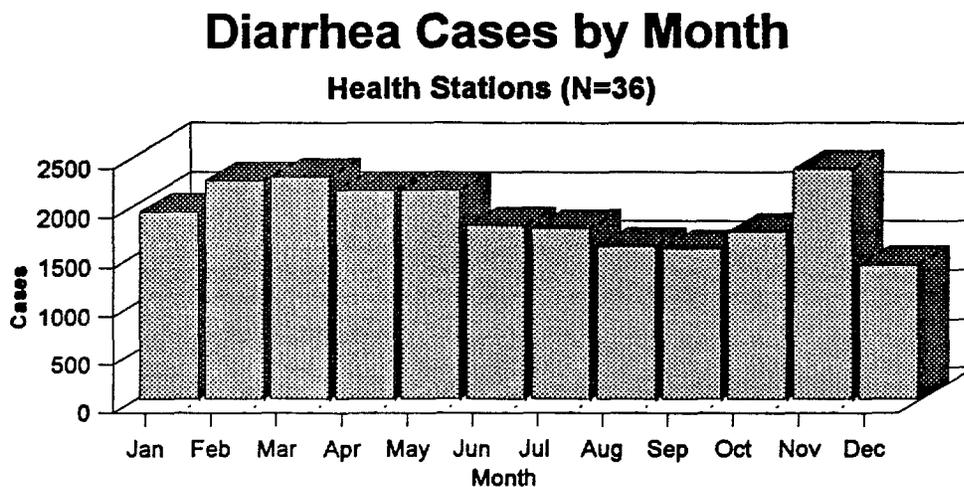
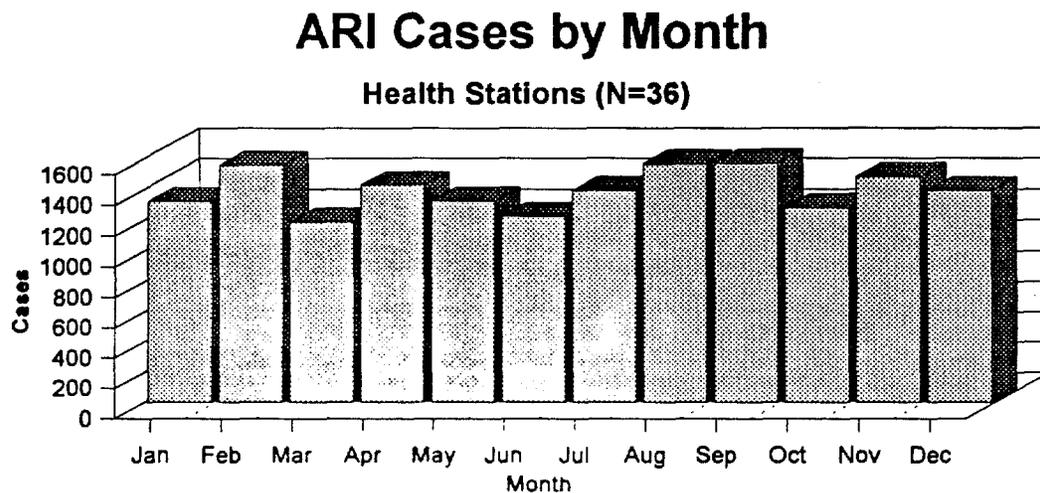


Figure 40:



Skin/eye/ear infections (excluding otitis media) and worms of all types show a fairly consistent pattern throughout the year, with slight declines from May to July (Figure 41). Malnutrition shows the most marked seasonal variation (Figure 42), with the highest number of cases from June to August. This pattern reflects the period of food scarcity during the rainy season.

Figure 41:

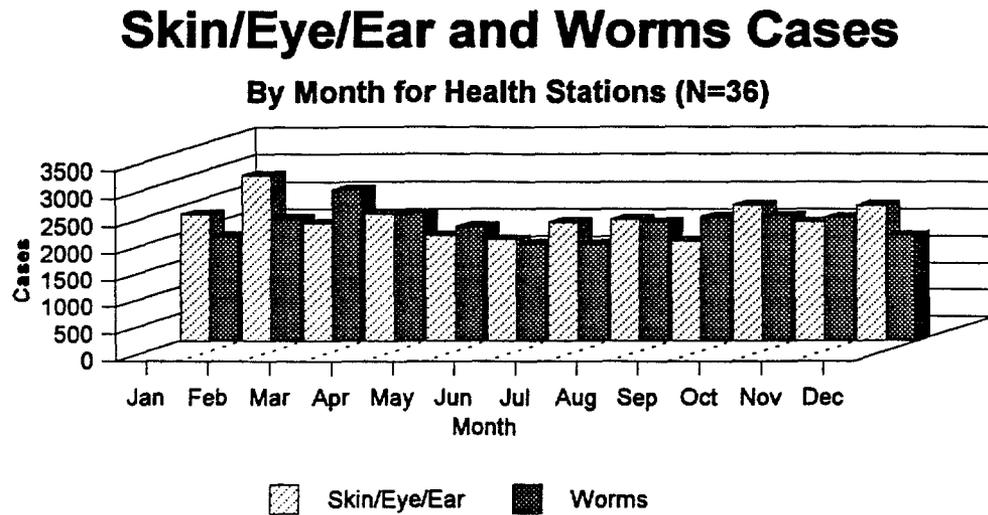
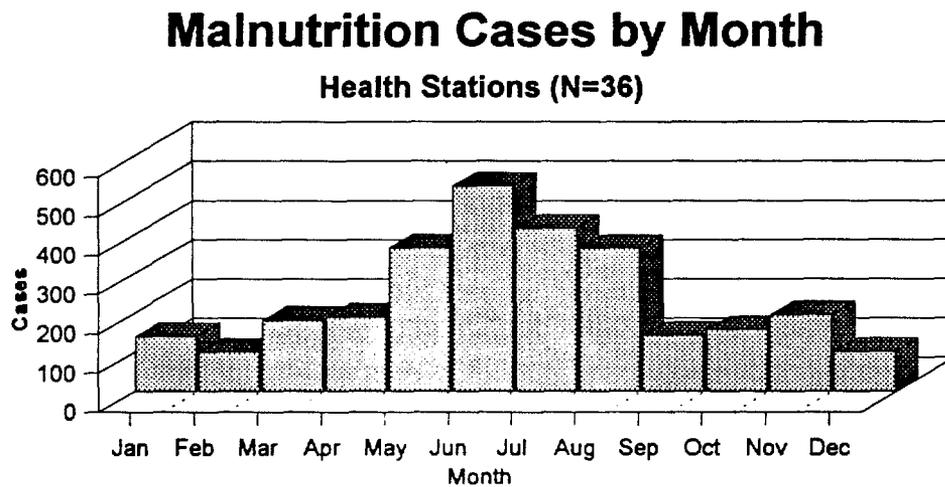


Figure 42:



Maternal problems including miscarriage before seven months, delivery complications, and pregnancy complications show a steady increase from January to May and declines from June to December (see Figures 43 and 44). This may be due to access problems in June and July, but other factors may also be responsible. ANC attendance by month shows only a slight decline during June and July, while family planning consultations, though less constant, show no clear seasonal variation (Figures 45 and 46).

Figure 43:

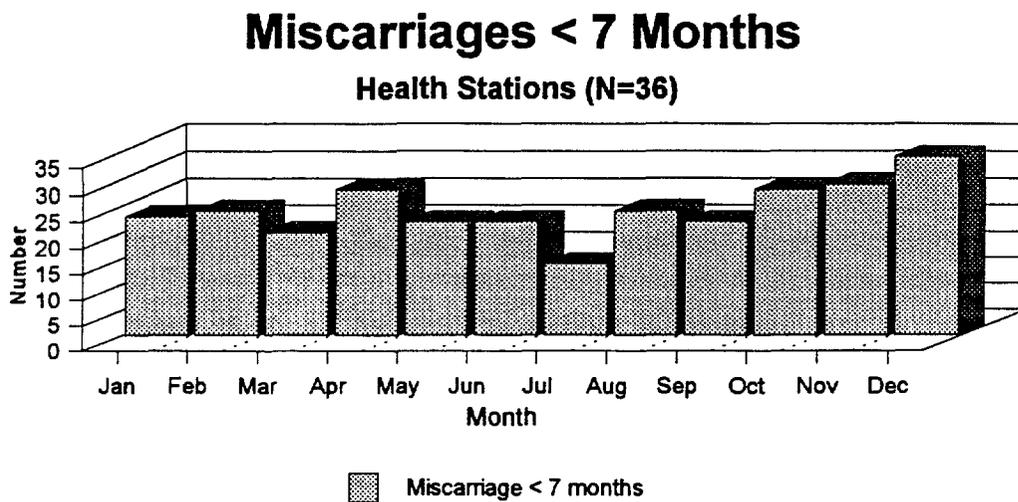


Figure 44:

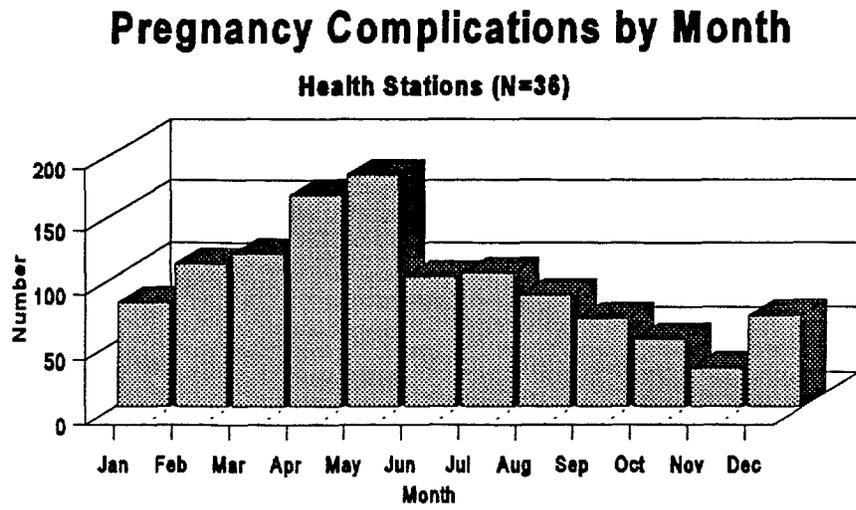


Figure 45:

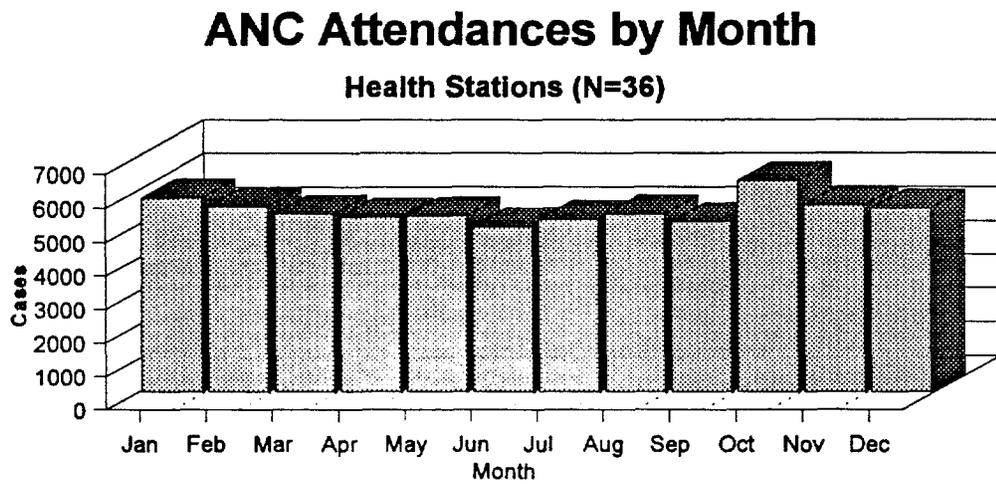
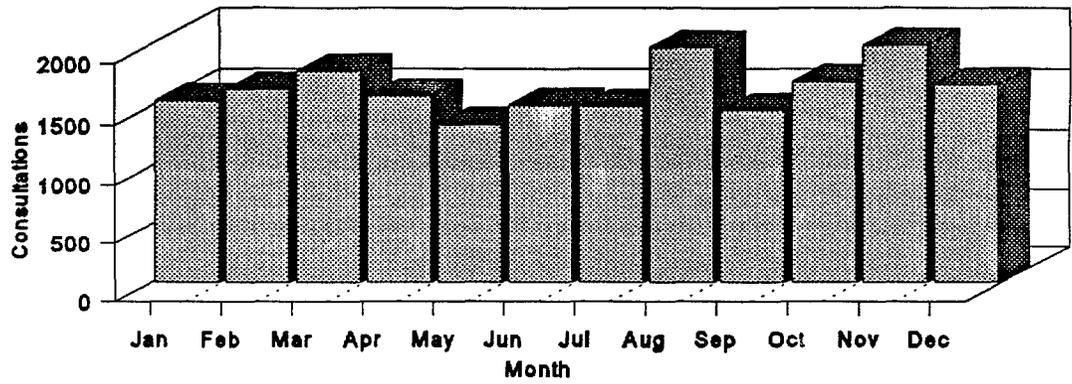


Figure 46:

Family Planning Consultations by Month Health Stations (N=36)



V. ZONAL AND WOREDA MANAGEMENT: SURVEY RESULTS

Four zonal and twenty-two woreda health management offices were visited during the survey. At each management office, the purpose of the health facility survey was explained, personnel were asked for advice on the accessibility of the sites selected, and the survey team requested someone from the office to accompany them to the health facilities. A short questionnaire was also administered which focused on managerial issues of the zonal and woreda office, including personnel, transport, planning and health information, training and primary health care delivery.

Zone	ZHDs	WHDs
Hadiya	1	3
KAT	1	5
Sidama	1	8
North Omo	1	6
Total	4	22

A. Catchment Area

The catchment area covered by management levels ranged from 117 km² to 3542 km² for woredas and from 27,115 to 150,000 km² for zones. Catchment populations for woredas varied widely, depending on population density, from 40,000 to 361,780 persons, with a mean of 14,688 persons.

B. Manpower Resources

The numbers of personnel averaged 11 working in the WHD and 43 working in the zonal office. In a number of cases, woreda heads were also working in hospitals or health centers. The technical personnel available averaged four in woredas and 20 at the zonal level. Administrative personnel averaged six in woredas and 23 in zonal offices.

C. Physical Structure

Many of the woreda offices were newly established and occupying temporary office space. Only two had their own building, nine were in council buildings, and 15 occupied one or two rooms in health institutions. The majority of the respondents (65 percent) said they had plans to improve the current physical structure. Some have already started building new structures or adding rooms. Others plan to rent offices. Six would like to build but have no budget. Financing for those who are building has come from a variety of sources, including council funds, NGOs, community support, and MOH capital allocations.

D. Transport

Transport for the woreda offices was found to be limited. The majority (80 percent) had no vehicles or motorcycles. Zonal offices also had little transport, usually one vehicle or motorbike. At the zonal level, vehicles were used primarily for outreach services and transport of drugs and vaccines. Motorbikes at woreda level were used for supervision, transport of drugs, outreach, environmental health activities, community mobilization, and for administrative purposes. Spare parts were available in only two ZHD stores. All of the offices said that there was no budget for transport maintenance. In fact, many of those interviewed complained that vehicles and motorcycles were frequently inoperable due to lack of spare parts and funds for repair.

E. Planning and Health Management Information

Information was collected on the type and frequency of reports received by the management from lower levels, i.e. hospitals, health centers, and health stations. Only two woreda offices mentioned receiving reports from health posts. The average number of reports received was seven. The polyclinic report, CDD, EPI, health education, mobility, environmental, TB, and family planning reports are received a monthly basis. Epidemic reports are sent on an ad hoc basis and finance reports are completed annually. The same reporting pattern exists for reporting among the management levels, e.g. WHD to ZHD and ZHD to regional health bureau (RHB).

In many cases, the people responsible for data collection and compilation are health assistants or administrative personnel assigned to the task. In some woreda offices, it was not clear who was actually responsible for data collection. In several instances, surveyors were unable to obtain copies of missing health station morbidity reports at the woreda offices because files were misplaced. Three of the personnel assigned to data compilation had received training in statistics and two received training in the use and analysis of information.

The majority of the respondents said they used the information from reports for monitoring, planning, and preparing annual reports, while two noted that the data is used to pinpoint problem areas in their woreda. Health profiles were available in seven woreda offices. The majority

included data on health institutions, coverage, and manpower. Only three of the profiles contained a map of the catchment area and three included an action plan for the coming year. One woreda office had a work schedule for activities and one had records of performance for departments. A supervisory checklist was found in one woreda office in North Omo.

A social sector committee was present in ten management offices (two ZHDs, and eight WHDs). Five meet only on an ad hoc basis (e.g. in case of epidemics and to discuss special disease issues), two meet bimonthly, two quarterly, and one monthly. The issues discussed include disease problems, diarrhea and malaria, epidemics, illegal drug sellers, construction of health posts, health manpower problems, EPI coverage, HIV, urban sanitation planning for World Health Day, and community mobilization.

F. Primary Health Care Delivery and Training

Ten woreda and two zonal offices held training courses in the past year for health facility staff in their areas. Courses cited included AIDS, environmental sanitation, family planning, management, leprosy, social mobilization, and MCH integrated courses.

In addition to the above training, twelve offices conducted training for community health agents and TBAs in 1994. The average number trained was 23. An average of 44 are to be trained in 1995 according to annual plans. The funding will come primarily from NGOs, including the Catholic Mission, Irish Sidama Development Project, UNICEF, World Vision, AICF, and Food for the Hungry International.

G. NGO Support

All woredas and zones had NGOs and religious organizations working in their areas. These included the Catholic Church, Concern, Irish project, FHI, Mekane Yesus, Philadelphia Swedish Mission, Redd Barna, World Vision, Finnish Mission, Kale Hiwot Church, Orthodox Church, AICF, ADDRA, SOS Sahel, Oxfam and FAO. The organizations were providing a variety of health project support, including drug and vaccine supply, vaccines, training of community health agents and TBAs, and clinic rehabilitation and construction. Other health-related support projects included environmental sanitation, water supply, road construction, agriculture, income generating projects, and reforestation.

In summary, there were general obvious managerial weaknesses observed, particularly in woreda offices. Many offices were newly established with little manpower, no transport, and inadequate budgets. There were also problems evident in the lack of clear definition of roles and responsibilities for woreda offices. There is a need for management training which includes financial accounting and planning and supervisory skills.

VI. DISCUSSION AND GENERAL IMPRESSIONS

The overall impression gained from the health facility survey is that health workers are genuinely interested in improving the services they provide. They frequently have heavy workloads, poor working conditions, little supervision, no incentives, and are lacking essential supplies and equipment. The desire to improve the services offered is reflected in their often expressed desire for more training through short courses or on the job practical instruction. Many health workers were aware of the need for more frequent quality supervision and for feedback from woreda and zonal health offices. Though the working conditions might be expected to result in very low health worker morale, the survey teams observed many highly motivated health workers. Strengthening health centers and health stations through provision of essential commodities and training courses and improved supervision would build on this strong foundation. It is also crucial that woreda and zonal health officials responsible for supervision be given training in supervisory skills.

At the same time it should be noted that a number of health centers and health stations are operating at a low level of performance and do not provide some essential services such as EPI, antenatal and postnatal care, school health, and growth monitoring. The reasons include inadequate personnel, training, and supervision. Some services are restricted by lack of equipment such as delivery beds, delivery sets, Salter scales, and ORT equipment. The ability to offer diagnostic services in health centers is also constrained by shortages of microscopes, reagents, and laboratory technicians. Even though most health workers noted that environmental health was very important, only two health stations had trained sanitarians on their staff. The proposed reorientation of health workers by the MOH to include public health nurses, public health officers, and environmental officers will begin to address this issue.

Currently, health centers and health stations have weak links to the community. However, it is evident that health workers realize the importance of learning more about community needs and have a desire to plan their services with the community. Health workers recognized that many of the health problems they encounter at the health center or health station could be alleviated through better community education. Many health workers interviewed wished to expand outreach services, primary health care, and health education at the community level but were limited by a shortage of staff and resources. Many also recognized that CHAs could play a major role in educating communities on such issues as better environmental health and hygiene and better nutrition and child care.

Health workers also frequently mentioned the need to learn more about harmful traditional practices, both customary and those conducted by traditional healers. They expressed a desire to use this information to educate the healers and change current harmful practices. As one health

worker expressed it, "We as health workers must take a leadership role and work with the community as agents of change."

Clearly there are enormous challenges to building a strong service delivery system both at the health facility and community level but there are many positive factors that give rise to optimism and confidence that it can be done.

VII. COMMUNITY HEALTH WORKERS: CRITICAL ISSUES AND IMPLICATIONS FOR ETHIOPIA

A. Introduction

It has now been almost two decades since the Alma Ata Conference (1978) reactivated concern for primary health care and many countries, including Ethiopia, have implemented the use of community health workers to provide community level services. Shortly after the Alma Ata declaration, Ethiopia formulated national policies, and subsequently guidelines for the use of community health agents were developed and selection and training begun. Like many countries adopting the approach, Ethiopia realized the need for simple preventive and curative services to alleviate the majority of health problems experienced by the predominantly rural population with little or no access to formal health services.

However, during the decade of the 1980s, Ethiopia experienced an extremely disruptive socio-political situation which created a difficult environment for CHAs to work effectively. CHAs became politicized and communities soon came to mistrust them and eventually not to accept their services or to provide them with support.

The current Ethiopian government has reaffirmed the necessity of primary health care given the rapidly increasing population, access problems of a large segment of the population to health facilities, and costs associated with maintaining the current formal health care system (National Health Task Force, 1993). Given these circumstances, Ethiopia has little choice but to revitalize CHAs so that they become part of the country's official health services and constitute the initial or entry level of these services. It is important to consider CHAs as an extension of the formal health services because the choice is not between more or less sophisticated services, it is between a less sophisticated one or no service at all.

There is an accumulating body of literature that provides information on various country experiences in implementing primary health care and community health worker schemes. Their experiences provide valuable lessons on a number of critical issues which should be considered by Ethiopia in its efforts to revitalize CHAs so that the mistakes of the past are not repeated.

Many countries that signed the Alma Ata declaration regarded the establishment of a community health worker program as synonymous with a national primary health care effort. They therefore concentrated on the selection and training of community health workers. However, while community health workers can function with limited support from the health sector, they will tend to focus on curative activities. Eventually, as drug supplies run out, the community health workers will become isolated, increasingly frustrated, and drop out. It is important to equate the use of community health workers with an integrated, comprehensive primary health care approach, involving all aspects of health services and other sectors as well.

For Ethiopia, it is crucial that CHAs are an integral part of national primary health care policies and plans. It is particularly important that CHAs are a predominant feature of the current Ethiopia health systems design activity. CHAs are an extension of the formal health service and should perforce receive support from the health facilities as well as the communities they serve.

The issue of quantity and quality is an important one particularly in a country like Ethiopia that has a large rural population with limited access to facilities. The Ministry of Health is concerned with providing some form of minimum health service coverage to the entire population. The dilemma in doing this is how to establish a balance between quality and quantity in the face of limited resources. Providing high quality services for a small segment of the population would drain resources and make the possibility of providing even limited services to the rest of the population difficult, and would adversely affect the overall quality of the services as well. The decision that has to be made is how to provide a minimum of good quality primary health care services to the whole population. This may necessitate a reduction of the proportion of resources for other health sectors, particularly hospitals. This in fact is a key outcome objective of the ESHE project, namely to increase the proportion of the national health budget allocated to preventive and promotive health services. There are already encouraging signs in that the SNNPR percentage allocation for preventive health care has increased five percent over previous levels. However, it is important that such trends continue.

Moreover, two important questions need to be addressed: Do actual resource allocations accurately reflect the priority of training and use of CHAs? Are support mechanisms and linkages in place that will ensure the sustainability of those CHAs who have been trained and are working? These issues should be addressed through the planned health care financing secretariat as well as issues related to alternative community level financing and revolving drug schemes.

B. Selection of Community Health Agents

The success of any CHA program will depend on selection, training, and how this relates to the CHA job description. Evidence from a number of countries indicates that older, married and more established villagers are more suitable as community health workers. The degree to which the community health workers should be politically important (e.g a village leader, head of committee, party or peasant association leader) is debatable. In the case of Zambia (Twumasi & Freund, 1986), the community health worker became politically visible and was viewed as a threat by the established local leadership, and as a result, was unable to work effectively. His efforts to implement changes through a village health committee were blocked by the Party Ward Chairman who was ex officio head of the Committee. At the same time CHAs need to have the respect of the community in order to obtain support from village leaders. For this reason, it is crucial that the process of selection be carried out in the village through discussions in a democratic manner.

The criteria for selection have often been based on local political factors. For example, the community may be asked to select persons who should attend training courses by formal request

of the Ministry of Health through peasant associations and as a result the persons selected are frequently friends and relatives of PA leaders. Another problem arises when the ability to read and write is an important selection criterion (as in the current selection of CHAs in Sidama). While it is desirable to obtain CHAs who are literate, it virtually eliminates the chances of women being selected. As noted during the community demand study, when given a choice between a male or a female CHA, several groups said they would prefer a female.

C. Training and Roles of Community Health Agents

The length, place and teaching methods for CHAs are all important and need to be adapted to country-specific conditions. In Ethiopia, the length of training is three months, including two weeks of practical work. The current syllabus is old and needs to be updated to incorporate the latest technical information on CDD, ARI, malaria and immunizable diseases. The central Ministry of Health is currently revising the CHA and TBA syllabus and developing guidelines which should help to standardize the training. Training on adequate record keeping is essential. Few of the currently working CHAs send in regular reports on their activities and registers kept at health posts are not accurate or consistently maintained.

The job description for CHAs needs to be clearly detailed and realistic. It should emphasize planning and establishing a work schedule that relates to the needs of the community. The community must have a clear understanding of what the CHA role is, and what the CHA can provide as well as what the community is expected to provide. It was evident during the community demand study that the CHA role was not well understood by the community; some stated that they did not know the CHA and did not know what he was supposed to do for them. It is important that community leaders fully understand the CHA's role and explain it to the community. Similarly job descriptions for health assistants and health workers involved in support and supervision of CHAs at the health station level must change and relate to the CHAs in a positive way. Currently, linkages between health stations and the communities are very weak and need to be strengthened through supervisory skills training, courses on community participation, and in-service training for CHAs at health stations and health centers.

In-service training not only helps maintain CHAs' skills, but allows them to gain confidence and reduces their sense of isolation from the health system. CHAs need to be directly linked to health facility activities, for example by assisting in mobilizing communities for EPI outreach and by helping health workers with registering and with organizing outreach sessions in the communities. A number of CHAs are currently involved in mobilizing communities but their full potential is not being realized. Five health stations are using CHAs to assist in clinic activities such as growth monitoring and health education sessions. In-service training and ongoing involvement in health facility activities will help CHAs to maintain curative skills but more importantly will enhance their ability to carry out health education and to implement preventive activities. CHAs can be used effectively to monitor vital events in their communities (cf. Freund and Kalumba, 1986).

Moreover, they can link this role with schools by involving children in reporting births, deaths, and illnesses in households and villages.

The role of CHAs involves activities in eight main areas, as discussed below:

Health Education:

Health education is one of the most important and most difficult of the activities that CHAs undertake. Although most communities will regard the CHA's prime role as providing drugs and curative care, the more significant and long-term means of dealing with the underlying causes of disease is through preventive care in the form of health education. Though this relationship is often difficult to see and results are not immediate, the CHA must regard its health education role as a priority. In this respect, CHAs should learn not only what to communicate but how to communicate by people with practical experience in communication methods.

Food and Nutrition:

During the health facility survey, health workers frequently cited the need to understand more about communities' nutritional habits, infant feeding practices, and household food distribution patterns. CHAs can play a key role in detecting malnutrition (Freund & Kalumba, 1982-86) as well as providing important advice related to agriculture, food use, and ways to improve the availability of foods particularly for vulnerable individuals and households.

Water and Sanitation:

The availability of clean and safe water has been recognized as essential for health. The importance of water was repeatedly noted in focus group discussions during the community demand study. CHAs need to be trained in the use of health education to convince villagers to build and use latrines and to recognize the importance of safe water and sanitation to health. In addition, CHAs need to involve the support of village leaders and health personnel outside the village to implement water projects.

Maternal and Child Health and Family Planning:

A large portion of the work for CHAs will involve women and children. The relative success of CHAs in dealing with this aspect will depend on such factors as training and in many cases whether the CHA is a man or woman. Raising awareness for family planning will be an important aspect of the ESHE project and therefore education of CHAs about, and the means for, family planning should be included in training. This is particularly true if planned community-based distribution programs are implemented. CHAs are currently being used for the distribution of contraceptives in a pilot program under the Family Guidance Association of Ethiopia in Wolaita (North Omo) and Yirgalem (Sidama).

Immunization:

Although CHAs cannot perform immunizations in Ethiopia they have an important role in improving immunization coverage. They can work in close collaboration with health facilities to mobilize communities for outreach, provide health education on the need for immunization and

necessity of completing vaccination schedules, and monitor village children who require immunization.

Endemic Diseases:

Training of CHAs needs to focus on diseases endemic to the areas where they will be working. CHAs' knowledge should prepare them to deal with preventive, curative and referral requirements they will be expected to undertake in relation to the endemic diseases. Diseases such as tuberculosis, AIDS/HIV, worms, measles, schistosomiasis, and filariasis are all present but incidence varies within the region. CHAs should at least be able to recognize signs and symptoms and refer cases as appropriate. CHAs can also be used to distribute TB drugs, which would eliminate the need for patients to travel to health centers to obtain drugs. It should also reduce the current high level of defaulters for TB drug compliance.

Treatment of Common Diseases:

A major expectation of communities is that CHAs be able to treat common ailments (e.g., malaria, diarrhoea, worms, and skin/eye infections). To do this, they need to be provided with a regular supply of essential drugs. Experience from many countries has shown that unless the CHA has drugs available, any preventive messages fall on deaf ears. Determining the most effective way to ensure that the CHA will be able to maintain a supply of essential drugs will involve experiments with revolving drug funds, income generating schemes, and other innovative approaches. Rural drug vendors are common in Ethiopia and they provide drugs, injections, and in some cases health education. There are also many unlicensed drug sellers who are selling drugs at inflated prices. CHAs can provide an alternative by giving a more comprehensive service without exploitation.

D. Community Participation

Community participation is an essential component of primary health care and a means of ensuring that community expectations of CHAs are realistic. Ideally, communities need to be involved in developing the training curriculum and need to agree on the expected role of the CHAs being trained. This approach will avoid later frustrations and disappointment resulting from unmet community expectations and demands. It is also true that communities will not support CHAs if they are perceived as having no recognizable value. Therefore, all activities, from the process of selecting CHAs through their training and work, must be planned and approved by the villagers themselves. It is particularly important in the Ethiopian situation, due to previous experience with the primary health care approach which is associated with forceful implementation under the military regime.

Community participation is not an easy process to initiate under the best of circumstances given the complexity of different groups and factions that make up most communities. Community participation is also affected by a community's previous experiences with development efforts by the government and NGOs, their relative socio-economic condition, and ethnicity. During the health facility survey and community demand study, a number of health workers complained about

the lack of community participation in terms of support for CHAs, immunization programs, and environmental health efforts. A number of health workers said they needed more training in ways to improve community participation, and several woreda health management social sector committees included community participation among their topics for discussion.

What is clear from other country experiences is that relationships between community health workers and their communities is dependent to a large extent on how well the community health worker's role corresponds with expectations of the community. If the correspondence is high, community support and satisfaction will be good. An important aspect of this relationship is the fact that if the CHA cannot provide what the community wants, they will not pay for the services provided. In one area, Wolaita (North Omo), where we conducted the community demand study, villagers complained that the CHA should provide free service because he was trained by the government. The villagers were also influenced in this attitude by the fact that they received food relief and other assistance from a large number of NGOs working in the area. The CHA who had been working for several years in the community has now stopped because he does not have money to replenish his drug supply; the money he has collected from drug sales is being retained by the Kebele Council. Circumstances such as this require dialogue between the community and the CHA. Dissatisfaction often arises when far too much is being expected of CHAs than they are capable of delivering. Communities have to understand clearly what the role of the CHA is and what is expected of the community in order for the CHA to function effectively.

A related issue is the need for CHAs to establish a working relationship with the village leadership. Because the work of a CHA involves other health-related areas such as water, sanitation, food and nutrition, the CHA is a kind of community development worker. In order to effect village development activities such as water projects and agricultural improvement, the CHA should be regarded as a co-leader who is included in village discussions on planning and implementing development activities (Twumasi & Freund, 1988). One mechanism to develop this relationship is to include the village health committee as a sub-committee in already established village development committees under peasant associations.

E. Cooperation with Traditional Healers

Traditional healers have been selected and trained as community health workers in a few countries (Heggenhougen, K. 1987; Jelly D. & Madeley R. J. , 1984; Walt G. & Melamed A., 1983) . Given the importance of traditional healers as a front line resource for health care in Ethiopia (Vecchiato, N.L. 1992; Slikkever, L.J. 1989; Bishaw M. 1989), consideration should be given to involving them in health education and in collaboration with CHAs. In Zambia for example, traditional healers in peri urban Lusaka were given a short training course in diarrhea case management and have been working successfully by providing ORS and giving health education to caretakers on diarrhea prevention.

F. Organization and Management

CHAs cannot function effectively without regular quality supervision from health centers and health stations. Currently, few health station personnel are supervising health posts and those who are often have not received any supervisory training. This may be one factor accounting for the large number of CHAs who have become frustrated and isolated, and have dropped out. If the current program of training more CHAs is to be sustainable, supervision must be carried out by health center and health station staff. Therefore, the job description of health workers who will be responsible for supervision must be changed to reflect this function and they must be trained in supervisory skills. A frequently mentioned constraint to supervision is the lack of transport. Motorcycles and other alternatives (e.g. donkeys provided by AICF for outreach) should be considered as a relatively cost effective method for dealing with this problem.

G. Model Programs

A number of NGOs have been involved in the selection, training and support of CHAs/TBAs in different areas of Ethiopia. There are several important lessons to be learned from these NGO experiences which can be applied to the national primary health care program and to the SEPR. Valuable lessons can be drawn from their experiences with selection criteria and process, and the training experience (content, place, length). Moreover, a review of the job descriptions of CHAs in different programs, whether they receive incentives, and how they are perceived and supported by their communities can also help in designing more successful approaches.

The issue of whether to pay community health workers has been debated in many country programs. In Ethiopia it is clear that CHAs will not continue to work without providing some financial or in kind support. Results of the community demand study show that in most areas people are willing to pay for CHAs provided they deliver expected services and their fees are not exploitative. In some areas, CHAs are given incentive pay by organizations like FAO and the Catholic Church. UNICEF has experimented with providing small hammer mills for CHAs for income generation. Whether or not these various schemes are sustainable or not remains to be seen.

H. Evaluation and Indicators for Community Health Worker Programs

Evaluation and monitoring of community health worker programs are important to ministries of health and NGOs who finance the training and support of community health workers and TBAs. Unless the effectiveness of primary health care can be demonstrated, already limited resources will be shifted to urban curative services or to other sectors. Indicators that may be used to monitor community health worker effectiveness (cf. Freund & Kalumba, 1982-86) are:

- 1) activities performed, as in current MOH report format: number of persons treated by ailment, health education talks given, under five children weighed, drugs used, etc.

- 2) availability of drugs: inventories of drugs available to CHAs.
- 3) utilization and attitude of community: through surveys to determine who uses CHAs, sex pattern, age categories, qualitative assessment of general attitude of villagers toward CHA services (household surveys, patient case studies).
- 4) evaluation of quality of care provided: studies by health personnel on whether CHAs accurately assess signs and symptoms for diarrhoea degree of dehydration, for malaria, ARI, etc., and whether appropriate treatment is being provided.
- 5) frequency of supervision by formal health services.
- 6) frequency of reporting by CHAs and TBAs.

Many issues related to the above activities were raised during a meeting held in September at USAID/E with representatives of ten NGOs that have experience in the training of CHAs and TBAs. Participants at the meeting compiled a list of recommendations for strengthening community health worker programs. The points they listed are still relevant and are reinforced by the community demand study. They include:

- establish referral infrastructure for functioning CHAs;
- identify the best representatives and develop support through community consensus;
- build on community infrastructure;
- ensure supervision of CHAs and TBAs;
- establish national policy on incentives;
- provide CHAs with financial incentives;
- link CHA remuneration to income-generating activities;
- support extension workers in other sectors;
- systematically share experience regarding training, use of CHAs in different projects;
- assess disruption to cost recovery of free commodity distribution; and
- to ensure sustainability, government must be able to replenish drugs in timely manner.

Finally, while it is clear that there is no alternative to providing universal essential health services other than through CHAs and TBAs, there remain some very difficult planning questions. These include the issues of how to support and pay for the expanding service, whether the costs should be paid by the Ministry of Health, village communities or councils, or by a combination of government and community participation; the role of private organizations and NGOs in CHA support; and the role of development aid programs in a high recurrent cost program.

VIII. IMPLICATIONS OF THE EPIDEMIOLOGICAL PROFILE

The epidemiological profile is intended to provide a general picture of disease prevalence in the four zones as well as to identify health utilization patterns for OPD, ANC, family planning, growth monitoring, and deliveries. The absolute number of cases seen in a particular zone will vary depending on the number of health centers. Sidama zone has five health centers and consequently the number of cases is high. The number of cases for particular diseases such as TB and STDs will also be affected by the presence of active surveillance programs. Moreover, the number of ANC attendances and family planning consultations are affected by MCH outreach health education activities and by the Family Guidance Association (for family planning projects). In spite of these variables, the results provide a useful overview of disease trends and of patterns of health services utilization in the zones sampled.

Five diseases -- ARI, skin/eye/ear infections, malaria, diarrhea, and worms -- account for 60 percent of total OPD attendance at both health centers and health stations. There are some marked differences in prevalence between zones, for example malaria cases are four times higher in North Omo than in the other three zones. For ARI and worms, the rate for Sidama is considerably higher than for other zones. Diarrhea, malaria and ARI together constitute a significant proportion of morbidity in all zones.

Seasonal variations were evident for diarrhea, malaria, and ARI for both health center and health station attendance. Declines noted for all diseases during the months of July, August, and September are probably due to access problems related to the period of heavy rain. Seasonal and zonal variations in disease prevalence data can be used to plan overall drug requirements and to ensure that supplies of ORS, antibiotics, and antimalarials are in place with sufficient buffer stocks available. Infections of the skin, eye, and ear (excluding otitis media) constitute a large proportion of total of OPD attendances in all age categories. These diseases place a high demand on health worker time. Many of these infections can be treated by CHAs or drug vendors, or by self-treatment. Their incidence can also be reduced through improved hygienic practices. Similarly, worms of various types constitute a high proportion of OPD attendance. Worms can be treated by CHAs and drug vendors, and their incidence can be reduced through improved access to clean water supplies.

Malnutrition cases, as determined in health centers as <60 percent of wt/age and in health stations by gross signs and symptoms, were significant in all zones. There is clear seasonal variation, with the largest number of cases recorded by health stations from May to August and the number of more severe complicated cases peaking in health centers from July to October. It is unfortunate that growth monitoring is not done on a routine basis during under five clinics and that ORT corners are not being used effectively to identify nutritional problems. The only nutrition intervention currently being carried out by health centers or health stations is the provision of food supplements by NGOs in North Omo. A nutrition strategy should be developed that focuses on training for growth monitoring and nutritional surveillance, strengthening health education, early detection of nutrition problems, and improved weaning practices.

The measles outbreaks which occurred from January to June in three zones (KAT, Hadiya and North Omo) is probably a reflection of low measles immunization coverage (33 percent for health stations). While the number of anemia cases is relatively small (two percent of OPD for health centers and three percent for health stations), it is a matter of concern that ferrous sulphate was reported to be out of stock for long periods by 42 percent of health centers and 38 percent of health stations. The anemia may be malaria-related, since 40 percent of the cases occurred in North Omo which also has the highest malaria prevalence.

In terms of age and sex patterns of OPD attendance, males outnumber females significantly (58 percent of health center attendance and 55 percent at health stations). Adults (over 15 years of age) constitute 62 percent of health center outpatients and 60 percent of health station attendance, while children under five make up 21 percent of health center and 25 percent of health station OPD attendance. A similar health care utilization pattern has been reported in the Butajira study and surveys of health centers in Central Ethiopia (Shamebo, 1993; Kloos, 1987). However, the researchers offer no explanation as to the reason for the pattern. More community-based research on health utilization factors needs to be conducted to determine health seeking decision-making within households, socio-economic factors that influence the seeking of health care, and cultural barriers to health care utilization.

ANC attendances varied a great deal, especially among health stations. In some health stations where only one male health assistant was available the service was not offered. The absence of nurses and trained midwives is a major factor deterring women from seeking antenatal care. The estimated ANC coverage is 21 percent of pregnant women for health centers and less than ten percent for health stations. Although women may attend ANC, the vast majority of deliveries occur in the communities. The large number of TBAs in communities is a valuable resource which should be exploited fully. Trained TBAs can monitor and refer high risk pregnancies, provide health education, and help mothers reduce the danger of postpartum infections.

Family planning coverage averaged less than three percent of couples in union for both health centers and health stations. All health centers and health stations had adequate stocks of oral contraceptives and a fairly large percentage of staff have been trained in family planning. There is a demand for injectable contraceptives, but these were not available in any of the facilities visited. Health workers remarked that women complained of complications after taking oral contraceptives and generally did not accept foam tablets. Although women may desire family planning services, health workers reported that their husbands did not allow them to start family planning. There needs to be more intensive family planning education especially for men, and community-based distribution programs should be expanded. CHAs and TBAs need to be trained in family planning.

Miscarriages before seven months and pregnancy complications are significant problems in all zones. Many health stations are not able to deal with maternal problems; complicated pregnancies are referred to health centers or hospitals. As a consequence, the patients must be carried by

stretcher for long distances and many die on the way. If health stations were staffed with MCH nurses and/or midwife nurses, some high risk pregnancies could be identified and monitored.

OPD coverage rates, calculated from total OPD attendances and estimated catchment population, indicate that the average coverage for health centers is 29 percent and 16 percent for health stations. Under five coverage is 40 percent for health centers and 25 percent for health stations. These coverage rates are low, indicating low utilization of health services. The average number of OPD patients per day for health centers is 67 and 22 for health stations. Coverage is likely to fall as population increases and staff levels remain at current levels. Coverage is better for NGO facilities, reflecting higher utilization as a result of better perceived quality of care, more staff, and more active outreach.

Average workload (number of patients treated per health worker per day) was calculated for health stations based on the number of technical staff, OPD attendance, and days of OPD operation (20 days per month). The average workload for all surveyed health stations was 5 patients/day per health worker. The workload for NGO health stations was higher, averaging 12.5 patients per day per health worker.

The impression gained through discussions with health workers and reinforced during the community demand study is that community confidence in the services provided by government health stations is low. The fact that many health stations have only one or two health assistants, experience drug shortages, and lack essential equipment results in a reluctance by the community to utilize services. There is a need to restore confidence in government health facilities through support for improved drug supply, equipment, better training, linkages with the community, and frequent, quality supervision. If people are being asked to pay for services, they are entitled to quality care.

IX. DEFINING THE 'ESSENTIAL PACKAGE' OF HEALTH SERVICES

The World Bank (1993:106-7) has developed an 'essential health package' which it recommends should be offered to address common public health problems at a modest cost. While details of the package may vary depending on local conditions, it should include the following public health interventions:

- an EPI program, including micronutrient supplementation;
- school health programs to treat worm infections and micronutrient deficiencies and to provide health education;
- programs to increase knowledge about family planning and nutrition, about self-cure or indications for seeking care, and about vector control and disease surveillance activities;
- AIDS prevention programs with a strong STD component; and
- programs to reduce consumption of tobacco, alcohol, and other drugs.

If effectively implemented, the combined effect of these public health programs is estimated to prevent more than eighty percent of the cash burden of disease at a cost of \$4 per capita. A key element in all of the programs is the provision of information on the benefits of healthy lifestyles, contraceptive use, better eating, and prevention of HIV infection.

A second component of the essential services packages is the provision of clinical interventions. A minimum package of clinical services can reduce the present burden of disease by about one-quarter in low income countries. However, it is important to note that the package is affordable only if governments carry out health financing reforms, including user fees and health insurance schemes.

The clinical interventions include prenatal and delivery care, family planning services, management of the sick child, treatment of tuberculosis, and syndromic case management of sexually transmitted diseases. Together, the interventions are proven to be highly cost effective (\$50 or less per DALY in low income countries). In addition to the services listed, most health facilities need to deal with the treatment of minor infection and trauma as well as provide advice and alleviation of pain for problems that cannot be resolved at the health facility.

In order to provide clinical services, facilities need to have sufficient numbers of trained personnel, drugs, supplies, facilities, and equipment. Again the effectiveness of these minimum essential services depends on availability of finances. The cost as calculated for clinical services is approximately \$12 per capita for low income countries. The affordability of the package is problematic in countries like Ethiopia. However, through reorientation of current government expenditure which shifts existing resources to public health, the package can be financed. The current restructuring of the health system by the MOH that aims to improve the delivery of public health services using a reoriented and retrained cadre of health workers (public health nurses, officers and environmental health officers) is an important policy commitment which is consistent with improving rural health service delivery. However, it is vital that a public financial

commitment is demonstrated as well. As the World Bank report notes, because the poor are disproportionately affected by the disease burden (e.g., maternal and childhood disease, STDs, TB, etc.), "public finance of a basic package of services is an effective mechanism for reaching the poor." (World Bank, 1993, p.118).

The results of the health facility survey reveal that there are serious deficiencies in terms of the delivery of both essential public health services and clinical services. For example, three health stations were not providing EPI services, only 15 percent of health centers and 33 percent of health stations provided school health programs, health education awareness programs for family planning and nutrition are very weak, and vector control and disease surveillance programs poorly developed. Growth monitoring was available in only 38 percent of health centers and 14 percent of the health stations and post natal services were provided in 54 percent of the health centers and only eight percent of the health stations. For preventive health services, an average of 69 percent of the essential package is offered by health centers and 61 percent by health stations.

While part of the reason for deficiencies in service delivery lies in lack of manpower, transport, drugs and equipment, there is also a problem in the highly curative orientation of health workers. Some of the problems related to specific program interventions are being addressed through efforts to expand EPI coverage, Vitamin A supplementation, integrated MCH training courses, AIDS/STD programs, TB surveillance activities, and case management training in CDD, ARI and malaria.

The planned reorientation of health workers for public health and the training of CHAs and TBAs should improve community linkages and increase health awareness in communities. The effectiveness of training and quality of services delivered will depend on regular, quality supervision at all levels. The ability to deliver the essential health care packages (public health and clinical services) will depend largely on a combination of strengthening health service capacity and support mechanisms as well as increasing community awareness of health problems.

X. TRAINING IMPLICATIONS OF THE HEALTH FACILITY SURVEY

The health facility survey included specific questions on the type of specialized technical training received by health workers and what types of training they would like to receive in order to perform their jobs better. Health workers expressed the need for training in such areas as supervision, information, and general management including leadership skills. Training in communication skills and community participation was also mentioned by a number of health workers. Health worker perception of training needs becomes more accurate as jobs are better defined. The proposed restructuring of the MOH health delivery system should be accompanied by specific job descriptions that will clarify the skills needed for each level of health worker to perform his or her job.

While health workers received training on a wide variety of topics, including family planning, STD/AIDS, CDD, ARI, growth monitoring, malaria, and facility management, there is still a wide gap between those trained and untrained for most categories of health workers. Health workers also frequently complained that they did not receive the training they need for their job, that the same people were sent for training for every opportunity, and that those who received training did not share what they learned with their fellow workers. NGO facilities noted that their staff was frequently left out of government training courses.

In view of the problems cited, future training plans and strategies should include provision for careful selection of personnel to be trained, requirements for sharing of information with fellow staff after training, and consideration of the possibility of training several staff from the same facility in order to achieve a critical mass of trained personnel. The training strategy should also consider the application of more cost-effective training methods such as on the job training, distance learning, and improved in-service training.

The lack of supervision, evident at every level, points to a priority need for supervisory skills training. This will become even more important under the MOH-proposed restructuring which places the health center as a key unit, with responsibility for supervising satellite health posts. Many of the zonal and woreda officials that accompanied the health facility survey teams said that though they were assigned supervisory responsibilities, they had never been trained in how to conduct supervision. At the management levels as well, supervisory training is crucial to maintaining quality services and is a necessary step in any training.

Before a long term training strategy can be developed, the quality of case management by health workers will need to be assessed. Due to time constraints, this aspect was not part of the health facility survey. An assessment of quality of service delivery should be undertaken at an early stage in the ESHE project, prior to the final development of a training strategy

Training capacity in the region is currently low at all levels and will need to be improved through support for the regional training center, provision of short term technical assistance, and training of trainers. Assistance is urgently needed with the development of the training curricula and

materials, particularly for CHA/TBA courses and for the new orientation of health workers as public health nurses, public health officers, and environmental health workers. The MOH has plans to train and reorient more than 17,000 health workers over the next five years, plans that will require an intensive effort to build sufficient training capacity in the region, zones, and woredas.

XI. IMPLICATIONS OF THE SURVEY FOR HEALTH EDUCATION

The majority of health workers interviewed acknowledged that many of the problems they treat could be alleviated through better health education efforts in the community. Education would stress how people can avoid contacting diseases, how to treat themselves, and how to follow a healthy lifestyle.

The health workers also noted that they would like to have more information on traditional ideas of disease causation, nutritional habits, infant weaning practices and environmental problems. They said that if they had this information they would use it to expand health education. A number of health workers said that more awareness for family planning needed to be created in the communities.

Currently health education is usually given in a lecture style to OPD attendances, often to groups of 20 or more people. Health workers have few health education materials available for use in these sessions. Most would benefit from training to improve communication skills.

There is a need to conduct a review and assessment of the current situation in terms of availability and types of materials used. A communications strategy should then be developed which includes development of materials, pretesting, production and distribution, behavioral change approaches at the community level, use of multi-media approaches, and consideration of the adoption of innovative methods such as popular theater. The strategy should be developed in collaboration with PCS, PSI, and other NGOs to avoid duplication of effort. Consideration should also be given to strengthening the health education department's capacity at the RHB and zonal levels.

XII. IMPLICATIONS OF THE HEALTH FACILITY SURVEY FOR THE HEALTH INFORMATION SYSTEM

A general overview of the health information system (HIS) with recommendations for a redesign is provided in a separate consultancy report (E. Kleinau, 1995). Therefore only HIS issues which have arisen during the course of observation in health facilities, through review of registers and routine reports, and from the analysis of the health facility survey are discussed here.

A. Design Format

A review of the design format of current reporting forms should be conducted by the proposed HIS task force. During the health facility survey, for example, the survey team was unable to collect sex specific disease data for health stations because only totals are recorded. Since there is sufficient space on the form, and total OPD attendances are sex specific, the addition of sex specific entry for disease reporting would not be burdensome.

Many health workers do not provide subtotals at the bottom of each of the four pages of the (MPH-SD III) OPD morbidity form, necessitating calculation at the zonal or regional health bureau. This problem can be alleviated by adding the word 'subtotal' at the bottom of each page. Consideration should also be given to changing the current 'over 15' age category, particularly for health center/hospital forms. Dividing it into three categories: 15-25, 26-45, and over 45, would enable more specific tracking of AIDS/HIV, TB, and other illnesses affecting adults.

B. Accuracy

In general, most health workers compiled accurate records and completed report forms correctly, although there were a number of arithmetic errors noted on monthly returns at both health centers and health stations. Some of these errors were corrected when they were compiled at woreda and zonal offices; however, a number of errors continued to appear at the regional level. 'Missing reports' was noted as a problem in a few health centers and health stations and in two cases the missing reports were not available either in the health facility or woreda health office. The lack of stationery was a serious problem in many health facilities and often health workers either photocopied the forms or laboriously reproduced them by hand.

A few health centers consistently reported disease categories using codes no longer in use. These were crossed out each month at the RHB statistics unit, but apparently health centers have received no feedback informing them of the error.

Health workers in a number of health stations were confused about what constituted a repeat family planning acceptor (two attendances) and a continuing acceptor (three or more). This is in spite of the large number of training courses offered on family planning.

In several health centers, ANC attenders were reported only by first attendance or two or more attendances, rather than breaking their visits down into more detail, e.g. first, second and third attendances. This is unfortunate as the number of ANC attendances can be used as an indicator of pregnancy outcome. Two health facilities did not maintain delivery registers even though they had an average of four to five clinic deliveries per month.

As noted earlier, a major problem exists in the calculation of EPI coverage rates due to the use of unrealistic and inaccurate target populations. The majority of health workers interviewed said they received target population figures from the woreda or zonal offices. Many said they did not calculate coverage themselves but that it was done in the W/Z office.

Maintaining accurate, up-to-date stock control cards for drug supplies and particularly for family planning contraceptives was a problem in a large number of health facilities. The majority did not use stock control cards at all while many had incomplete records. Many of the above problems can be corrected through training and regular supervision. Supervision can improve accuracy and specificity of reporting as well as serve as a quality check on case management.

C. Comprehensiveness

The hospital and health center monthly report (MPH-SD III-A), which includes reporting for 125 WHO international classification of disease codes is cumbersome and time consuming to complete as well as difficult to analyze. Health workers interviewed in health centers complained that compiling the information necessary to complete the OPD monthly report took up to five days of full time work. They also noted that some diseases like HIV/AIDS did not appear on the form and they therefore reported cases under other problems. One health center opted to use the health station format instead of the MPH-SD III A form.

The value of including such a wide range of codes is questionable in view of the fact that the ability of hospitals and health centers to accurately diagnosis depends on the training of their personnel and laboratory capacity. Viral diseases and malignancies, for example, can be accurately diagnosed by only a few hospitals. The unnecessarily large number of categories could easily be reduced and still provide essential information required at both regional and national levels. There are, for example, six categories for accidents and at least 45 codes for diseases that rarely occur. Further, the analysis of health facility morbidity reports indicates that five diseases (worms, ARI, diarrhea, malaria and skin/eye/ear infections) account for 60 percent of total OPD attendances for health centers and health stations.

The number of health forms currently in use does not seem excessive, but there is a growing tendency to add new forms for programs like AIDS, TB, malaria, and health education. This is an issue that should be carefully reviewed by the HIS task force.

D. Feedback and Use of Data

The fact that only a small percentage of health centers and health stations ever receive feedback on the data they collect and report to woreda/zonal/ regional headquarters leads to an attitude by many health workers that the data is useful only at higher levels for annual reports. Although impressive graphs and wall charts were observed in a large number of health facilities, the usefulness of the data to health station activities is questionable. For example, four of the health workers interviewed admitted they did not know what the charts and graphs depicted. Charts on service indicator data were seen in a minority of health facilities and they usually depicted outreach areas, health education sessions, and EPI/MCH schedules.

Clearly there is a need to train health workers in the use of data. If health workers can be shown how the data they collect can be relevant to their activities, they might view the data collection process in a more positive way. A few health workers did note that the data they collected and analyzed reflected activities of the health facility (i.e. health service utilization, disease patterns, EPI coverage, and MCH services) and two health workers responded that graphs and data enabled them to see epidemiological trends, seasonal patterns and months when more patients will be expected to be treated. Only 14% of health stations had catchment area maps. The maps were used in several cases to pinpoint epidemics and for planning outreach activities.

Again many of the problems and deficiencies noted can be alleviated through training and regular quality supervision. Training courses for other programs (i.e. family planning, CDD, CHA/TBA, Essential drugs, MCH) should include sessions on reporting, data analysis and use of data as well as the need to maintain good stock control cards (drugs, contraceptives) as a management tool and the use of service indicator data.

E. Community Level Data

When health workers were asked to identify their data needs, a large number responded by listing information related to the community, including nutritional habits, traditional healers, environmental sanitation and water sources, harmful traditional practices, and traditional ideas about disease causation. Health workers recognize the usefulness of such data for targeting health education messages and advocating specific community level interventions.

The expressed need for more information on the community is a reflection of the current weak link that exists between health facilities and the communities they serve. In four cases, health station personnel did not speak the local language and had experienced problems in dealing with communities. This is one example of a real need to improve health workers' knowledge of the communities they serve. The training of CHAs and TBAs, combined with supervision and reporting by CHAs, should improve the situation. Reporting by CHAs can serve both as a method of supervision through monitoring and a way to maintain linkages between health

facilities and communities. CHAs can also be used to collect vital event data, to monitor nutritional status, or report epidemics.

Additional data on the community should be collected through sample surveys, health facility exit interviews, household surveys, and community demand studies. By involving health workers in such research, they will be better able to utilize the results to improve health service delivery.

XIII. TOPICS FOR RESEARCH

The health facility survey and community demand study are the beginning of a continuing research agenda for the ESHE project. In the SNNPR a number of research activities are already planned, including studies of STDs/AIDS with emphasis on disease perception and health service utilization, traditional healers and diarrhea, and a maternal and reproductive health survey. National level research and data collection efforts include the national census, EPI review, ARI/CDD household survey, and health facility case management survey. The project will also encourage and support students from the Community Health Department, Addis Ababa, School of Medicine, as well as other researchers, to carry out relevant research in the region.

The research is important for a number of reasons. It helps to answer key operational questions; it enables health officials to plan and correct deficiencies; it creates capacity for the MOH and other institutions in research methodology, monitoring, and evaluation; and it helps maintain a dynamic project with an ability to identify and deal with operational issues as they arise.

In addition, many health workers interviewed noted that they would like to know more about such topics as traditional healers, harmful traditional practices, causes of postpartum infections, environmental /hygienic practices, infant feeding practices, nutrition habits, etc. For this reason it is important that research be carried out in collaboration with health workers and that the results are fed back to them so as to help them improve their work and understand more about the communities they serve. The RHB and zonal health bureau heads are also interested in health systems research that will help them plan more efficient health services.

The following list of topics and issues is meant to be suggestive only as there will be many other topics that may arise during project implementation as well as from NGOs, project personnel, researchers, and short-term consultants.

- **investigation of rural drug vendors:** Some early work has been carried out by Nordberg (1974) & Kloos (1986) but, given the importance of drug vendors as a front line resource, more research needs to be done. Drug vendors provide medicines, injections and in some cases health education. Research can focus on the adequacy and appropriateness of treatments provided, case load, costs of medicines, training of vendors, whether licensed or not, and satisfaction of clients.
- **community-based rapid assessment surveys in selected ethnic groups in the SNNPR, particularly in focus zones,** in general health and gender issues: The research should address the following correlates of population and health: infant, child, and maternal mortality; fertility (traditional methods used for fertility regulation); disease and nutrition (including perceptions of disease causation), HIV/AIDS; STDs; and utilization of traditional and modern health services. The research should also collect information on general status of women, roles and responsibilities, and decision-making within

households. Previous research on those topics includes that carried out by Negussie 1988, Mengistu 1989, Haile 1990, Larson C. et al. 1991.

- **community-based research on political and local leadership issues**, particularly with regard to decision-making: This will be important given the attempts to revitalize CHAs.
- **key informant interviews and focus group discussions to understand behaviors related to certain key diseases such as measles**: For example, it is a common belief that children with measles will die if given injections. Data on disease perception and cultural understanding of causation will enable the project to better focus health education messages.
- **community-based research on health services utilization** and attitudes toward family planning to sensitize health workers and design culturally sensitive health education programs.
- **research on factors affecting maternal mortality**: These factors include maternal nutrition, female circumcision, and early and frequent pregnancies. (See Wolde T.L & Tefera H, 1985.)
- **research on infant feeding practices**, including time /work allocation as it affects women's time.
- **research on female-headed households** as a vulnerable group (land, work, nutritional status).
- **research on traditional practices for various diseases** (scarification, uvulectomy, herbal medications, etc.) (Gagnew & Damona, 1990.)
- **investigation of mean birth intervals from family health cards** available in health centers and health stations: This can also include women given iron tablets, risk factors identified such as anaemia, hypertension and poor nutritional status.
- **ethnic factors as related to health service utilization.**
- **study on traditional healers**, case load, diseases treated, knowledge of disease causation, (diarrhea, malaria, STD, etc.).
- **baseline surveys in communities prior to placement of CHAs** and then at intervals to determine utilization, attitude of communities, and health improvement.

- **investigation of sustainability factors in regard to CHAs, including community participation, community financing, community ownership of health facilities, and revolving funds.**
- **investigation of factors contributing to high infant mortality, particularly during the first three to five months of life.**
- **investigation of community delivery practices particularly cultural practices related to the immediate care of the newborn.**
- **study of incentive schemes for health workers in health centers and health stations.**
- **research factors related to health education and social mobilization such as literacy, media perception, availability of radios, and perception of posters, leaflets and other visual materials.**
- **studies of current supervising system with a view toward suggesting realistic and sustainable ways to improve it.**
- **factors influencing immunization, community attitudes toward immunization, reasons for dropout, etc.: Previous research includes: Alemu.W, Woldeab M, Meche H, 1991.**
- **community level studies of ARI and other specific diseases such as schistosomiasis, TB, and malaria: Studies would focus on disease perception and care-seeking behaviors.**
- **assessment of case management and quality of service delivery, as part of an overall training needs assessment for the development of long-term training strategy.**

XIV. CAPACITY-BUILDING

Every effort was made during the course of the health facility survey and community demand study to involve as many concerned officials as possible in the preparation, planning, data collection, and analysis of the surveys. The cooperation received at every level was excellent and is the beginning of what it is hoped will be a mutually beneficial working relationship. The departments of the regional health bureau generously shared information, received early drafts of the questionnaires, and assisted in sampling and logistic arrangements. The Sidama Zonal Health Department also assisted with sampling issues and in providing documents, training materials, and personnel to accompany the data collection team.

Ato Tsfeye Abera of the Regional Council facilitated the exercise by providing letters of introduction and by his general support throughout the survey. The regional and Sidama planning bureaus assisted through the provision of documents, health statistics, and maps. Their interest in the survey and its importance to their own planning activities was encouraging for the survey team and bodes well for future collaborative activities in the region.

This work would not have been possible without the assistance and cooperation received from zonal and woreda health departments. They provided information, documents, health profiles, and health statistics, as well as personnel to accompany the survey team to health facilities. This proved beneficial to them in terms of enabling key officials responsible for supervision to learn important questions and issues for supervision. It also revealed some problems existing in health facilities which they agreed to follow up. Similarly, the survey was important for the regional health bureau in that it provided an opportunity for the epidemiologist, who participated as a regular member of the data collection team, to learn about the problems health workers were facing. Finally, it brought out the importance of carrying out such surveys at regular intervals and of expanding operational research activities to assist the RHB in identifying and correcting problems.

Information sharing is an important element in the capacity-building process and to this end the results of the survey will be disseminated to the regional council, health and planning bureaus, zonal and woreda health offices, and NGOs. Two lectures have already been presented on the research methodology and procedures used for the community demand study to community development students at the Seventh Day Adventist College in Kuira.

Capacity-building is a key element in building a sustainable project; in general the survey team is optimistic and encouraged with the high level and number of skilled manpower available. This manpower resource should be capitalized on and developed through training, involvement in research, and other activities throughout the project.

Local consultants should also be utilized whenever possible. Local consultants were engaged to carry out an analysis of NGO experiences in regard to community participation, use of community health agents, and community level involvement in planning. The analysis will assist the ESHE project to learn from NGO experiences (both positive and negative) and to adopt some of the innovative approaches used by NGOs.

XV. NEXT STEPS

The results and implications of the health facility survey and community demand study should be disseminated as widely as possible to the MOH, RHB, zonal and woreda health offices, regional council, Relief and Rehabilitation Bureau, NGOs, regional and zonal planning bureaus. Executive summaries of the studies will be available that will highlight key findings and implications. The findings will be shared with key officials in the regional health and planning bureaus and with the regional council so that they can use the information in planning. The results will also be presented to the Ethiopian Public Health Association in December 1995.

The implementation strategy for the ESHE project should be developed in collaboration with officials from the RHB, zonal and woreda health offices, Regional Planning Bureau, Relief and Rehabilitation Bureau, MOH/Addis and USAID/E. A planning workshop should be held that would include discussion of intervention strategies, timing, and priorities to reach consensus for activities based on resource availability and needs. The strategy should include the following key elements:

- HMIS -- discussion of recommendations for redesign, establishment of task force, and outline for proposed activities to improve reporting, data use and analysis and redesign of formats.
- Training -- development of a general training plan for three years to include new health cadres (public health officers, public health nurses, environmental health officers); STTA for curricula development and materials development for CHA and TBA training; evaluation of current CHA selection criteria and training; STTA for work with Awassa Training School, collaboration with BESO staff in Awassa. Work on a training plan should be preceded by an assessment of the quality of case management which will serve as a baseline and will help to identify training needs and current strengths and weaknesses.
- IEC/behavioral change -- a review of current status of health education materials and approaches in the SNNPR; develop strategy with focus on community level approaches; develop multimedia campaign in collaboration with PSI, PCS, and AIDSCAP.
- NGO coordination -- establishment of an NGO coordinating committee with Relief and Rehabilitation Bureau, Regional Planning Bureau, Regional Health Bureau.
- Role of management institutions -- definition of relationships with zonal and woreda health offices in terms of their role in the ESHE project, involvement in designing interventions, types of activities.
- CHA/TBA -- development of a strategy that includes selection, training, remuneration, sustainability, community level financing, recovering drug funds, use of community animators.

- Supervision -- discussion of ways to improve current supervisory training, checklists, integrated supervision, follow-up of ideas to alleviate current constraints to effective supervision.
- Procurement of drugs/equipment -- priority on essential drugs, training in procurement, ways to improve distribution.
- Operational Research -- development of a mutually agreed research agenda with emphasis on issues related to health systems and the community level. Establish contacts with researchers at the University of Addis Ababa and the Ethiopia Science and Technology Commission, particularly the units dealing with traditional medicine and nutrition. Collaboration with research activities carried out by AIDSCAP, PSI and other projects.

Based on discussions during the planning workshop, BASICS will work in collaboration with the RHB, USAID/E and BASICS headquarters staff to develop a three-year work plan.

APPENDICES

APPENDIX 1

Appendix 1:**REFERENCES**

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APPENDIX 2

Appendix 2: Alphabetized List of Health Centers Sampled			
Name of HC	Ownership	Zone	Woreda
Alaba HC	Government	KAT	Alaba
Arba Minch HC	Government	N.Omo	Arbaminch
Areka HC	Government	N.Omo	Boloso sore
Awassa HC	Government	Sidama	Awassa
Bensa HC	Government	Sidama	Bensa
Bushulo HC	NGO	Sidama	Awassa
Konteb HC	Government	Hadiya	Konteb
Mudula HC	Government	KAT	Omo Sheleko
Sawla HC	Government	N.Omo	Goffa
Shinshicho HC	Government	KAT	Katcha Bira
Sodo	Government	N.Omo	Sodo Zuria
SPCM Melegewando	NGO	Sidama	Awassa
Yirgalem	Government	Sidama	Dale

APPENDIX 3

Appendix 3: Alphabetized List of Health Stations Sampled			
Name of HC	Ownership	Zone	Woreda
Abela	Government	Sidama	Awassa
Abonsa	NGO	KAT	Kedida Gamela
Achamo	Government	Hadiya	Lemo
Arbegona	Government	Sidama	Arbegona
Ashra	NGO	KAT	Kacha Bira
Bedessa	Government	N.Omo	Damot Weyde
Bele Koyssha	Government	N.Omo	Koyisha
Bodditi	Government	N.Omo	Damot Gale
Bokassa	Government	Sidama	Dale
Bonosha	Government	Hadiya	Lemo
Bukama	NGO	N.Omo	Sodo
Bushana	Government	Hadiya	Konteb
Chancho	Government	Sidama	Dale
Chuko	Government	Sidama	Aleta Wondo
Dengora	NGO	Sidama	Aleta Wondo
Doesha	Government	Hadiya	Lemo
Dulecha	Government	Sidama	Shebedino
Durame	Government	KAT	Kedida Gamele
Durgi	Government	KAT	Omosheleko
Fonko	NGO	Hadiya	Lemo
Gununo	Government	N.Omo	Sodo Zuria
Himbecho	Government	KAT	Boloso Sore
Hobicho Milisa	Government	KAT	Angacha
Jajura	NGO	Hadiya	Soro
Name of HC	Ownership	Zone	Woreda
Lante	Government	N.Omo	Arba minch
Leku	Government	Sidama	Shebedino

APPENDIX 4

Appendix 4a:		Sampling Procedure - Population weighted:			Sidama Zone	
	A	B	C (BxA)	D	E	
Woreda	Population	No. H/S		Sample size	No. Selected	
Awassa	313,705	7	2,195,935	1.9	2	
Shebedino	443,727	9	3,993,543	3.4	3	
Aleta Wondo	314,736	7	2,203,152	1.9	2	
H/Selam	173,900	4	695,600	.6	1	
Arebegona	184,967	3	554,901	.5		
Bensa	118,847	4	475,388	.4	1	
Aroresa	43,855	1	43,855	.04		
Dar	168,800	4	675,200	.6		
Dale	361,780	5	1,808,905	1.6	2	
Total			12,556,479		11	

Note: HC= 5

Appendix 4b:		Sampling Procedure - Population weighted:				Hadiya	
	A	B		C (BxA)		D (Sample Size)	
Woreda	Pop.	HS/Gov	HS/NGO	GOV	NGO	GOV	NGO
Lemo	308,198	4	3	1,232,792	942,594	.77	.59
Konteb	305,713	3	3	917,139	17,139	.43	.58
Sorro	130,475	3	1	2,914,256	130,475	1.8	.83
Sike	162,122	2	-	324,244	-	.15	
Total	906,508	12	7	6,388,425	4,346,483	3*	2**

Note: * is sample selected for government health station = 3

** is sample selected for NGO health station = 2

APPENDIX 5

Appendix 4c: Sampling Procedure - Population weighted: KAT					
	A	B	C (AxB)	D	E
Woreda	Population	Health Sta.		Sample size=6	Select
Kedida Gamela	231,188	7	1,618,316	2.37	2
Alaba	74,268	1	74,268	.11	3
Angacha	383,641	4	1,534,564	2.25	
Kacha Beera	162,520	2	325,040	.48	
Omo Sheleko	182,725	3	548,175	.80	1
Total	1,034,342	17	4,100,363	6.01	

Note: Health Centers = 2

Appendix 4d: Sampling Procedure - Population weighted: North Omo					
	A	B	C(AxB)	D	E
Woreda	Population	Health Sta.		Sample size=10	Select
Boioso Sore	313,959	5	1569,795	2.2	2
Damot Gale	242,017	3	726,051	1.03	1
Sodo Zuria	248,293	3	744,879	1.06	1
Damot Woyide	182,320	4	729,280	1.03	1
Gofa Zuria	172,946	4	691,784	.98	1
Kindo Koysa	157,241	3	471,723	.67	1
Alba Munch	149,076	6	894,456	1.27	1
Ofa	127,122	3	381,366	.54	2
Bonke	124,081	4	496,323	.70	
Chencha Zuria	114,623	3	343,869	48	
Total	1,831,678	38	7,049,527	10	

Note: Health Centers = 4

APPENDIX 5

Appendix 5: Population of Woredas in Focus Zones *			
Sidama		North Omo	
Woreda	Population	Woreda	Population
* Awassa	313,705	Zala	62,831
* Shebedino	443,727	* Arba Minch	149,076
A/Wondo	314,736	* Boloso Sore	313,959
H/Selam	173,900	Boreda	61,499
* Arebogona	184,967	Chencha Zuria	114,623
Bensa	118,847	* Damot Gale	242,017
Aroresa	43,855	* Damot Woyide	182,320
Dara	168,800	Daremalo	57,937
Dale	361,781	Deta	89,703
Hadiya		Alba	60,808
* Lemo	308,198	Esra	42,701
* Konteb	305,713	Genabosa	54,045
* Sorro	130,475	* Gofa Zuria	172,946
Sike	162,122	Gomayide	24,846
KAT		Humbo	116,964
* Kedida Gamela	231,188	Komba	110,624
Alaba	74,268	* Kindo Koyisha	157,241
* Angacha	383,641	Kucha	107,268
* Kacha beera	162,520	Loma	72,134
* Omo Sheleko		Marka	75,254
		Malekoza	94,888
		Mesketto	88,290
		Merab-abay	56,159
		Ofa	127,122
		* Sodo Zuria	248,293
		Tocha	67,259
		Ura male	58,608

* Selected Woredas

APPENDIX 6

Appendix 6: Summary Data Sheet

Name	Owner	Zone	Woreda	Wor Pop	Catch Pop	Tot OPD	U-5 OPD	U-Five %	MD s	Nurses	H As	OPD Coverage	U-Five Coverage
Health Centers													
Wondo Genet	NGO	Sidama	A/Wondo	314736	18000	10419	1927	11		6	7	58	
Konteb	Govern	Hadiya	Konteb	308198	38706	8338	1150	14		5	4	53	79
Alaba	Govern	KAT	Alaba	74268	23645	12449	3361	27	4	4	7		
Mudula	Govern	KAT	Omo Sheleko	182725	52339				2		3		
Shinshicho	Govern	KAT	Kacha Bira	162520	58045	23734	4168	18	3		8	45	40
Bushulo	NGO	Sidama	Awassa	313705	46500	19428	3513	18	4	15	10	42	42
Bensa	Govern	Sidama	Wondo	314736	29358	11252	2789	25	3	6	17	38	53
Yirgalem	Govern	Hadiya	Dalle	361781	58942	20618	4644	23	5	11	21	35	44
Awassa	Govern	Sidama	Awassa	313705	110000	44552	12268	23	6	16	25	41	62
Areka	Govern	N Omo	Boloso Sore	313959	129612	5180	1060	20	1	3	16	4	45
Arba Minch	Govern	N Omo	Arba Minch	149076	48000	17888	2866	16	2	3	14	12	33
Sodo	Govern	N Omo	Sodo Zuria	248293	86624	10362	503	5	2	8	16	12	3
Sawla	Govern	N Omo	Gofa	172946	61943	8884	1862	21	1	6	11	14	17
Health Stations													
Durame	Govern	KAT	Kedida Gamela	231188	27023	5812	1179	20			3	22	24
Doesha	Govern	Hadiya	Lemo	308198	34000	2960	503	17			2	8	8
Jajura	NGO	Hadiya	Sorro	1304750	38927	15281	6434	42		2		39	92
Segae	Govern	Hadiya	Sorro	1304750	15750	2438	655	27			3	15	23
Fonko	NGO	Hadiya	Lemo	308198	90000	7952	1977	25		1	3	9	12
Soro	Govern	Hadiya	Sorro	1304750	20000	5199	1237	24			3	26	34
Bushana	Govern	Hadiya	Konteb	308198	18785	2013	471	23			3	11	14
Name	Owner	Zone	Woreda	Wor Pop	Catch Pop	Tot OPD	U-5 OPD	U-Five %	MD s	Nurses	H As	OPD Coverage	U-Five Coverage

Achamo	NGO	Hadiya	Lemo	308198	11584	9541	1017	11			2	82	49
Bonosha	NGO	Hadiya	Lemo	308198	105000	10999	2908	26		1	2	10	15
Abonsa	NGO	KAT	Kebida Gamela	231188	45450	3304	732	22			2	7	9
Tunto Mekaye Ye	NGO	KAT	Omo Sheleko	182725	36519	15425	3409	22			3	42	52
Durgi	Govern	KAT	Omo Sheleko	182725	21240	1721	337	20			2	8	9
Ashra	NGO	KAT	Kacha Bira	162520	40000	14201	4546	32		2	2	36	63
Hobicho Milisa	Govern	KAT	Angeacha	383641	16473	1342	384	29			2	8	45
Watera Resa	NGO	Sidama	Awassa	313705	9200	5112	1681	33		3	5	6	10
Chuko	Govern	Sidama	Aleta Wondo	314736	33593	2180	374	17			3	6	6
Arebegona	Govern	Sidama	Arbegona	184967	21392	1780	397	22			2	8	10
Teticha Catholic	NGO	Sidama	Hagresha	43855	55000	6995	1941	28		2	1	13	20
Worancha	NGO	Sidama	Arbegona	184967	30498	6212	981	16		1	4	20	18
Loko	Govern	Sidama	Aleta Wondo	314736	31000	2053	472	23			2	7	8
Abela	Govern	Sidama	Shebedino	443727	26195	3143	929	30			6	12	20
Leku	Govern	Sidama	Shebedino	443727	41369	3209	695	22		1	6	8	9
Dulecha	Govern	Sidama	Shebedino	443727	34031	1635	500	31			2	5	8
Bokasso	Govern	Sidama	Dalle	361781	33041	4996	2025	41			2	15	34
Dengora	NGO	Sidama	Aleta Wondo	314736	12680	9900	1872	19		3	1	8	82
Tula	Govern	Sidama	Awassa	313705	47740	2899	1099	38			4	6	13
Chancho	Govern	Sidama	Dalle	361781	38000	1653	466	28			2	4	7
Gununo	Govern	N Omo	Boloso Sorro	3133959	20417	2872	439	15			2	14	12
Bodditi	Govern	N Omo	Dunot Gale	2422017	74912	4605	1054	23		1	6	6	8
Schecha	Govern	N Omo	Arba Minch	149076	14000	5987	1619	27		2	5	43	64
Himbecho	Govern	N Omo	Boloso Sorre	313959	44557	5634	699	12			3	13	9
Lante	Govern	N Omo	Arba Minch	149076	10897	1846	556	30			3	17	28
Name	Owner	Zone	Woreda	Wor Pop	Catch Pop	Tot OPD	U-5 OPD	U-Five %	MD s	Nurses	H As	OPD Coverage	U-Five Coverage
Bele Koysa	Govern	N Omo	Kindo Koysa	157241	68390	3523	936	27			3	5	8

Shele	Govern	N Omo	Arba Minch	149076	8943	2362	605	26			4	26	38
Bedessa	Govern	N Omo	Damat Worde	182320	36886	4547	881	19		1	4	12	13
Bukama	NGO	N Omo	Sodo Zuria	248293	29999	4631	770	17		1	1	15	14

APPENDIX 7

Appendix 7: EPI Coverage from July 1994-May 1995 for Zones in SNNPR											
Zone	Est. Target Pop.	BCG	%	Measles	%	DPT3	%	Polio3	%	Preg TT2T	%
Sidama	65571	55718	85	28471	43	41799	63	41510	63	32693	34
Gedeo	26385	11044	42	6704	25	8403	32	8350	32	8514	23
Kat	27567	8610	31	4019	15	5310	19	5331	19	7943	20
Hadiya	33783	22445	66	10912	32	14698	44	14548	43	15841	33
Gurage	55163	30618	56	22971	42	20657	37	19966	36	14477	18
N.Omo	101153	42367	42	26073	26	30029	30	29373	29	21576	15
S.Omo	8675	5922	68	2768	32	4027	46	4033	46	2378	19
Kaffecho	20166	10332	51	5311	26	5070	25	5092	25	3164	11
Shekicho	4069	3608	88	2416	59	2854	70	2885	71	1159	20
Bench	9252	5903	64	3694	40	3769	41	3771	40	1858	14
Maji	2843	1338	47	792	28	253		342	12	237	6
Yem	1295	1789		821	63	1278	98	1242	95	515	28
Amaro	2683	1810	67	1487	55	1628	61	1046	39	713	17
Konso	3841	4383		3174	82	4360		4409		2828	51
Derashe	3515	2203	63	1099	31	1488	42	1375	39	1466	29
Burji	1336	1001	75	873	65	1336		1343		901	47
SNNPR		209090	57	121585	33	146969	40	144614	39	115665	22

APPENDIX 8

Appendix 8: Survey Instruments
BASICS/RHB
HEALTH SERVICE DELIVERY UNIT ASSESSMENT

8a: FORM 1: HEALTH CENTER

Geographic Reference No. _____

Reference No.:

Date: / / (GC) Assessor: _____

Start time: __:__ End time: __:__

Main interviewee: _____

Function/Position: _____

I. General Information

1. Name of Health Facility _____

2. Address of the unit: Town: _____ P.O. Box: _____ Tel. No.: _____
Woreda: _____ Zone: _____

3. Ownership: _____
1) RHB 2) NGO 3) Private 4) Commun Association

4. Date Established _____

5. Estimated Catchment population (in sq km): a. _____
b. _____

(a. Within 5 Km) (b. within 5-10 Km)

Source of information: _____

- 1) CSA
- 2) Higher level
- 3) Estimate
- 4) Other

6. Distance from Woreda Health Office (km) _____

7. Name of Woreda Health Office. _____

8. What is the name of nearest urban centre _____

9. Distance to nearest urban centre (km) _____

10. Distance to nearest referral Health Unit and Name and type:

11. What problems exist if any, in referral of patients?

II. HEALTH SERVICE CAPABILITIES:

A. COVERAGE/ACCESS

1. Calculation of catchment area (from patient register)
sample 100 continuous cases registered during last month)

count frequency of villages recorded:
list three most frequently mentioned villages and look at
map to estimate/state the distance to the health unit.

Name	Freq	Distance
_____	_____	_____
_____	_____	_____
_____	_____	_____

list the three least frequently mentioned villages and look at map to estimate/state the distance to health unit.

Name	Freq	Distance
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Number of Kabeles served _____ Number of villages _____
3. What are the physical obstacles if any that hamper access to this HF?

B. OUTREACH

1. Number of outreach sites. _____
2. What is the population of outreach sites (est.)? _____
3. How frequently is each outreach site visited? _____
- 1. at least once per month
 - 2. at least once every 2 months
 - 3. once each quarter
 - 4. once each year
 - 5. twice per year
 - 6. irregular

(Note: examine outreach book/records if available)

4. Describe method used to mobilize communities for outreach sessions (e.g., megaphone, word of mouth, visit of health staff)

5. How much was spent on outreach visits for the past year?

	Govern	NGO/donor funds
Per diems	_____	_____
Fuel	_____	_____

6. How many TBAs are active in the catchment area? _____
7. How many trained TBAs are active in the catchment area? _____
8. How many CHAs are active in the catchment area? _____

9. Do CHAs assist in mobilizing communities for outreach?
 Y N If, Yes describe how?

C. DELIVERY CAPACITY

PERSONNEL/STAFFING

1. How many regular staff of the following types does the HC have?

Qualification	Current Number	Vacancies
1 Doctor	___	_____
2 General nurse	___	_____
3 MCH nurse	___	_____
4 Midwife nurse	___	_____
5 Spec. nurse	___	_____
6 Pharmacist	___	_____
7 Pharmacy tech	___	_____
8 Lab tech	___	_____
9 X ray tech	___	_____
10 Health Assistant	___	_____
11 Sanitarian	___	_____

Number of Administrative and Supportive Staff:

Qualification	Current Number	Vacancies
1 Administrator	___	_____
2 Archivist	___	_____
3 Personnel Head	___	_____
4 Accountant	___	_____
5 Cashier	___	_____
6 Auditor	___	_____

TRAINING

1. Did technical staff (nurses, HAs) receive specialized training in the following areas, if so when?

	Cadre	When	Duration
ORT	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
MALARIA	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
STD/AIDS	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
GM	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

ARI	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
FP	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
EPI	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
FACILITY MANAGM'T	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

HEALTH SERVICES PROVIDED

CURATIVE SERVICES

SPECIAL/REFERRAL CLINICS

Are the following services available?

			Hrs/day	Days/Wk
1. STD	Y	N	_____	_____
2. FP	Y	N	_____	_____
3. TB	Y	N	_____	_____
4. LEPROSY	Y	N	_____	_____
5. OPHTHALMIC	Y	N	_____	_____
6. DENTAL	Y	N	_____	_____
7. MALARIA	Y	N	_____	_____
8. _____			_____	_____

INPATIENT SERVICES

1. How many beds are available for inpatients? _____ total
2. How many inpatients in 1986 (EC) _____
3. What was the average length of stay _____
4. How many were referred? _____

Are the following provided?

PREVENTIVE SERVICES

			Hrs/Day	Days/Wk
5. ANTENATAL	Y	N	_____	_____
6. POSTNATAL	Y	N	_____	_____
7. UNDER FIVE	Y	N	_____	_____
8. FP	Y	N	_____	_____
9. ORT CORNER	Y	N	_____	_____
10. EPI	Y	N	_____	_____
11. NUTRITION/GM	Y	N	_____	_____
12. HEALTH EDUCATION	Y	N	_____	_____
13. SCHOOL HEALTH	Y	N	_____	_____
14. TB	Y	N	_____	_____
15. AIDS/HIV TEST	Y	N	_____	_____

Laboratory Tests

Are the following diagnostic services available?

- | | | |
|-------------------|---|---|
| 1. Stool/urine | Y | N |
| 2. Hematology | Y | N |
| 3. Bacteriology | Y | N |
| 4. Parasitology | Y | N |
| 5. Pregnancy test | Y | N |

Drugs/Medical Supplies:

1. When were the last MSD received ? / /

From who: _____

2. When were the last Vaccines received ? / /

From who: _____

3. Check the stock of the following items:

Item	Currently Available (Y N)	At any time in last 6 months did you run out (Code as below)
Co-trimoxazole	_____	_____
Proc. Penicillin	_____	_____
Chloroquine	_____	_____
Mebendazole	_____	_____
Tetracycline	_____	_____
Aspirin	_____	_____
Paracetamol	_____	_____
Ferrous sulphate	_____	_____
Metronidazole	_____	_____
ORS	_____	_____
Streptomycin	_____	_____
Tetracycline eye ointment	_____	_____
BCG	_____	_____
DPT	_____	_____
Measles	_____	_____
Polio	_____	_____
Tetanus Toxoid	_____	_____

[fill in stock out according to following codes: 1) over a week, 2) over two weeks, 4)over a month, 4) over two months, 5) over three months, 6) over six months) 7) more than a year

4. What other non drug medical supplies are currently lacking?

Item	Since when	Reason
_____	_____	_____
_____	_____	_____
_____	_____	_____

5. Are the following items of equipment available and working?

	not avail	avail not working	how long out of use	# avail not working
Microscope	_____	_____	_____	_____
Diagnostic set(s)	_____	_____	_____	_____
Stethoscope	_____	_____	_____	_____
Exam bed	_____	_____	_____	_____
Refrigerator	_____	_____	_____	_____
Scales (salter)	_____	_____	_____	_____
Standing scales	_____	_____	_____	_____
Vaccine carriers	_____	_____	_____	_____
Cool box	_____	_____	_____	_____
Sterilizers	_____	_____	_____	_____
Delivery sets	_____	_____	_____	_____
Delivery bed	_____	_____	_____	_____
Speculum	_____	_____	_____	_____
Sterile gloves	_____	_____	_____	_____
Sterile syringes & needles	_____	_____	_____	_____

(fill in out of use according to following codes: 1) over a week, 2) over two weeks, 4) over a month, 4) over two months, 5) over three months, 6) over six months 7) more than a year

6. What supplies are needed but not available?

7. What transport is available at the health center?

Physical facilities:

8. Is there an ORT Corner? Y N

9. Is patient confidentiality provided for FP and STD? Y N

10. Does the HC have water supply? Y N

11. Is the water supply adequate for the needs of the HC? Y N

If No, briefly describe problem.

12. Does the HC have electricity? Y N

13. Are there problems in the electrical supply? Y N If Yes, briefly describe problem.

14. Is kerosine available? Y N

(always, occasionally, rarely)

15. Is fuel available for outreach Y N

(always, occasionally, rarely)

Family Planning/Contraceptives

1. Number of acceptors new (last 6 months) _____

2. Determine stock status of the following:

Type	Brand	Amt on hand	If OS for how long?
Orals	_____	_____	_____
Injectable	_____	_____	_____
Foam Tab	_____	_____	_____
Condoms	_____	_____	_____

[fill in out of use according to following codes: 1) over a week, 2) over two weeks, 4) over a month, 4) over two months, 5) over three months, 6) over six months) 7) more than a year]

3. From record review record number of contraceptives issued to acceptors for past 1 year by type.

Type	Number
Orals	_____
IUCD	_____
Foam Tab	_____
Condoms	_____
Injectable	_____

4. Review stock control cards for completeness and accuracy.

Remarks _____

5. Do many of the contraceptives expire Y N

6. Do you receive all the contraceptives you order?

(Always, occasionally, never) _____

7. Do they arrive in a timely fashion, If not what is the problem?
transport for collection _____ out of stock _____

8. If not which ones do you receive?

9. What FP forms do you complete?

10. What forms are kept for your own use and what forms are sent to the next level?

Maternal Health

1. Number of deliveries in the HC for past 12 months: _____

2. How many were referred? _____

3. Number of Normal Deliveries for past 12 months _____

4. Number of Low Birth Weight _____

5. Number of Still Births _____

Immunization:

1. Immunization coverage (% of eligibles) for,

BCG _____
Polio 1 _____
DPT 1 _____
Measles _____

2. Drop out rate (DPT1 to DPT3) _____
Polio 1 to Polio 3 _____

3. Fully immunized DPT3 + Measles _____

4. Coverage for TT (preg) _____ %
TT (non preg) _____ %

5. How are immunization targets and coverage figures calculated (describe).

IV. MANAGEMENT

a. Supervision

1. When was this unit last supervised ? _____

- 1) During the last month
- 2) more than 1 month ago
- 3) more than 2 months ago
- 4) more than 3 months ago
- 5) more than 6 months ago
- 6) more than 12 months ago

2. How was the supervision conducted ? _____, _____, _____.

- 1) review of records
- 2) individual interview
- 3) group interview
- 4) on-the-job training
- 5) observation

3. Was any feedback given? Y N

4. If yes what was the nature of the feedback?

5. How many Health stations are supervised by this HC? _____

6. How often are the HSs supervised by the HC? _____

- 1. at least once per month
- 2. at least once every 2 months
- 3. once each quarter
- 4. once each year
- 5. twice per year
- 6. irregular

7. (Ask for HW opinion: Which information would be most useful to you to:

Purpose	Information	Can information be obtained
Facility Management	_____	Y N
	_____	Y N
Improve the Health of the People	_____	Y N
	_____	Y N
	_____	Y N
	_____	Y N

8. What would you do if you had this information?

9. What would you do differently if you had the information compared to the actual situation?

10. What information do you consider the most important. (list)

c. Financial:

1. Are fees collected Y N

2. Are fees retained by the HC or collected and sent elsewhere? _____

3. What was the average income from user charges for the past month? _____

4. For the last month what was the number of exempted patients (pts treated free)? _____

5. Are there other sources of funding for HC activities such as outreach, per diems/fuel for supervision? If yes, what is the source _____ Amount _____ and purpose? _____

6. If you had additional funds or could use the collected fees at the HC what would you use the funds for?

EPIDEMIOLOGICAL PROFILE (FROM RECORD REVIEW) DISEASES

	TB		STD		DIARRHOEA		MALARIA		PYREXIA		WORMS		ANAEMIA	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
JAN	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FEB	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MAR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
APR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUN	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AUG	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SEP	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OCT	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NOV	—	—	—	—	—	—	—	—	—	—	—	—	—	—
DEC	—	—	—	—	—	—	—	—	—	—	—	—	—	—

	EAR,EYE,SKIN		ARI		MEASLES		T	MATERNAL			120.2	120.3	
	M	F	M	F	M	F		114.5	115	116.1	117.1	119	120.4
JAN	---	---	---	---	---	---	---	---	---	---	---	---	---
FEB	---	---	---	---	---	---	---	---	---	---	---	---	---
MAR	---	---	---	---	---	---	---	---	---	---	---	---	---
APR	---	---	---	---	---	---	---	---	---	---	---	---	---
MAR	---	---	---	---	---	---	---	---	---	---	---	---	---
JUN	---	---	---	---	---	---	---	---	---	---	---	---	---
JUL	---	---	---	---	---	---	---	---	---	---	---	---	---
AUG	---	---	---	---	---	---	---	---	---	---	---	---	---
SEP	---	---	---	---	---	---	---	---	---	---	---	---	---
OCT	---	---	---	---	---	---	---	---	---	---	---	---	---
NOV	---	---	---	---	---	---	---	---	---	---	---	---	---
DEC	---	---	---	---	---	---	---	---	---	---	---	---	---

PREVENTIVE HEALTH SERVICES

	<5	M 5-14	>15	<5	F 5-14	>15	1	ANC 2	3	1	FP 2	3	Delivery Clinic	Home
JAN	—	—	—	—	—	—	—	—	—	—	—	—	—	—
FEB	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MAR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
APR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUN	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AUG	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SEP	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OCT	—	—	—	—	—	—	—	—	—	—	—	—	—	—
NOV	—	—	—	—	—	—	—	—	—	—	—	—	—	—
DEC	—	—	—	—	—	—	—	—	—	—	—	—	—	—

**BASICS/RHB
HEALTH SERVICE DELIVERY UNIT ASSESSMENT**

FORM 1: HEALTH STATION

Geographic Reference No. _____

Reference No.: _____

Date: / / (GC)
Start time: __: __

Assessor: _____
End time: __: __

Main interviewee: _____

Function/Position: _____

I. General Information

1. Name of Health Facility _____

2. Address of the unit:

Town: _____

P.O. Box: _____

Woreda: _____

Tel. No.: _____

Zone: _____

3. Ownership: ____

- 1)RHB
- 2)NGO
- 3)Private
- 4)Commun Assoc

4. Date Established _____

5. Estimated Catchment population (in sq km):

- a. _____
- b. _____

(a. Within 5 Km) (b. within 5-10 Km)

Source of information: ____

- 1) CSA
- 2) Higher level
- 3) Estimate
- 4) Other

6. Distance from Woreda Health Office (km) _____

7. Name of Woreda Health Office. _____

8. What is the name of nearest urban centre _____

9. Distance to nearest urban centre (km) _____

10. Distance to nearest referral Health Unit- Name and type:

11. What problems exist if any, in referral of patients?

II. HEALTH SERVICE CAPABILITIES:

A. COVERAGE/ACCESS

1. Calculation of catchment area (from patient register)
sample 100 continuous cases registered during last month)

count frequency of villages recorded:
list three most frequently mentioned villages and look at
map to estimate\state the distance to the health unit.

Name	Freq	Distance
_____	_____	_____
_____	_____	_____
_____	_____	_____

list the three least frequently mentioned villages and look at map
estimate/state the distance to health unit.

Name	Freq	Distance
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Number of kabeles served _____ Number of villages _____
3. What are the physical obstacles if any that hamper access to this HF?

B. OUTREACH

1. Number of outreach sites. _____
2. What is the population of outreach sites
(est.)? _____
3. How frequently is each outreach site visited?

- 1. at least once per month
- 2. at least once every 2 months
- 3. once each quarter
- 4. once each year
- 5. twice per year
- 6. irregular

(Note: examine outreach book/records if available)

4. Describe method used to mobilize communities for outreach sessions (e.g.. megaphone, word of mouth, visit of health staff)
5. How much was spent on outreach visits for the past year?

	Govern	NGO/donor funds
Per diem	_____	_____
Fuel	_____	_____

6. How many TBAs are active in the catchment area?

7. How many trained TBAs are active in the catchment area?

8. How many CHAs are active in the catchment area?

9. Do CHAs assist in mobilizing communities for outreach?
Y N If, Yes describe how?

C. DELIVERY CAPACITY

PERSONNEL/STAFFING

1. How many regular staff of the following types does the HS have?

Qualification	Current Number	Vacancies
1 General nurse	_____	_____
2 MCH nurse	_____	_____
3 Midwife nurse	_____	_____
4 Health Assistant	_____	_____
5 Sanitarian	_____	_____
6 Health Officer	_____	_____

Number of Administrative and Supportive Staff:

Qualification	Current Number	Vacancies
1 Administrator	_____	_____
2 Archivist	_____	_____
3 Personnel Head	_____	_____
4 Accountant	_____	_____
5 Cashier	_____	_____
6 Auditor	_____	_____
7 Guard	_____	_____

TRAINING

1. Did technical staff (nurses, HAs) receive specialized training in the following areas, if so when?

	Cadre	when	duration of course	Remarks
ORT	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
MALARIA	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
STD/AIDS	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
GM	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
ARI	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
FP	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
EPI	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____
FACILITY MANAGM'T	_____ _____ _____	_____ _____ _____	_____ _____ _____	_____ _____ _____

HEALTH SERVICES PROVIDED

CURATIVE SERVICES

SPECIAL/REFERRAL CLINICS

Are the following services available?

	Y	N	Hrs/day	Days/Wk
1. STD	Y	N	_____	_____
2. FP	Y	N	_____	_____
3. TB	Y	N	_____	_____
4. LEPROSY	Y	N	_____	_____
5. OPHTHALMIC	Y	N	_____	_____
6. DENTAL	Y	N	_____	_____
7. MALARIA	Y	N	_____	_____
8. _____	Y	N	_____	_____

INPATIENT SERVICES

1. How many beds are available for inpatients? _____ total
2. How many inpatients in 1986 (EC) _____
3. What was the average length of stay _____
4. How many were referred? _____

Are the following provided?

PREVENTIVE SERVICES

	Y	N	Hrs/Day	Days/Wk
5. ANTENATAL	Y	N	_____	_____
6. POSTNATAL	Y	N	_____	_____
7. UNDER FIVE	Y	N	_____	_____
8. FP	Y	N	_____	_____
9. ORT CORNER	Y	N	_____	_____
10. EPI	Y	N	_____	_____
11. NUTRITION/GM	Y	N	_____	_____
12. HEALTH EDUCATION	Y	N	_____	_____
13. SCHOOL HEALTH	Y	N	_____	_____
14. TB	Y	N	_____	_____
15. ENVIRONMENTAL HEALTHY	Y	N	_____	_____

Laboratory Tests

Are the following diagnostic services available?

1. Stool/urine	Y	N
2. Hematology	Y	N
3. Bacteriology	Y	N
4. Parasitology	Y	N
5. Pregnancy test	Y	N

Drugs/Medical supplies:

1. When were the last MSD received ? / /

From who: _____

2. When were the last Vaccines received ? / /

From who: _____

3. Check the stock of the following items:

Item	Currently Available (Y N)	At any time in last 6 months did you run out (Code as below)
Co-trimoxazole	_____	_____
Proc. Penicillin	_____	_____
Chloroquine	_____	_____
Mebendazole	_____	_____
Tetracycline	_____	_____
Aspirin	_____	_____
Paracetamol	_____	_____
Ferrous sulphate	_____	_____
Metronidazole	_____	_____
ORS	_____	_____
Streptomycin	_____	_____
Tetracycline eye ointment	_____	_____
BCG	_____	_____
DPT	_____	_____
Measles	_____	_____
Polio	_____	_____
Tetanus Toxoid	_____	_____

[fill in stock out according to following codes: 1) over a week, 2) over two weeks, 4) over a month, 4) over two months, 5) over three months, 6) over six months) 7) more than a year

What other non drug medical supplies are currently lacking?

Item	Since when	Reason
_____	_____	_____
_____	_____	_____
_____	_____	_____

Are the following items of equipment available and working?

	not avail	avail not working	how long out of use	# avail working
Microscope	_____	_____	_____	_____
Diagnostic set(s)	_____	_____	_____	_____
Stethoscope	_____	_____	_____	_____
Exam bed	_____	_____	_____	_____
Refrigerator	_____	_____	_____	_____
Scales (salter)	_____	_____	_____	_____
Standing scales	_____	_____	_____	_____
Vaccine carriers	_____	_____	_____	_____

Cool box	_____	_____	_____	_____
Sterilizers	_____	_____	_____	_____
Delivery sets	_____	_____	_____	_____
Delivery bed	_____	_____	_____	_____
Speculum	_____	_____	_____	_____
Sterile gloves	_____	_____	_____	_____
Sterile syringes & needles	_____	_____	_____	_____

[fill in out of use according to following codes: 1) over a week, 2) over two weeks, 4)over a month, 4) over two months, 5) over three months, 6) over six months) 7) more than a year

6. What supplies are needed but not available?

7. What transport is available at the health station?

6. Do you receive all the contraceptives you order?
(Always, occasionally, never) _____
7. Do they arrive in a timely fashion, If not what is the problem?
transport for collection _____ out of stock _____
8. If not which ones do you receive?

9. What FP forms do you complete?

10. What forms are kept for your own use and what forms are sent to the next level?

Maternal Health

1. Number of deliveries in the HS for past 12 months; _____
2. How many were referred? _____
3. Number of Normal Deliveries for past 12 months. _____
4. Number of Low Birth Weight _____
5. Number of Still births _____

Immunization:

1. Immunization coverage (% of eligibles) for;
 - BCG _____ %
 - Polio 1 _____ %
 - DPT 1 _____ % Measles _____ %
2. Drop out rate (DPT1 to DPT3) _____ %
 - Polio 1 to Polio 3 _____ %
3. Fully immunized DPT3 + Measles _____ %
4. Coverage for TT (preg) _____ %
 - TT (non preg) _____ %
5. How are immunization targets and coverage figures calculated (describe).

IV. MANAGEMENT

a. Supervision

1. When was this unit last supervised ? ____

- 1) During the last month
- 2) more than 1 month ago
- 3) more than 2 months ago
- 4) more than 3 months ago
- 5) more than 6 months ago
- 6) more than 12 months ago

2. How was the supervision conducted ? ____ , ____ , ____ .

- 1) review of records
- 2) individual interview
- 3) group interview
- 4) on-the-job training
- 5) observation
- 6) more than 12 months ago

3. Was any feedback given? Y N

4. If yes what was the nature of the feedback provided?

5. How many Health posts are supervised by this HS?

6. How often are the HPs supervised by the HS? _____

- 1. at least once per month
- 2. at least once every months
- 3. once each quarter
- 4. once each year
- 5. twice per year
- 6. irregular

7. Who does the supervision of the HPs?

8. Is there a plan or schedule for supervisory activities? Y N

9. Are there written checklists or protocols for supervision? Y N

10. Are there supervisory records (verify)? Y N

11. If yes, are identified problems recorded? Y N

12. Does each staff member have a written job description? Y N

13. Are records maintained with information on HW performance? Y N

14. What do you see as the major problems affecting your ability to perform your job well?

- a. low salary
 - b. poor working conditions
 - c. lack of incentives
 - d. problems with community
 - e. other (describe)
-

15. Do you receive your salary regularly? Y N If no what is the problem?

16. Do you have housing provided? Y N

17. Do you ever receive incentives or rewards for your performance at the HS? Y N
If yes, type of incentive or reward:

b. Planning/record keeping

1. Is there a catchment area map available in the HS? Y N

2. (Observation) If you see graphs and data charts on walls, describe type of information displayed. Ask how this information is used (e.g. in annual report, to respond to epidemics, planning/monitoring).

3. Ask person who compiled the data (drew graphs) what the information shows regarding health problems of the area.

4. Are there any special health problems unique to the catchment area of the HS?
If yes, what are they?

5. Do you receive feedback from the Woreda office, Zonal, RHB on the information compiled and sent. Y N

6. If yes what type of feedback is provided?

7. Ask for HW opinion: which information would be most useful to you to:

Purpose	Information	Can information be obtained
Facility Management	_____	Y N
	_____	Y N
Improve the Health of the People	_____	Y N
	_____	Y N

8. What would you do if you had this information?

9. What would you do differently if you had the information compared to the actual situation?

10. What information do you consider the most important?

c. Financial:

1. Are fees collected Y N

2. Are fees retained by the HS or collected and sent elsewhere?

3. What was the income from user charges for the past month? _____

4. For the last month what was the number of exempted patients (pts treated free)?

5. Are there other sources of funding for HS activities such as outreach, per diems/fuel for supervision? If yes, what is the source _____ amount _____ and purpose? _____

6. If you had additional funds or could use the collected fees at the HS what would you use the funds for?

7. What do you require in terms of staff training, essential drugs/equipment.

Health Station

	Malaria	Fever	Skin/Eye Ear (7/8/20/21)	Diarrhea (16)	ARI (13/17)	TB	STD (18/19)
JAN	_____	_____	_____	_____	_____	_____	_____
FEB	_____	_____	_____	_____	_____	_____	_____
MAR	_____	_____	_____	_____	_____	_____	_____
APR	_____	_____	_____	_____	_____	_____	_____
MAY	_____	_____	_____	_____	_____	_____	_____
JUN	_____	_____	_____	_____	_____	_____	_____
JUL	_____	_____	_____	_____	_____	_____	_____
AUG	_____	_____	_____	_____	_____	_____	_____
SEP	_____	_____	_____	_____	_____	_____	_____
OCT	_____	_____	_____	_____	_____	_____	_____
NOV	_____	_____	_____	_____	_____	_____	_____
DEC	_____	_____	_____	_____	_____	_____	_____

Health Stations

	Anaemia	Worms	Measles	Maternal			Malnut
	(33)	(34)	(1)	(26)	(27)	(28)	(32)
JAN	—	—	—	—	—	—	—
FEB	—	—	—	—	—	—	—
MAR	—	—	—	—	—	—	—
APR	—	—	—	—	—	—	—
MAY	—	—	—	—	—	—	—
JUN	—	—	—	—	—	—	—
JUL	—	—	—	—	—	—	—
AUG	—	—	—	—	—	—	—
SEP	—	—	—	—	—	—	—
OCT	—	—	—	—	—	—	—
NOV	—	—	—	—	—	—	—
DEC	—	—	—	—	—	—	—

PREVENTIVE HEALTH SERVICES

	<5	OPD		<5	5-14	F >15	1	ANC 2	3	1	FP Repeat	Cont.	Delivery	
		M 5-14	>15										Clinic	Home
JAN	___	___	___	___	___	___	___	___	___	___	___	___	___	___
FEB	___	___	___	___	___	___	___	___	___	___	___	___	___	___
MAR	___	___	___	___	___	___	___	___	___	___	___	___	___	___
APR	___	___	___	___	___	___	___	___	___	___	___	___	___	___
MAY	___	___	___	___	___	___	___	___	___	___	___	___	___	___
JUN	___	___	___	___	___	___	___	___	___	___	___	___	___	___
JUL	___	___	___	___	___	___	___	___	___	___	___	___	___	___
AUG	___	___	___	___	___	___	___	___	___	___	___	___	___	___
SEP	___	___	___	___	___	___	___	___	___	___	___	___	___	___
OCT	___	___	___	___	___	___	___	___	___	___	___	___	___	___
NOV	___	___	___	___	___	___	___	___	___	___	___	___	___	___
DEC	___	___	___	___	___	___	___	___	___	___	___	___	___	___

HEALTH SERVICE MANAGEMENT ASSESSMENT

Reference No. _____

FORM III-ZONAL AND Woreda HEALTH MANAGEMENT OFFICES

Date: / / (GC) Start time: __: __ End time: __: __

Main interviewee: _____

Function/Position: _____

A. General Information

1. Type of management level: _____
1) ZHB
2) DHO
2. Address of the unit:
Name: _____ Town: _____
P.O. Box: _____ Tel. No.: _____
Woreda: _____ Zone: _____

3. Area covered by this management level (in Sq Km): _____

4. Estimated Catchment population: _____

- Source: _____
- 1) CSA
 - 2) Higher level
 - 3) Estimate
 - 4) Other _____

B. Manpower Resources
those working within the ZHD/DHO OFFICES

1. Total Number of personnel: _____
2. Technical Personnel: _____
3. Administrative personnel: _____

Physical Structure

1. Where is the office located ?

- 1 own building
- 2 council building
- 3 health institution
- 4 rented
- 5 other: _____

2. Are there plans to improve the current physical structure? (y/n) _____

if yes, please describe: _____

Who will finance this?: _____

C. Transport

1. What vehicles are available for the Department office?

Item	Number available	number out of order	How long ? (see code)
- truck	___	___	___
- cars	___	___	___
- motorbike	___	___	___
- bicycle	___	___	___

(How long out of use coded as follows: 1) over a week, 2) over two weeks, 4) over a month, 4) over two months, 5) over three months, 6) over 6 months) 7) more than a yr

2. Describe general use of car(s), if available:

- 1 _____
- 2 _____
- 3 _____

3. Describe general use of Motorbike(s), if available:

- 1 _____
- 2 _____
- 3 _____

4. Are spare parts available ? (y/n)

- in the store: ___
- in town: ___
- at Regional Bureau stores: ___
- at Zonal Department stores: ___
- at the Woreda Office stores: ___

5. Are there funds for maintenance of vehicles? Y N

Planning and Health Management Information

1. Indicate the type of reports and frequency of reporting, which this management unit receives from lower levels:

type of report	frequency of report	office	reporting	Remark
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Frequency: 1) weekly, 2) monthly, 3) quarterly, 4) annually, 5) when necessary)

Total type of reports: ___

2. Indicate the type of reports and frequency of reporting of this management unit to higher levels:

Type of report	frequency of report	receiving office	Remark
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(Frequency: 1) weekly, 2) monthly, 3) quarterly, 4) annually, 5) when necessary)

Total type of reports: ____

3. Who is responsible for data collection and compilation in this unit? _____

4. Who is actually doing it? _____

5. What is done with the compiled information?

- send on to higher levels []
- calculate statistics []
- used for monitoring []
- used for planning []
- transformed into graphics []
- other: _____ []

6. Is there a person trained for compilation and analysis of data? (y/n) ____

If yes, who:

_____, _____, _____, _____.

7. Is there a person trained in the use of information (y/n) If yes, who:

_____, _____, _____, _____.

8. Is there a regional/zonal/woreda health/social sector committee ? Y N

9. How often does the committee meet: _____

10. What health sector issues were raised/discussed during the committee meetings in the last six months?

- 1 _____
- 2 _____
- 3 _____
- 4 _____

11. Is there a health profile of the area available ? (y/n) _____
(Ask for copy and complete the questions below)

If yes, what does it contain ? (y/n)

- Listing of health institutions _____
- coverage figures _____
- manpower data _____
- project descriptions (externally funded) _____
- Map _____
- Plan of action for the current year _____
- other: _____

12. Are the following management tools available/used in the unit:

- work schedule: _____
- performance overview of units/departments: _____
- supervision checklist: _____

E. Training and PHC Service delivery

1. How many CHAs and TBAs were trained in 1994 (1986 EC)? If yes, number _____.

2. How many CHAs and TBAs do you plan to train in 1987 (1995)?

3. What is the source of funds for this training?

4. How many training course have been held in the Woreda/Zone in the past year?

5. List training courses by type:

6. What is the number of Family Planning Service Delivery sites in the Woreda/Zone?

7. What NGOs, religious organizations, agencies are working in the Woreda/Zone? (briefly describe type of project or support).

APPENDIX 9

Appendix 9: Distribution of Health Professionals in Relation to Population of Zones and Special Woredas

Zone/Special Woreda	Population	Med Doctors	Nurses	Health Assistants	Health Assistant Pop Ratio
Sidama	1838727	34	95	314	1:5,856
Gedio	916524	18	38	141	1:6,500
N. Omo	3133895	42	116	499	1:6,280
S. Omo	277016	7	25	108	1:2,565
KAT	1500000	4	13	65	1:23,077
Hadiya	1470717	20	56	119	1:12,359
Guaghe	1244800	9	20	149	1:8,354
Kefecho	685000	4	15	101	1:6,782
Shekicho	126926	5	14	73	1:1,737
Bench	282994	11	33	110	1:2,573
Maji	210000	-	2	27	1:7,778
Burgi (sw)	95297	-	3	8	1:11,912
Amaro (sw)	98416	-	1	10	1:9,842
Konso (sw)	150000	2	4	26	1:57,692
Derashe (sw)	109770	3	3	23	1:4,773
Yem (sw)	159573	-	3	24	1:6,649

APPENDIX 10

Appendix 10: Top Ten Causes of Outpatient Morbidity (1994) SNNPR

Disease	Percent
Malaria	20
Worms	14
Diarrhoea	10
All Skin diseases	9
URTI	7
Gastritis	6
Pneumonia	4
Fever of Unknown Origin	4
Rheumatism	4
Anemia	2