Chapter 7

Human Resources

7. HUMAN RESOURCES

7.1 GENERAL DESCRIPTION

The shortage of appropriately trained staff has always been one of the main constraints in developing adequate health services. Over time, the reasons for staff shortages have varied.

In the past, there were not enough people with adequate general education to meet the entry qualifications for technical and professional training programmes. This is no longer a national problem but there are still parts of the country where sufficient candidates are in short supply. It is the national policy to include students from all parts of the country; but it is difficult to establish uniform minimum acceptable grades for entrants from all regions of the country, and this still creates a number of problems.

There has been a steady development of training facilities, but there is still difficulty in keeping up with demand, and some shortages of facilities and adequately trained staff to run them still exist. The Kenya Medical Training College (KMTC) runs the majority of the training programmes while mission hospitals undertake some nurses training. The Universities and technical colleges train the doctors and other graduate courses e.g. pharmacists and senior nurses.

The demand for staff has increased with the number of health facilities developed, and this has in turn, been caused by rapid population growth. At the peak of the growth rate - 4% per year - it was forecasted that the population would double in 17 years. This means that even to maintain the health worker/population ratio, yet alone improve on it, the number of health workers must also be doubled in 17 years.

A current limiting factor is lack of sufficient funds with which to pay for all the staff required. This has led to a withdrawal of the MoH guarantee of employment on completion of training (although most graduates are taken on within a few months of graduation). There are also a number of qualified nurses, trained in mission programmes, who are surplus to their training hospital requirements and are currently unemployed.

There has recently been an increased loss of trained Kenyan health workers to other African and foreign countries.

There is also a tendency to transfer from the government services to private practice. This is especially the case for doctors and clinical officers

There are approximately 5,000 people employed in the health sector in the five study districts. About half work for the MoH, about one third are in the private sector and the remainder work at an NGO or Mission health facility. These figures do not include those outside the organised health services who are working in community based activities, for

whom no comprehensive figures are available. The fact that about half of all the health workers are outside the MoH emphasises the importance of not limiting any review of the health services in the district to government services only.

Because of all the aforementioned factors that lead to understaffing, and because of a lack of a clear career structure for those employed in District and rural health facilities, the morale of many health workers has fallen and their services are well below their full capacity.

The combination of health staff shortages and the below capacity performance is probably the single most severe constraint on the delivery of an adequate health care service.

7.2 CURRENT DEPLOYMENT OF STAFF

There are no reliable statistics of health workers covering the whole Study Area.

Data were collected from a sample of 37 health facilities that were selected for this study.

Data for the MoH staff were collected from a variety of sources. In no district, except Nyamira, was there a complete record of all staff employed by the MoH. The District Personnel Officers do not have complete up-to-date lists of staff employed in their Districts. When new doctors or clinical officers are appointed to a District, they report to the District Medical Officer who assigns them to a posting. When new nurses arrive they report to the District Chief Nursing Officer and are given their assignments. The personnel officer's records are incomplete and confused. The Provincial Personnel Officer's records are more complete, but there are still serious discrepancies between their figures and those obtained in the sample survey or from MoH headquarters. These have been compared with the figures obtained in 1994 when a direct count was made at all facilities. From all these, sometimes conflicting, estimates on 'adjusted' figure for 1997 has been computed. The rationale for the adjustments made are explained in the DSA Final Report Study No 5 on Human Resources.

Data for the staff employed in NGOs, missions and the private sector are drawn from the report The Health Sector in Kenya: Health Personnel, Facilities, Education and Training (Schwarz, second edition 1996).

7.2.1 Personnel in the Sample Health Facilities

The sample of 37 health facilities selected for the study included 5 hospitals, 16 health centres and 16 dispensaries - drawn from the five districts. The sample was heavily biased in favour of hospitals. For example, 82% of the health personnel in the sample work in hospitals compared to 55% nationally.

Table 7.1 presents a summary of the data on personnel collected from the sample survey.

It should be noted that only 9 out of the 16 health centres studied had even one clinical officer, while 100 were employed in the 5 hospitals. There were only 6 registered nurses

in the health centres. The 16 dispensaries had only 25 enrolled nurses between them - i.e. 1 or 2 each.

7.2.2 MoH Personnel in the Study Area

The MoH staff currently employed in the five Districts of the Study Area are shown in Table 7.2. The staff are grouped into nine major categories:

1) Medical /Dental Officers;
2) Clinical Officers;
3) Nurses;
4) Clinical support (Lab., Pharm., Radio, etc.);
5) Public Health (PHOs, PHTs);
6) Preventive and Promotive (FP., Nut., etc);
7) Administration (Accts., MRO/Ts, etc);
8) Maintenance and Support (Bldg./Ground, Cateress/cook, Driver, etc); and
9) Subordinate staff.

Table 7.1: Summary Table of Personnel in Sample Area

Cadre	Sub-Group	Facility Type						Sub-Total	Total	Percentage
		Hospitals		H/Centres		Dispensaries				
		No.	%	No.	%	No.	%			
Sub-Total: Doctors (DOC)		**26**	**2%**	**1**	**0%**			27	**27**	**1%**
Sub-Total: Clinical Officers (CLO)		**100**	**6%**	**9**	**3%**			109	**109**	**5%**
Nurses (NUR)										
	RNs	91	5%	6	2%			97		
	ENs	438	26%	86	31%	25	27%	549		
Sub-Total: Nurses		**529**	**31%**	**92**	**33%**	**25**	**27%**		**646**	**31%**
Clinical Support (CLS)										
	Lab.	95	6%	19	7%	2	2%	116		
	Phar.	11	1%					11		
	Rad.	19	1%					19		
	Other	50	3%					50		
Sub-Total: Clinical Support		**175**	**10%**	**19**	**7%**	**2**	**2%**		**196**	**9%**
Public Health (PHS)										
	PHOs	14	1%	6	2%	1	1%	21		
	PHTs	95	6%	28	10%	15	16%	138		
Sub-Total: Public Health		***109***	***6%***	***34***	***12%***	***16***	***17%***		***159***	***8%***
Preventive & Promotive (PPP)										
	FP	26	2%	14	5%	3	3%	43		
	Nutrition	29	2%	9	3%	2	2%	40		
	Other	17	1%					17		
Sub-Total: Preventive & Promotive		***72***	***4%***	***23***	***8%***	***5***	***5%***		***100***	***5%***
Administration (ADM)										
	Accts/CLOs	91	5%	27	10%	2	2%	120		
	MRO/Ts	17	1%	2	1%			19		
	Other	39	2%					39		
Sub-Total: Administration		**147**	**9%**	**29**	**10%**	**2**	**2%**		**178**	**9%**
Maintenance Support (MSP)										
	Watchmen	13	1%	10	4%	10	11%	33		
	Hou.,Coo.,Oth.	30	2%			1	1%	31		
	Drivers	39	2%	3	1%			42		
Sub-Total: Maintenance Support		**82**	**5%**	**13**	**5%**	**11**	**12%**		**106**	**5%**
Sub-Total: Subordinate Staff (SBS)		**457**	**27%**	**57**	**21%**	**31**	**34%**	545	**545**	**26%**
Total(All Staff)		**1,697**	**100%**	**277**	**100%**	**92**	**100%**		**2,066**	**100%**
Percentage (All Staff)		**82.1%**		**13.4%**		**4.5%**			**100%**	

Table 7.2: MoH Personnel (1997 Adjusted Figures) in the Study Area

MAJOR CLASSIFICATION and Job Category	Kisii 1997 (Adj.)	Gucha 1997 (Adj.)	Nyamira 1997 (Adj.)*	Kericho 1997 (Adj.)	Bomet 1997 (Adj.)	Total 1997 (Adj.)	Percentage
Medical/Dental Officers							
Medical Officers	10	1	3	6	1	21	
Dental Officers	1	0	0	2	0	3	
Sub-Total: Med./Den.	**11**	**1**	**3**	**8**	**1**	**24**	**1%**
Clinical Officers	**36**	**3**	**18**	**46**	**5**	**108**	**4%**
Nurses	**283**	**36**	**195**	*268*	**94**	**876**	**34%**
Clinical Support							
Laboratory	26	4	25	47	13	115	
Pharmacy	4	1	1	9	3	18	
Radiography	8	0	4	7	1	20	
Other	28	0	11	29	4	72	
Sub-Total: Clinical Support	**66**	**5**	**41**	**92**	**21**	**225**	**9%**
Public Health	**50**	**33**	*75*	*112*	*90*	**360**	**14%**
Preventive & Promotive							
Family Planning	12	6	16	14	14	62	
Nutrition	11	6	12	21	9	59	
Other	8	1	1	3	5	18	
Sub-Total: Preventive & Promotive	**31**	**13**	**29**	*38*	*28*	**139**	**5%**
Administration							
Accts/Clerical	54	6	46	33	7	146	
MRO/Ts	6	2	6	14	5	33	
Other	12	1	16	6	5	40	
Sub-Total: Administration	**72**	**9**	**68**	**53**	**17**	**219**	**8%**
Maintenance & Support							
Bldgs/Grounds	10	3	0	0	0	13	
Cateress/Cook	0	0	3	0	0	3	
Driver	22	2	8	10	6	48	
Other	9	0	8	5	2	24	
Sub-Total: Maintenance & Support	**41**	**5**	**19**	**15**	**8**	**88**	**3%**
Subordinate Staff	**258**	**35**	147	**103**	**29**	**572**	**22%**
Grand Total	**848**	**140**	595	**735**	**293**	**2,611**	**100%**
Percentage	**32%**	**5%**	23%	**28%**	**4%**	**100%**	

The total number of staff employed by the MoH in the five districts is 2,611. Doctors are less than 1% of the total. Clinical Officers are 4%, and nurses, the largest group, 34%

There are more men (60% - 90%) in all cadres of health workers except nursing, where approximately 75% are women.

7.2.3 All Health Personnel - MoH, NGO/mission, Private - in the Five Districts

The data used to estimate personnel in the NGO/Mission and private sectors are from the DSA database produced for a national study on health personnel. The problems and limitations of these data are discussed in The Health Sector in Kenya: Health Personnel, Facilities, Education and Training (Schwarz, second edition 1996).

There are approximately 5,000 people employed in the health sector in the five study districts. The MoH employs 53%; the private sector 30%, and 18% work at an NGO or Mission health facility.

Table 7.3 presents the total data for the five districts. It cannot be disaggregated into the five districts, because the database was established before the division of Kericho and Kisii districts into the current five districts.

Table 7.3: Summary Table - All Health Personnel in the Study Area

MAJOR CLASSIFICATION and Job Category	MOH 1997 (Adj.)	1994 NGO/MIS	1994 PRIV.	TOTAL 1997 (Est.)	Major Category Percentage
Medical/Dental Officers	**24**	**42**	**154**	**220**	**4%**
Clinical Officers	**108**	**8**	**7**	**123**	**2%**
Nurses	**876**	**217**	**414**	**1,507**	**30%**
Clinical Support					
Laboratory	115	37	67	219	
Pharmacy	18	9	38	65	
Radiography	20	6	22	48	
Other	72	0	0	72	
Sub-Total: Clinical Support	**225**	**52**	**128**	**405**	**8%**
Public Health	**360**	**0**	**0**	**360**	**7%**
Preventive & Promotive	**139**	**0**	**0**	**139**	**3%**
Administration	**219**	**68**	**148**	**435**	**9%**
Maintenance & Support	**88**	**168**	**190**	**446**	**9%**
Subordinate Staff	**572**	**321**	**422**	**1,315**	**27%**
Grand Total	**2,611**	**876**	**1,464**	**4,951**	**100%**
Percentage	**53%**	**18%**	**30%**	**100%**	

This table does not include community-based workers contributing to health care. In the sample survey of 37 facilities, 135 community workers - community health workers (CHWs), traditional birth attendants (TBAs), and community-based drug distributors (CBDDs) - were reported as working with eight facilities. Tenwek hospital has an extensive community programme extending from Bomet into neighbouring districts; Kaplong, Litein and Kericho hospitals have trained community health workers; Bomet has a Forum for agencies working with community-based workers; but no comprehensive data were collected for the five districts.

If the possibility of developing a community-based programme is considered, further information will be required on existing support agencies, numbers, distribution, training, supervision, rewards, etc for all health, and health related, community workers.

7.3 HEALTH PERSONNEL ISSUES

The analysis of the staff situation is based on the application of national staffing norms presented in the Health Sector in Kenya: Health Personnel, Facilities, Education and Training (Schwarz 1995/1996). These national norms (which include staff for the MoH headquarters, KMTC, KNH teaching hospital, etc), provide a general guide but need to be adapted to district and regional conditions before detailed human resource planning can be done.

Adaptation is likely to lead to major revision in the number of doctors required and modest declines in the number of nurses and a few other cadres.

Table 7.4 shows the actual numbers and ratios of the major categories of health personnel in 1997, staffing norms, and resources required to meet the norms for the years 1997 and 2005. The right hand column shows the net annual increase for each category that is required to meet the national norms for the year 2005.

This shows the major shortages in all 'Key Health personnel' - doctors, dentists, clinical officers and nurses - some clinical support staff, and public health. The sample survey shows that the shortages are most severe in the rural health facilities.

Table 7.4: Staffing Ratios, Resources and Targets for Years 1997 and 2005

All Health Sector Personnel CATEGORIES and Major Personnel Classifications		Actual Ratios in 1997	Ratios Required to Meet Kenya Norms (per 100 beds) Current Year 1997	Ratios Required to Meet Kenya Norms (per 100 beds) Target Year 2005	Actual Number in 1997	Number Required to Meet Norms for Kenya Current Year 1997	Number Required to Meet Norms for Kenya Target Year 2005	Additional Net Resources Required (Temporary Oversupply) In Year 1997	Additional Net Resources Required (Temporary Oversupply) By the Year 2005	Annual Net Increase Required
Population:					2,559,500	2,559,500	3,307,700			
Number of Hospital Beds:					2,641	2,559	2,977	(82)	336	42
Hospital beds per 1,000 Population:		1.0	1	0.9						
TOTAL KEY HEALTH PERSONNEL (KHP)	Doctors	8	12	13	216	308	413	92	*197*	*25*
	Dentists	0.2	1.6	2	4	41	66	37	*62*	*8*
	Clinical Officers	4.8	9	14	123	222	453	99	*330*	*41*
	Nurses	59	88	93	1,507	2,261	3,089	754	*1,582*	*198*
TOTAL KHP	KHP TOTAL	73	112	123	1,850	2,832	4,021	982	*2,171*	*272*
TOTAL CLINICAL SUPPORT STAFF (CLS)	Laboratory	9	8	9	219	193	309	-26	*90*	*11*
	Pharmacy	3	7	9	65	180	294	115	*229*	*29*
	Radiology	2	2	2	48	53	74	7	*28*	*4*
	Therapy	2	3	3	48	66	93	18	*45*	*6*
	Technology Support	1	2	2	24	39	69	15	*45*	*6*
TOTAL CLS	CLS TOTAL	17	22	25	404	531	839	129	*437*	*56*
PUBLIC HEALTH & PREVENTIVE/PROMOTIVE	PHO/PHT	14.1	16	22	360	410	728	50	368	46
	Nut., FP, H. ed, etc.	3.6	6	7	139	144	219	52	127	16
TOTAL PH & P/P	PH & P/P TOTAL	18	22	29	499	554	947	102	495	62
TOTAL ADMINISTRATION and SUPPORT	Administration	17	22	29	435	555	744	120	309	*39*
	Maint. & Support	17	19	24	446	475	625	20	170	*21*
	Subordinate Staff	51	91	98	1,316	2,324	2,501	1,008	1,185	*148*
TOTAL AMS	AMS TOTAL	85	132	151	2,197	3,354	3,870	1,148	1,664	*208*
*TOTAL Staff**					4,950			2,361	4,767	*598*

*Note: The total of Inpatient and Outpatient is 50 less than the total for all personnel. This is due to rounding of figures in various parts of the working spreadsheets.

7.3.1 Personnel for Hospital Inpatient Services

The staffing norms for hospital inpatient services are based on the personnel required for 100 beds. These targets were set in collaboration with the MoH as part of the Health Sector in Kenya Study. The planning assumption is that 0.9 hospital beds per 1,000 population are adequate to meet the needs of the Kenyan population.

Table 7.5 shows the hospital beds available in the five districts. With an estimated population of 2.6 million, the total 2,461 meets the required ratio for 1997 and an additional 336 will be required by the year 2005.

Table 7.6 outlines the current situation in regard to personnel for hospital-based inpatient services and future requirements. Other hospital-based staff provide services for outpatients and will be considered below.

It should be noted again that the staffing norms used, especially for doctors 4.4 per 100 beds, might be high for district services. There is a shortfall of 10 clinical officers and 229 nurses. There is an excess of laboratory staff.

The overall shortage of all cadres for hospital inpatient services is 313 out of 3,032 (2,729 + 313) i.e. 11%.

Table 7.5: Hospitals and Hospital beds in the Study Area

CODE	HEALTH FACILITY	TYPE	AGENCY	DISTRICT	DIVISION	TOWN	BEDS		COTS	MOH TOTAL
							GEN.	MAT		
KISII DISTRICT										
1265	Kisii District Hosp.	HOS	MOH	Kisii	Kisii Municipal	Kisii	248			248
1266	Tabaka Mission Hosp.	HOS	NGO	Kisii	Bosongo	Tabaka Mkt.	300			300
1264	Christ	HOS	PRI	Kisii		Kisii	220		10	230
Sub-Total: Kisii District		3					768	0	10	778
NYAMIRA DISTRICT										
	ST. Joseph's Hosp.Nyansiongo	HOS	PRI	Nyamira		Sotik	52			52
1512	Nyamira District Hosp.	HOS	MOH	Nyamira	Nyamira	Nyamira	250			250
Sub-Total: Nyamira District		2					302	0	0	302
KERICHO DISTRICT										
1666	Kipchimchim Miss. Hosp.	HOS	NGO	Kericho	Belgut	Kericho	60			60
1674	St.Francis Hosp. (Ker.)	HOS	PRI	Kericho	Kipkelion	Kipkelion	40			40
1676	Central Brook Bond Hosp.	HOS	PRIL	Kericho	Belgut	Kericho	67			67
1677	Chemugundai Hopt.	HOS	MOH	Kericho	Belgut	Kericho	76		14	90
1680	Kericho Dist. Hosp.	HOS	MOH	Kericho	Belgut	Kericho Town	260			260
1681	Litein (AIC) HOSP.	HOS	NGO	Kericho	Buret	Litein	69			69
1682	Londiani Sub-Dist. Hosp.	HOS	MOH	Kericho	Londiani	Londiani	39	10	1	50
3448	St. Leonard Hosp.	HOS	PRI	Kericho	Belgut	Belgut	124			124
6176	Kapkatet Sub. D. Hosp.	HOS	MOH	Kericho	Buret	Kapkatet	124	16	16	156
Sub-Total: Kericho District		9					859	26	31	916
BOMET DISTRICT										
1624	Longisa Hosp*.	HOS	MOH	Bomet	Longisa	Longisa				0
	Tenwek (AGC) Hosp.	HOS	PRI	Bomet			299		50	349
1679	Kaplong Catholic Hosp.	HOS	NGO	Bomet	Konoin	Sotik	220		51	271
Sub-Total: Bomet District		3					519	0	101	620
GUCHA DISTRICT										
1261	Gucha District Hosp**.	HOS	MOH	Gucha	Ogembo	Ogembo	25			25
Sub-Total:Gucha District		1					25	0	0	25
Grand Total		18					2,473	26	142	2,641

NOTE:

*Longisa Hospital: Buildings and other physical facilities for 100 beds are present. Constraints to operation are water, staff & suppliers.

** Gucha District Hospital: Ogembo H/C now has 25 beds & is planned to be upgraded to a hospital with 100 beds

Table 7.6: Staffing Norms and Targets for Hospital Inpatient Services

Hospital Inpatient CATEGORIES and Major Personnel Classifications		Actual Ratios in 1997	Ratios Required to Meet Kenya Norms (per 100 beds) Current Year 1997	Ratios Required to Meet Kenya Norms (per 100 beds) Target Year 2005	Actual Number in 1997	Number Required to Meet Norms for Kenya Current Year 1997	Number Required to Meet Norms for Kenya Target Year 2005	Additional Net Resources Required (Temporary Oversupply) In Year 1997	Additional Net Resources Required (Temporary Oversupply) By the Year 2005	Annual Net Increase Required
Population:					2,559,500	2,559,500	3,307,700			
Number of Hospital Beds:					2,641	2,559	2,977	*(82)*	336	42
Hospital Beds per 1,000 population:		1.0	1.0	0.9						
KEY HEALTH PERSONNEL	Doctors	**3.5**	4.4	5	**92**	116	149	25	*57*	*7*
	Clinical Officers	**1.7**	2.1	3	**45**	55	89	10	*44*	*6*
	Nurses	**33.3**	42	46	**880**	1,109	1,369	229	*489*	*61*
CLINICAL SUPPORT STAFF	Laboratory	**3.0**	1.5	1.5	**79**	40	45	-39	*-34*	*-4*
	Pharmacy	**0.7**	1	1	**20**	26	30	7	*10*	*1*
	Radiology	**1.7**	2	2.5	**46**	53	74	7	*28*	*4*
	Therapy	**1.5**	1.5	2	**40**	40	60	0	*20*	*2*
	Technology Support	**0.7**	1	1.2	**18**	26	36	8	*18*	*2*
PREVENTIVE/PROMOTIVE	Nut., FP, Head, etc.	**11.0**	0.6	1.25	**30**	16	37	-14	*7*	*15*
ADMINISTRATION MAINTENANCE and SUPPORT	Administration	**12.5**	12	14	**330**	317	417	-13	*87*	*11*
	Maint. & Support	**10.1**	11	13	**267**	291	387	24	*120*	*15*
	Subordinate Staff	**33.4**	36	41	**882**	951	1,221	69	*339*	*42*
TOTAL Staff					**2,729**			**313**	*1,185*	*162*

7.3.2 Personnel for Outpatient and Community Services

The staffing norms for outpatient and community care are based on the estimated needs for 100,000 population. The outpatient services of hospitals are included with the services provided in health centres and dispensaries. For these calculations it is taken that 15% of hospital staff time is spent on outpatient care.

Table 7.7 shows the personnel required for 1997 and for 2005 together with the net annual increase required.

The table shows that there is a current deficit of 88 clinical officers, 525 nurses and 108 pharmaceutical personnel. The deficit of 68 doctors, based on a national norm, is as indicated previously, high for rural districts.

The overall shortage of all cadres for outpatient and community services is 2,059 out of 4,232 i.e. 48%. This deficit is much greater than for the hospital inpatient services (11%). It is unlikely that the annual increases required to bring the numbers up to the national norms can be met in the near future.

Table 7.7: Staffing Norms for Outpatient Services (All Health Facilities) and Community Professional Personnel

Out-Patient Facilities and Community-Based Professionals (hospital outpatient, H/C, dispensaries, clinics) CATEGORIES and Major Personnel Classifications		Actual Ration in 1997	Ratios Required to Meet Kenya Norms (per 100,000 pop.) Current Year 1997	Target Year 2005	Actual Number in 1997	Number Required to Meet Norms for Kenya Current Year 1997	Target Year 2005	Additional Net Resources Required (Temporary Oversupply) In Year 1997	By the Year 2005	Annual Net Increase Required
Population:					2,559,500	2,559,500	3,307,700			
KEY HEALTH PERSONNEL	Doctors	**4.9**	7.5	8	**124**	192	265	68	*140*	*18*
	Dentists	**0.2**	1.6	2	**4**	41	66	37	*62*	*8*
	Clinical Officers	**3.0**	6.5	11	**78**	166	364	88	*286*	*36*
	Nurses	**24.5**	45	52	**627**	1,152	1,720	*525*	*1,093*	*137*
CLINICAL SUPPORT STAFF	Laboratory	**5.5**	6.0	8	**140**	154	265	14	*125*	*16*
	Pharmacy	**1.8**	6.0	8	**46**	154	265	108	*219*	*27*
	Radiology	**0.0**d in Inpatient								
	Therapy	**0.3**	1.0	1	**8**	26	33	18	*25*	*3*
	Technology Support	**0.2**	0.5	1	**6**	13	33	7	*27*	*3*
PUBLIC HEALTH & PREVENTIVE/PROMOTIVE	PHO/PHT	**14.1**	16	22	**360**	410	728	50	*368*	*46*
	Nut., FP, Head, etc.	**24**	5	5.5	**62**	128	182	66	*120*	*15*
ADMINISTRATION MAINTENANCE and SUPPORT	Administration	**4.0**	9	11	**105**	238	327	133	*222*	*28*
	Maint. & Support	**6.8**	7	8	**179**	185	238	6	*59*	*7*
	Subordinate Staff	**16.4**	52	43	**434**	1,373	1,280	939	*846*	*106*
TOTAL Staff					**2,173**			**2,059**	*3,592*	*450*

7.3.3 Summary of Staff Shortages

The suitability of applying these staffing norms, established on a national basis, to the Study Area is questionable, and further analysis is required to establish more appropriate norms for district health services. However, they do give an indication of the severity of the shortages. For example, Table 4 shows that the additional key health personnel (doctors, dentists, clinical officers, and nurses) required now in 1997 is 982 i.e. approximately a half more than the 1,850 currently present.

It can already be seen that the facilities most seriously affected by the shortages of staff are the health centres and dispensaries. Only half the health centres have even one Clinical Officer. The average number of ECNs per dispensary is less than two. These figures are based on the numbers of staff actually posted to each facility. However, there is also a high level of absenteeism, so the numbers of staff working at any given time is often less than appears from the figures. Patient care was sometimes seen to be administered by unqualified staff due to the unavailability of trained staff.

The District hospitals are also understaffed, and are particularly short of senior staff. The relative excess of clinical officers are doing the work that should be done by doctors, and are consequently not available for the Health centres.

The severe shortage of nurses leads to nursing duties being undertaken by untrained ward staff.
Apart from shortage of professional staff there is also an acute shortage of artisans for maintenance work, leading to a steady deterioration of the buildings and services.

7.4 PROFESSIONAL EDUCATION AND TRAINING

As previously stated the responsibility for selection of the majority of student health workers and their basic professional training lies with the MoH headquarters. This responsibility is delegated to the Kenya Medical Training Centre (KMTC), currently being transformed to a parastatal organisation. This institution is responsible for the training of 70% of all health professionals. Doctors and other senior level staff are trained in the universities and technical colleges and some mission hospitals train nurses.

7.4.1 Basic Professional Education

An excellent summary of the national basic professional education programmes for health workers is given in the DSA Final Report Study 5 Human Resources. This describes the types and locations of all the KMTC programmes.

One of the 25 KMTC campuses, which trains Kenya Enrolled Community Nurses, is in Kisii. This school is situated, on its own compound, near the Kisii District Hospital. It has ten tutors and an annual intake of 30 students, and an output, after two and a half years, of 20 KECNs. The school has a classroom for 20 students, good equipment and teaching aids, and a small well-stocked library. There is good residential accommodation for 96

students in single rooms. Practical nursing is done in the Kisii hospital and study of community health at two Rural Health Demonstration Units at Marani and Nduru. The management of the school comes directly under the MTC and not the DHMT.

There are also two mission hospitals in Bomet - Tenwek and Kaplong - now training Kenya Registered Community Nurses. A summary of the training facilities in the Study Area is given in Table 8.

Table 7.8 Training Institutions in the Study Area

Name of Institution	Sector	Programmes
MTC Kisii	Gok	Enrolled Community Health Nursing Certificate (2.1/2 years)
Tenwek School of Nursing	Mission	Enrolled Community Health Nursing Certificate (2.1/2 years); Community Health Workers
Kaplong School of Nursing	Mission	Kenya Registered Community Health Nursing Basic Diploma (3.1/2 years)
Chulaimbo Rural Health Training Centre (RHTC) (just outside the Study Area in Kisumu District)	Gok	Community Health Experience for: KRCHNs from Kisumu MTC (4 - 6 weeks) Clinical Officers from Nairobi, Nakuru & Mombasa (6 - 8 weeks)
Nduru RHDC	Gok	Community Health Experience for ECHN from MTC Kisii (4 - 6 weeks)
Marani RHDC	Gok	Community Health Experience for ECHN from MTC Kisii (4 - 6 weeks)

The District Health authorities have, currently, no control over the recruitment, training or deployment of staff to the District. This situation will change when Kenya's Health Policy Framework of decentralisation occurs. (This may have been accelerated as a result of the recent strike of nurses and laboratory staff). However, once staff have been sent to the District, it is up to the District authorities to deploy them within the various district health facilities, and to ensure that they work to the capacity their skills, and the facilities and supplies provided. This requires proper supervision, guidance and continuing education.

7.4.2 Continuing Education

During the past 30 years increasing attention has been given to continuing education by the MoH, NGOs, and donor agencies. In 1983, supported by the Swedish International Development Agency a National Continuing Education Programme was started in the MoH. The broad objectives of the National programme are aimed at improving the health status of the Kenyan population in rural areas, with special emphasis on women and children. A new cadre of District Continuing Education Officers (DCEOs) has been created and posted to the 22 districts in which the national programme has been started. The strategy is to conduct short courses for technical upgrading of health sector staff at all levels.

Other components include:
training seminars on management and PHC;
development of libraries in health facilities; and
development of health learning materials.

Kericho is the only district in the Study Area included in the 22 districts.

The critical role of continuing education is recognised in Kenya's Health Policy Framework (1994). It recommends decentralisation of CE to the districts. Elements of the strategies to be used include: 'continuing education units with full time staff in each district. A core programme based upon the epidemiological data and other assessments of training needs; adaptation of the core programme to local conditions; ongoing monitoring and performance based assessments.'

The National programme has begun but has so far made only limited progress. No National Master Plan for CE has yet been produced and current district CE programmes are still dominated by the dictates of the national vertical programmes - KEPI, MCH/FP, CDD, ARI, etc. We were told that the same people attend these seminars, and most staff from the rural facilities do not have an opportunity to go.

There is no planned programme of continuing education for all staff in any of the Districts, and those in the rural health facilities are the most neglected. The proportion of staff, in the facilities sampled, who have attended any CE in the last two years is shown in Fig. 1.

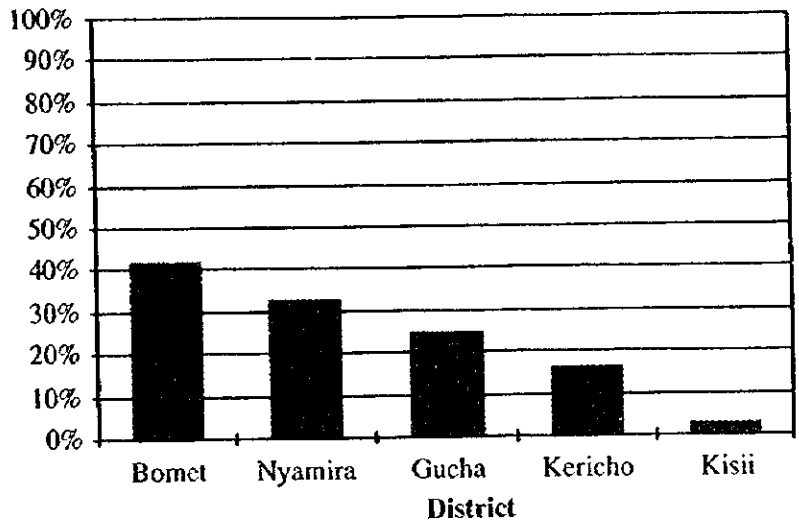

Figure 7.1. Staff Participation in Continuing Education

7.4.3 Supervision

Supervision plays an important role in the management of the rural health facilities. It also provides a critical method of assessing the overall needs for CE and determining the

content of programmes. Effective supervision, with time spent on guidance, is indeed part of continuing education.

Currently the lack of transport hinders the effective management and supervision of the rural health facilities. DHMT members are not able to go out on regular supervisory visits due to lack of either transport or fuel, or to broken down vehicles. The delivery of gas cylinders (for refrigerators) and drug kits is somewhat irregular, and the number of units that have to be visited on one trip limits the time available at any one unit, thus prohibiting effective supervision. Checklists for supervisory visits are not used and records are incomplete.

One health centre visited, with a DPHN, had not been visited for four months and the DHMT were unaware that the ward was closed and the newly delivered mattresses were all in a store. This health centre (recently designated as a sub-District hospital) was clearly not relieving the overcrowding of the District hospital, which was even unaware of its non-functioning state.

7.5 CONTRIBUTORY FACTORS TO PROBLEMS WITH HUMAN RESOURCES

It is clear that the health care provided in the Districts falls short of what is needed. Though no quantitative assessment was undertaken, experienced practitioners observed that clinical histories and physical examination were seldom undertaken and multiple prescriptions were the rule.

An indirect assessment of quality of care in many of the rural facilities is afforded by the relatively small numbers of patients attending and the large numbers that bypass them and go straight to the overcrowded District hospital.

There have never been sufficient numbers of staff and the difficulties with training enough to make up the shortage has been made more difficult by the very rapid rate of population growth.

The salaries of health workers, like most civil servants, has not kept pace with the levels of inflation. A recent survey (Price Waterhouse) indicated that, on average, doctors, pharmacists, nurses and laboratory technologists in the private sector received between two and four times the remuneration (salary and benefits) of those in the public sector. This has led to increasing dissatisfaction - culminating in the current strike of the nurses, with other cadres of health workers supporting them.

Frustration has also followed the shortage of funds for the health service. Professionals complain that they have not gotten the necessary equipment and supplies to undertake satisfying work. This has resulted in large numbers immigrating to southern Africa where terms of service are more favourable.

The requirements of the structural adjustment plans (SAPs), demanded by the World Bank and IMF, have provided both opportunities for early retirement and the reduction of numbers of subordinate staff.

The overall economic situation of the health service, as well as the country as a whole, has made it impossible to hire more staff, even when they are already trained and currently unemployed - e.g. nurses trained in mission hospitals.

7.6 CURRENT REMEDIES

The reorganisation of the Ministry of Health, undertaken as part of the Health Service Reform, has created a Human Resource Planning and Development Department. The Department, together with consultants, is conducting a staff analysis, developing staffing norms, identifying staffing needs, and aiming at producing a Master Plan for Human Resource Development and Management by the end of 1998.

Recently a review of the health staff led to an adjustment of intake for various training programmes - e.g. the intake for clinical officers was increased. The first increased output is due shortly. It is to be hoped that most of these new COs will be posted to the rural facilities where they are in such short supply.

The lack of funds for continuing education is being assisted from District cost-sharing funds. However, these are not sufficient to meet the many needs. For example, a District wanted to have a two-day seminar for key members of the newly appointed Health Centre Management Boards. The estimated cost of holding the meeting in a local hotel was Kshs 75,000/-. This was not accepted by the District and the board members remain deprived of the necessary orientation and training.

The creation of the cadre of District Continuing Education Officers (DCEOs) is an important step, but as yet not all Districts have one and their activities are still not determined and funded.

The details of the decentralisation plans and how they will affect the deployment of District staff have not yet been finalised. They are likely to have a profound effect.

7.7 PLANNING VISIONS

7.7.1 Strengthening Health Management in the District

Management at the district level has always been weak.

The Health Policy Framework (1994) calls for decentralisation of many management and administrative functions, currently undertaken by the MoH headquarters, to the district. This will increase the need for management capability in the districts.

Already District Hospital Management Boards have been established, and they are required, among other duties, to oversee the collection, control and disbursement of cost-sharing activities. Facility Management Boards/Committees are being established for health centres and dispensaries. Communities in some areas have established Village Health Committees. In addition to these new community/public responsibilities the role of professional/technical management is increasing - particularly the role of the District Health Management Teams (DHMTs).

To meet these increasing needs for management throughout the districts further training and continuing support is required. Occasional intermittent short courses for isolated members of staff, given by visiting consultants, have not produced the necessary improvement.

The establishment of an appropriate local health management training facility should be considered. This should be associated with facilities required for technical continuing education.

7.7.2 Upgrading of Supervision of Rural Facilities and Development of a Continuing Education Programme.

It is clear that though many rural health facilities need maintenance and rehabilitation, staff housing, renewed and improved equipment, additional staff, and a regular supply of drugs, the underlying problem lies with the existing staff. Many are demoralised and providing a low level of professional knowledge, skill and behaviour.

Reorientation, remotivation, guidance and support for the rural health facilities cannot be instituted as a single intervention, but these are probably the most critical inputs if better quality health services are to be provided.

It is also generally agreed - and is spelled out in the Kenya Health Policy Framework - that without improvement of the service provided in Health Centres and Dispensaries, District Hospitals, even if upgraded, will never be able to cope with the demand on them.

While the recruitment and basic training of health staff is currently a MoH headquarter's function, the responsibility for management and continuing education of staff lies with the District.

It is not proposed to introduce new procedures. For sustainability it is important to build on what is there rather than introduce something new that may fail when support is withdrawn. An infrastructure for the health service does exist even if parts of it are very run down. What is proposed is **a radical upgrading of the standard supervisory visits and increased opportunities for appropriate continuing education, for all rural health facilities.**

Regular visiting for guidance and support must be provided for all rural health facilities. This should be done by the DPHN and DPHO regularly, and by the DMOH and other members of the DHMT from time to time. The visits should allow time for observation and guidance of activities as well as the use of a supervisory checklist, for follow-up and proper recording of information.

These visits need to be supported by regular in-service training workshops (refresher courses) within the district, opportunities and encouragement for distance learning and use of library facilities.

It should be noted that the continuing education proposed here is required to refresh and develop staff competence in the fields where supervisory visits have shown inadequacies. This will include management and general clinical skills. Run properly, these District workshops do more than just increase knowledge and skill. They can motivate a more cooperative team spirit, and sort out many minor management problems.

These regular workshops, run mainly by the DHMT staff, should be supplemented - not substituted - by more specialised training provided by the 'vertical' programmes e.g. KEPI, FP, STI/AIDS etc, or what follows them after decentralisation.

To implement such a programme requires continued development of the supervisory and management skills of the DHMT (see above 7.7.1) and the presence of someone on the DHMT with appropriate training in educational methods. The post of District Continuing Education Officer (DCEO) has already been created in some districts.

Availability of sufficient transport is another essential ingredient of adequate supervision. At the moment it would appear that an additional vehicle would be required for this purpose.

At the moment there are no specific health training facilities available. Each district has used hotels, mission centres, or various technical training centres for the few courses that have been held. These are not really appropriate and are often considerably more expensive than a purpose-designed facility. One or two Continuing Education Centres, along the lines of the Rural Health Training Centres, for the five Districts of the Study Area should be considered. Basing such a facility on a well functioning health centre may be more appropriate than establishing it in a town at the district hospital. Such centres should be autonomous, with their own management boards and financial control. The possibility of contracting out the management of such centres to an NGO should also be considered. The facilities could be hired out to other government or private organisations when not in use and thus assist in generating revenue for the centre.

Another critical resource for continuing education are the funds for travel, accommodation, food, and learning materials. Some funds may come from the cost-sharing budget, but for the time being these are insufficient. The possibility of an external matching fund, until local revenues increase, should be considered.

Sufficient professional expertise is required to ensure the proper functioning of such a centre. The back up of DCEOs with a full-time health/medical educator would assist in establishing the centre.

7.7.3 Development of Community-based Health Care

Whenever people cannot get access to health care provided by others, they develop some sort of care on their own. Traditional practitioners and birth attendants have always been there and more recently communities, guided by health workers, have established systems of training and supervising their own representatives - Community Health Workers (CHWs) - to provide basic health care.

The Health Sector Reform 'recognises the need to mobilise the community and provide it with a real stake in the health service provision'. The proposed organisation structure provides for the evolution of an institutional framework for this participation.

Recognition of the fact that there are, and for a long time will continue to be, a shortage of staff for the rural health facilities, emphasises the importance of developing community-based health services..

Within the Study Area a number of community-based health programmes have been initiated. In Kisii the IFAD programme (primarily concerned with improving nutrition, but also involved with health care) has been running for seven years. The best established and most extensive community health programme is that organised by Tenwek hospital. Kericho, Kaplong and Litein hospitals have also started programmes. In other areas the Bamako initiative established community pharmacies. A Forum to help coordinate community-based programmes has been established in Bomet.

Developing an 'enabling environment' and providing the appropriate support to community initiatives is not easy. To assist and coordinate existing community activities an interdisciplinary Community-based Core Support Team could be established. At first it should collect information on all the relevant activities in the five districts. It could facilitate the development of appropriate community structures. When communities are ready it could assist in the orientation and training of various community-based workers - community health workers, traditional birth attendants, community drug distributors, local environmental artisans, etc

For such training appropriate curricula and learning materials would have to be collected and/or developed. Some of this training is best undertaken in villages or at the nearest health centre or dispensary. However, some training-of-trainers could be done in the same facilities established for the continuing education programme.

7.8 SUMMARY OF PLANNING VISIONS FOR HUMAN RESOURCES

The Development Study has indicated many shortcomings in the district health services - in funds, programmes, facilities, equipment and human resources. A number of solutions are proposed. Most of these contain a critical element of human resource development - management training for senior staff, further technical training for professional service providers, and basic training for community workers.

It is sometimes assumed that if the physical resources are provided the human resources will somehow develop and catch up. Experience shows that this haphazard approach to development frequently fails and potentially successful programmes founder on lack of sufficient attention to the planned development of human resources.

This is the basis for the three 'planning visions' presented above. They are not separate, isolated visions but fit into a comprehensive proposal for planned development of human resources at all levels.

A training (human resource development) centre that provided a facility for on-going management training, technical training and community development, and a base for the technical expertise necessary to get the programme established could turn out to be the critical input that led towards the overall goal.

Chapter 8

Health Services

8. HEALTH SERVICES

8.1 GENERAL DESCRIPTION

In every district, there are three strata of public health facilities which ought to be functionally linked and/or related with each other through a referral and supervision system: dispensaries, health centres and a district hospital. Ideally, each type of facility should have different functions so that the referral system will work efficiently and cost effectively.

In a district there usually is a governmental District General Hospital which is the central referral hospital for the district, except in Bomet where mission hospitals actually play the role of central referral hospitals, and in Gucha which was created in July 1997 and does not have district hospital yet. They usually accept all kinds of outpatients and inpatients with and without referral letters, as well as patients who need preventive/promotive health services such as immunisation, MCH/FP, health education, etc. Only a few patients with rare diseases, which need very special treatment and/or a specialist, will be referred to provincial or national hospitals.

The capacity of the district hospitals differs from district to district. In Gucha where there is no district hospital, Ogembo Health Centre will be upgraded to the level of a sub-district hospital. Bomet District Hospital at Longisa offers only outpatient services. The other three districts, Kericho, Kisii and Nyamira have hospitals in a fully operational status. Kisii is more privileged than others as it has consultants in the four major disciplines of medicine, internal medicine, surgery, paediatrics, obstetrics and gynaecology. The only medical specialist at Kericho District Hospital is a gynaecologist-obstetrician who is also the Medical Superintendent. At Nyamira District Hospital there are two expatriate doctors and one local doctor who is also the DMOH. The two expatriates cannot perform surgical procedures, and the DMOH can do only emergency surgeries including caesarean sections. Other major surgical cases as well as emergency cases including caesarean sections in his absence have to be referred to Kisii District Hospital.

Health centres should be able to offer basic curative, preventive and promotive services. They should have inpatient services for normal deliveries and acutely-ill patients who need inpatient care for a certain period. According to the *Definition and Categorisation of Health Facilities in Kenya*, health centres are supposed to observe the patients less than 12 hours. In practice, the patients are admitted up to 2-3 days or sometimes even longer where inpatient services are available.

The study team conducted a facility survey visiting 38 facilities out of a total of 311 health facilities in the Study Area. Out of the 17 H/Cs visited only 11 (59%) provided inpatient care and 13 (65%) could take care of normal deliveries (Table 8.1). On an out-patient basis most H/Cs offer basic curative services for common diseases and minor surgical

problems, immunisation, FP, antenatal care and growth monitoring services. The responsibility for home visits is shifting from the nurses to the nutrition field workers, primary health technicians (PHTs) and community health workers (CHWs), due to a shortage of trained nurses in the facilities.

The dispensaries offer outpatient curative services for common diseases and minor surgical problems. The availability of preventive services depends upon the availability of staff, equipment and supplies.

Table 8.1 Health Service offered at each facility type: N=38

Service		Facility Type					
Type	Sub Group	Hospital	Health Centrres	Dispensaries	Sub-Total	Total	Percentage
Number of facilities		6	17	16	38	38	
Inpatients							
General		4	11	1	16	16	42%
Deliveries							
	Normal	4	13	1	18		
	Caesarean	4	1	0	5		
Sub Total Diliveries						23	61%
Outpatient							
General		5	17	16	38	38	100%
STD		5	15	13	33	33	87%
KEPI		5	17	11	33	33	87%
FP		5	17	11	32	32	84%
CDD		5	17	8	22	22	58%
Ante-Natal		5	9	10	32	32	84%
Growth Monitoring		5	17	9	31	31	82%
Nutrition Ed.		5	14	8	27	27	71%
AIDS Ed.		5	13	7	25	25	66%
Home Visits		0	10	5	15	15	39%

Source: JICA Study 1997 October

In general, the quality of health services provided by the government is poorer than by the private sector. One of the well known and very critical points is the shortage of drug supply, probably because of the problems of logistics and leakage. Another is the morale of the workers at health facilities. The reasons may be related to a number of tangible and intangible constraints, such as inadequate human resources, inadequate equipment and facilities, weak logistics, low salary of workers in the health sector, an overly centralised management system and other factors, most of which are discussed independently in other chapters. However, those problems do not exist independently, but are intricately intertwined each other.

As a result, the quality of health service provided, especially at lower levels, is poor and patients by-pass the lower level of health facilities, thus resulting in congestion of hospitals, which in turn further deteriorates the quality of health services they provide. In such a condition the referral system is not working properly in terms of both bottom-up and top-down flow of patients, and the entire health service delivery system can collapse.

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To avoid the worst case, it is important to improve the quality of health services provided, especially at lower levels, including community level. In spite of the current national policy of Health Sector Reform, which emphasises decentralisation, and the idea of Primary Health Care (PHC), it is very difficult to provide health services directly to communities along with promotion of community participation and needs assessment in every community.

For example, even if there is staff deployed for prevention, community education and supervision at the district level, the appropriation of budget necessary for such outreach activity is too limited for them to perform their duties satisfactorily ("2nd Welfare Monitoring Survey", 1994). Some vertical programmes such as KEPI are functioning independently, having little integration with other preventive activities.

On the other hand, a notably good relationship between the dispensary and the community can be seen in a few communities where the Bamako Initiative Scheme has been implemented. Under this scheme, the community health committee was organised, and community health workers were selected by the committee, and trained with funds raised by the committee. The dispensary was often built and run by a community itself, with a revolving drug fund.

Table 8.2 shows the number of total consultations in the OPDs of district hospitals and RHFs using conversion of reporting rate (refer to Table 5.6 of Chapter 5). There were about more than 2.3 million visits in the Study Area or every resident visited a facility approximately once per year.

Table 8.2 Estimated Utilization of Basic Health Service

		Kericho	Bomet	Nyamira	Kisii	Gcha	Total
DH	No. of case	N.A.	915	41,432	63,753	N.A.	
	Reporting Rate	N.A.	75%	83%	83%	N.A.	
	Estimated NoC	N.A.	1,220	49,718	76,504		127,442
H/C, DSP	No. of case	N.A.	253.288	58.5-5	199.939	158.925	
	Reporting Rate	22.2%	48.4%	7.5%	37.7%	43.6%	
	Estimated NoC	N.A.	523,300	766,733	500,897	361,984	2,152,913
DH+H/C, DSP			524,520	816,452	577,400	361,984	2,280,355
Average Visit per Year		N.A.	0.9%	1.4%	1.2%	0.8%	

Source: JICA Study Team, October 1998

8.2 QUALITY OF SERVICE AND ITS RELATED FACTORS

8.2.1 Dispensary Level

The quality of health services at the dispensary level depends highly on personality of the health staff. In some dispensaries, it was often observed that no qualified staff was at post during working time. This may be a matter of motivation, ethics, education and supervision. Other reasons have already been mentioned.

A shortage of staff is chronic at the dispensary level. The MoH can staff them with only one nurse or none. Only one nurse cannot get into the community for extended health services, including health education and promotion, without any support. There were some cases in which even though a community built its own dispensary with its funds raised through "Harambee", MoH could not staff it at all, so alternatively would dispatch an unqualified staff, often resulting in poor services.

More details are given in Table 8.3 on curative services for common diseases and some preventive services provided at 7 dispensaries surveyed.

Most dispensaries stock chloroquine as first-line medicine for malaria under the MSCU policy. As chloroquine-resistant malaria seems to have spread, this may be one cause of the significant increase of malaria in patients and mortality during the past two years. At the same time about half the dispensaries have anti-malaria drugs including quinine and other oral tablets. On the other hand chloroquine injection is overused because of the preference of the patients. Recently the guidelines for diagnosis, treatment and prevention of malaria have changed. Distribution of the guidelines and education for health personnel will occur soon.

It is difficult and may be impossible to make definite diagnosis of malaria and to distinguish other febrile diseases from malaria at dispensary level where no microscopic examination is available. More discussion is needed about whether dispensaries should be provided with microscopy, which enables more accurate diagnosis of malaria, in terms of finance, human resources, and maintenance. However, the quality of service in this aspect can be improved through introduction of proper guidelines for diagnosis of malaria without microscopy, and other diseases such as ARI and pneumonia, and also through observation of the severity of patients' status so that proper referral can be arranged. In reality, only half of the dispensaries use the guidelines for diagnosis of ARI. This can lead to misdiagnosis of upper respiratory tract infection (URI) and pneumonia, and also misuse of antibiotics.

According to our survey about details of health services, all dispensaries (7 dispensaries) provided instruction on use of ORS, which contributed to lower the case-mortality rate of diarrhoea. Other basic health services in which dispensaries can play an important role are preventive measures, such as antenatal care, family planning, growth monitoring and immunisation. Antenatal care was available at 5 dispensaries out of 7, family planning and immunisation at 4 dispensaries, and growth monitoring at 3 dispensaries. It is suspected that possibly 30 to 60 % of all dispensaries do not provide those basic preventive health services.

Table 8.3 Health Services at Dispensaries (N=7)

Health services at Dispensary	A	B	C	D	E	F	G
Anti-malaria, chloroquine	O	O	O	O	O	O	O
quinine			O	O			O
other drugs						O	O
Guideline of diagnosis of ARI	O	O				O	O
Any laboratory work			O(a)			O(b)	O(c)
Minor surgery	O		O	O	O	O	O
ORS	O	O	O	O	O	O	O
Iron Supplement	O	O		O	O	O	O
Growth Monitoring		O				O	O
Immunisation	O	O				O	O
Antenatal Care	O	O	O			O	O
Family Planning	O	O				O	O

Source: JICA Study Team 1997
(a) urine analysis
(b) haemoglobin, haematocrit, urine analysis
(c) malaria blood smear, stool analysis, Haemoglobin, haematocrit, urine analysis, AFB

Although iron supplement was available at most dispensaries (at 6 out of 7), the number of adults or children covered by this service was not found. Growth monitoring usually does not include measurement of height, probably because of lack of an instrument, and assessment of development was done only at one dispensary. Immunisation may not be effective where cold chain is a problem, especially at peripheral level. Antenatal care was available at 5 dispensaries, the care includes measurement of weight, blood pressure, foetal heart rate. Urinalysis is available at 3 dispensaries. Family planning services include provision of condoms, oral contraceptive pills (OCP), and injection of Depo Provera. Only one dispensary provided intrauterine device (IUD).

The range of health services provided at dispensaries varies from one to another. In Table 8.2, the dispensary F and G are seen to provide most basic services including simple laboratory work, whereas dispensary D and E cannot provide preventive services such as immunisation, antenatal care and family planning.

8.2.2 Health Centre Level

The health centre is theoretically and institutionally required to function as the primary referral health facility linked with both the dispensary below and the district hospital at the higher level, as well as providing more extensive primary health care to local people. Yet, most health centres in the Study Area generally had the same problems as those of dispensaries, such as shortage of staff, poor quality of health services, weak outreach activities, misuse and leakage of drugs and cold chain problems, and so on. Because of these constraints, generally the health centres are functioning worse than expected.

The deficiency of basic functions of the health centre is concomitant with poor health infrastructure. It was often observed that a health centre in the Study Area did not have enough water supply to provide health services for delivery, laboratory, and sterilisation, as well as cooking and cleaning, which greatly limited its functioning.

Health centres should provide adequate curative services for common diseases that do not require inpatient care or require only observation for a short period, with simple laboratory examinations such as microscopic examination, haemoglobin, haematocrit, and urine and stool analysis. The reality is that microscopic examination for malaria was available at only 7 out of 12 health centres visited. Inpatient care was available at 6 health centres, intravenous fluid therapy at 4 health centres, measurement of haemoglobin and haematocrit at 4 health centres (Table 8.4). More than half of health centres cannot perform their role in curative medicine as expected.

Delivery service was available at 9 health centres out of 12; other preventive services such as immunisation, growth monitoring, family planning, etc. were available at most health centres studied with details varying from facility to facility. The immunisation programme has problems with the cold chain, and coverage rates are difficult to determine. Growth monitoring was available at all health centres visited, but measurement of height was available only at 3 facilities. A growth monitoring programme loses many children after 1 year old or older, when they no longer need to come to health facilities for immunisation. That is the period when children are most vulnerable to malnutrition due to weaning. Family planning includes provision of condom, oral contraceptive pills and injectable Depo Provera at 9 facilities, and IUDs 6, but none of them can perform tubal ligation.

Looking at Table 8.4, the range of health services that a health centre can provide differs greatly from one to another. Health centres A, D, G and I can provide basic curative services including inpatient care, intravenous fluid therapy, and some laboratory work. Health centre A and L do not provide family planning methods for religious reasons. Health centre L may offer counselling such as the rhythm method. Health centre B, E, F, H and K have very limited services available, without microscopic examination, inpatient care, or intravenous fluid therapy.

Table 8.4 Health Services at Health Centres (N=12)

Health services at Health centre	A	B	C	D	E	F	G	H	I	J	K	L
Anti-malaria chloroquine	O	O	O	O	O	O	O	O	O	O	O	O
Quinine	O		O	O				O	O	O		O
others	O	O	O	O	O			O	O	O		O
Guideline of diagnosis of ARI	O		O		O	O	O			O		O
Oral antibiotics	O	O	O	O	O	O	O	O	O	O	O	O
Injectable antibiotics		O	O	O	O	O	O	O	O	O	O	O
Inpatient's care	O			O			O		O	O		O
Intravenous fluid therapy	O			O			O		O			
ORS	O	O	O	O	O	O	O	O	O	O	O	O
Malaria blood smear	O		O	O			O		O	O		O
Stool analysis	O		O	O	O		O		O			O
Urine analysis	O		O	O								O
Haemoglobin/haematocrit	O		O	O								O
Iron supplement	O	O	O	O	O	O	O	O	O	O	O	O
Growth monitoring- weight	O	O	O	O	O	O	O	O	O	O	O	O
height	O		O						O			
development	O		O	O	O	O	O		O	O	O	O
Immunisation	O	O	O	O	O	O	O	O	O	O	O	O
Antenatal care	O	O	O	O	O	O	O	O	O	O	O	O
Delivery	O	O	O	O	O		O		O	O		O
Family planning		O	O	O	O	O	O	O	O	O	O	O
condom		O	O	O	O	O	O	O	O	O	O	
OCPs			O	O	O	O	O	O	O	O	O	
injectable Depo provera			O	O	O	O	O	O	O	O	O	
IUDs					O	O	O	O	O	O		
tubal												

Source: JICA Study Team 1997

Strengthening the role of health centres in terms of delivery service, basic curative services for common diseases with simple laboratory work, and short-term care, can upgrade the quality of services as well as maximise the usage of health centres by patients, and thus would reduce the congestion of the district hospitals and improve the referral system. Health centres should also be strengthened to provide promotive health services that would improve baseline health status.

8.2.3 District Hospital Level

District Hospitals, together with mission and private hospitals, play important roles in the health services as referral hospitals. From gross statistics, it appears that they are working fairly well as primary and secondary referral hospitals, for they accept any patients from their own OPD and other health facilities, with only a few patients referred to provincial or national hospitals. However, they have many problems such as congestion, inadequate equipment and facilities, management, and thus resulting in low quality of health services. Problems of equipment and facilities, management, human resources, finance and so on are

discussed in other chapters. Here we discuss congestion and the quality of health services provided at district hospitals.

Quality of Health Services

Many basic procedures are not done, such as keeping proper patients records because of lack of money to buy papers or notebooks. Pieces of paper of different sizes are simply put together with a pin. Information on the patient's conditions is written in the limited space, without blood pressure or periodic temperature measurements. Height or weight is not recorded. Those are very basic, minimum observations to be made. Some examples of patients' records were reviewed (patient's record 1-3).

Patient's record 1	
Patient	29 year old female, admitted on 11th January 1997
Chief Complaint	Headache, dizziness, abdominal pain
Present Illness	She had diarrhoea 3 days ago, history of coughing and chest pain, treatment without improvement.
Past History	Gynaecologic problem in November. Malaria and blood transfusion (once)
Physical Exam.	Sick, jaundice, febrile, oedema Cracks pronounced at right anterior chest Cardiovascular: large cardia
Impression	Malaria rule out (r/o) typhoid with chronic lung disease r/o PTB anaemia
Plan	Admission on W5, blood smear for malaria, Haemoglobin, ESR, Widal test, Chest X-ray, sputum/AFB 3times
Treatment	Anti malaria: quinine 600mg in 5% glucose solution 8 hourly Antibiotics: Pen (penicillin) 2MU x4/day Ventolin
Clinical course	Died on 12th January 1997

Patient's record 2	
Patient	20-year old female, admitted on 9th June 1997
Present illness	She gave birth to a baby at home 1 week ago. Started having symptoms such as palpitation, dizziness 3 days ago.
Physical exam	Pale, jaundice, dehydrated, cyanosis Cardiovascular system (CVS): semi correction started(?)
Impression	Anaemia d/t postpartum haemorrhage (PPH)
Treatment	Blood transfusion, Haemoglobin (transfusion, penicillin, chloroquine, iron and folic acid administered)
Clinical course	10th June: T 36.2, P 82, RR 20 comatose, mild response to pain not pale, not jaundice, chest clear Haemoglobin 8.6g/dl, BS 3.65 mmol/L Blood smear: scanty malaria parasite 11th June: T 36, P 88, RR 20 Shock state, Hypoglycaemia Died

Patient's record 3	
Patient	Female admitted on 30th March 1997
Chief complaint & history	She has been ill since she was operated for appendectomy in February 1997.
Physical exam	Sick, wasted, moderately pale Course crepitation & bilateral rhonchi Abdominal tenderness
Plan	Chest X ray, Hg, ESR, sputum for AFB, P24 antibody (HIV testing) Intravenous Fluid Tx - glucose+ saline XPen 2MU 6 hourly, gentamycin 60mg 3times, oral mycostatin
Clinical course	31st May: improving Impression) Immunosuppression Oral thrush Bilateral pneumonia Disseminated TB 31st May, 4 PM Patient's status changed, hydrocortisone 200mg administered intravenously Died

Because of the inability to do all but very minimal laboratory examination, the exact causes of death are often not known. When looking at patients' records of mortality cases, it is difficult to know what the direct cause of death was. Cerebral malaria, sepsis, meningitis, or electrolyte disturbance, ketoacidosis, hypo- or hyperglycaemia, heart problems, or conditions are difficult to be distinguished without proper laboratory examination. (patient's record 3) It is very possible that malaria is overdiagnosed for patients with fever. (patient's record 1)

At hospitals patients are first seen or interviewed by nurses, and examined by clinical officers, who do most of the clinical work at OPDs, make the decision to admit the patients, and also give most of the instructions on wards.

Table 8.5 Health Services at Hospitals (N=6)

Health Services at Hospitals	Kericho DH	Kisii DH	Nyamira DH	Kaplong MH	Tenwek MH	Central H (Kericho)
Curative services						
Anti-malaria (chloroquine, quinine, and others)	O	O	O	O	O	O
Care for complicated malaria	O	O	O	O	O	O
Guideline of diagnosis of ARI		?		O	O	
antibiotics (oral, injectable)	O	O	O	O	O	O
Intravenous fluid therapy	O	O	O	O	O	O
ORS	O	?		O	O	O
Blood transfusion	O	O	O	O	O	O
TB treatment	O	O	O	O	O	O
Minor & major surgery	O	O	O	O	O	O
Caesarean section	O	O	O	O	O	
Dilatation & curettage	O	O	O	O	O	O
Laboratory examinations						
Malaria blood smear	O	O	O	O	O	O
Sputum smear	O	O		O	O	O
Sputum culture		?		O		
Sputum for AFB	O	O		O	O	O
Haemoglobin/haematocrit	O	O		O	O	O
Stool analysis	O	O	O	O	O	O
Urine analysis	O	O	?	O	O	O
Pregnancy test				O	O	
HIV screening	O	O	O	O	O	O
HB screening				O		
STS screening	O	O	O	O	O	O
X ray	O	O	O	O	O	O
Preventive services						
Immunisation	O	O	O	O	O	O
Growth monitoring, weight	O	O	O	O	O	O
height		?			O	
development	O	?	O	O	O	O
Education on diet	O	?		O	O	O
Antenatal care	O	O	O	O	O	O
Normal delivery	O	O	O	O	O	
Family planning (condom, OCP, Depo provera, IUD, tubal ligation)	O	O	O		O*	O
vasectomy	O	O			O	

Source: JICA Study Team 1997
* does not include IUD

Medical doctors see patients only in special cases, when requested by clinical officers or for patients with special diseases followed in the OPD. Medical doctors are not always available, as most of them have their private clinics and often work at the clinics during the times they are employed by the hospitals. As a result, sometimes when a clinical officer requests a consultation by doctor, it will not be made immediately. By the time the doctor arrives, the patient's status may become much worse.

Diagnosis and Treatment

None of the district hospitals apply the guidelines for diagnosis of ARI. Nyamira district hospital has problems in laboratory examination; it cannot perform sputum examinations, which affects the diagnosis and follow-up of TB patients. Hepatitis B virus (HB) screening and sputum culture are available only at Kaplong Mission Hospital; Pregnancy tests are done at Kaplong and Tenwek Mission Hospital only. The inability to perform pregnancy tests may affect early diagnosis of ectopic pregnancy, with risk to women's lives.

As mentioned elsewhere, Bomet District Hospital has a water problem and operates only OPD services despite that the facility was built for both OPD and inpatient services. Gucha district does not have a district hospital yet, and Ogembo health centre is to be upgraded to a sub-district hospital. Kericho and Nyamira District Hospitals have few specialists and limited laboratory capability. Kisii District Hospital has specialists in 4 major disciplines of medicine and more laboratory capability including Division of Vector Born Diseases (DVBD).

Congestion

Congestion of district hospitals is one of the most serious problems which directly affects quality of services. It is common that two or even three patients share the same bed, and the Study Team observed that patients are even lying on the floor. The congestion is most severe at Kisii District Hospital, especially at malaria season. The congestion problem is thought to be interrelated with several factors such as:

1) Absolute capacity shortage for medical treatment, compared to the population and its growth;

2) Poor functioning of health centres as the lower referral;

3) Ineffective preventive and promotive activities at the community level resulting in many patients getting infected with preventable diseases;

4) Seasonal malaria epidemics that increase the number of admitted patients 2-3 times more than in non-epidemic season.

5) Preference of patients for a more reliable medical facility.

Problems 2), 3), and 5) can be partially or largely resolved by improving the quality and capacity of health services provided by health centres. Problem 1) has to be resolved by rehabilitation or expansion of hospitals, whereas problem 4) needs special attention to reduce the numbers of malaria cases, especially severe cases.

As discussed in chapter 4, about 1/4 of admission are for delivery, and another 1/4 are due to malaria. Both conditions require a short stay at the hospital, from 1 to 3 days. Other common diseases such as ARI, anaemia, intestinal infection/diarrhoea do not require a long stay, usually less than a 1 week. Some conditions such as tuberculosis, bone fracture, or psychiatric problems may require a long stay, 2 months or more, but the number of those patients is limited with about 10-20 % of beds occupied by them. Except in the TB ward, it does not seem that AIDS is one of the leading causes of congestion at hospitals in the Study Area.

8.3 PLANNING ISSUES

As described in the previous section, standard health care service packages are defined for each facility level by the MoH, but not all facilities are providing the required services due to factors ranging from shortage of funds to inadequate skills of health personnel. In this section, planning issues and direction are discussed to improve the quality of health services provided at each facility level.

Before going into the analysis of the planning issues, it should be noted that to improve health services the disease pattern inherent in the Study Area must be taken into account. Based on the analysis of the disease pattern in the Study Area as well as the current performance of health services provided, the following seven areas can be considered as priorities for strengthening health services:

- Malaria;
- Respiratory tract infection;
- Child health;
- Reproductive health;
- HIV/AIDS;
- Tuberculosis; and
- Injuries.

The selection and implementation of prioritised health services are intended (1) to promote resource allocation to efficient and effective health services; (2) to meet the needs felt most by the residents in the Study Area; and (3) to have the maximum impact on the improvement of health status.

8.3.1 Selection of Priority Health Centres and Strengthening of the Functions

To improve the health services provided at various levels in the health system, we focus on the role of health centres. Improving the quality of health services provided by health centres will increase the utilisation of the facilities by patients and reduce by-passing to hospitals, thus reducing congestion of hospitals. In conjunction with the rehabilitation and/or provision of equipment, this will improve the quality of care provided at hospitals. On the other hand, health centres should be the focus of provision of preventive and promotive health services to the surrounding communities. They can be strengthened to directly supervise the community activities in health promotion, and to supervise and strengthen the role of dispensaries in this regard.

Ideally all health centres should be strengthened. However, because of limitation of funds and human resources, some "Priority Health Centres" need to be selected. The functions and infrastructure of Priority Health Centres will be strengthened and improved to be able to operate as an intermediate referral facility and to be the functional centre of the district health service network in the future.

8.3.2 Proposed Health Service at Various Levels (Table 8.6)

As described above, despite the definition of the standard service package for each type of health facility, the services defined are not always provided, or poor quality services are given to patients. It is proposed here that the health service package should be defined to adapt to the characteristics of the Study Area (e.g. population and disease pattern) and to provide better quality services. This new package will be applied to Priority Health Centres and its effectiveness to improve quality of service will be tested. If it works well, the implementation of the packages shall be extended to other health facilities, with the provision of necessary resources.

8.3.3 Strengthening the Capability for Measures for Prioritised Diseases at Priority Health Centres

The services to be provided at Priority Health Centres should put emphasis particularly on prevention, diagnosis and treatment of the prioritised diseases, as those have the most influence on health status in the Study Area, and the targeting of those diseases is likely to have maximum impact on improving health status.

The strategies for strengthening the capability of Priority Health Centres range widely from the implementation of measures for addressing a particular disease, continuing education of health personnel, to better collection of treatment fees and use of the revenues.

Table 8.6
Proposed Health Services at Various Levels
1) Curative Service

Hierarchy	Malaria	Anaemia	ARI	STDs	HIV/AIDS	Tuberculosis
Communities Health education including when to seek health services Organisation of CBHC e.g. TBA, CHW Home based care	C. Health education including prevention and when to seek health services	Health education including when to seek health services Oral iron tablet	Health education including when to seek health services	Health education on safer sex Promotion of condom use	Health education on HIV/AIDS Home based care	Health education on tuberculosis Home-based care
Dispensaries Primary health care Diagnosis & treatment of uncomplicated cases Detection & referral of complicated cases	**Uncomplicated malaria** A. Clinical diagnosis B. Oral administration of first line drug	**Acute anaemia** A. Suspect malaria/bleeding Referral if needed **Chronic anaemia** B. Clinical diagnosis B. Oral administration of iron/folate A. Anti-helminths to intestinal parasite	**ARI without dyspnoea** B. Clinical diagnosis B. Oral antibiotics **ARI with dyspnoea** B. Referral to health centre or hospital	A. Clinical diagnosis B. Oral antibiotics **STDs refractory to initial treatment, suspected HIV** B. Referral to hospital	A. Clinical diagnosis & referral C. Follow-up and support home-based care	**Suspected TB** A. Referral for microscopic examination of sputum **Follow-up of confirmed TB** C. DOT C. Home visit
Health Centres Primary & secondary health care Diagnosis supported by basic laboratory tests Short time "holding" beds Delivery care	**Complicated malaria** B. Diagnosis supported by microscopic examination B. Administration of second line drug (inc. intravenous injection of anti-malaria drug) A. Referral of patients with renal failure/severe anaemia to hospital	**Acute anaemia** C. Blood count, Haemato-crit B. Exclusion of malaria Referral if needed **Chronic anaemia** Same as dispensaries, with laboratory support	**ARI with dyspnoea** B. Exclusion of malaria B. Administration of antibiotics B. Intravenous therapy B. Hydration through naso-gastric tube C. Oxygenation and referral to hospital of severe cases	Diagnosis with laboratory support Antibiotic therapy **STDs refractory to initial treatment, suspected HIV** B. Referral to hospital	A. Clinical diagnosis & referral C. Follow-up and support home-based care	**TB** B. Diagnosis by microscopic examination of sputum A. Referral to TB programme **Follow-up of confirmed TB** C. DOT C. Home visit
Hospitals Primary, secondary & tertiary health care Increased range of laboratory tests, inc. biopsy, X-ray, U-S Inpatient care Surgical operation	**Severe malaria** Same as above A. Intravenous injection of anti-malaria drug A. Anticonvulsant B. Blood transfusion A. Oxygenation	B. Diagnosis of underlying diseases supported by laboratory test B. Appropriate treatment including blood transfusion B. Blood count, haemoglobin C. Screening of G6PD deficiency and sickle cell disease	**ARI with dyspnoea** Same as above B. screening of HIV A. oxygenation A. X-ray B. sputum smear, culture, sensitivity test	**Secondary care** A. Screening of HIV A. VDRL B. Culture	A. Diagnosis supported by HIV testing B. Treatment of complication A. Counselling	Diagnosis by microscopic examination of sputum, and X-ray if required A. Screening of HIV A. Inpatient service A. Patients registration to the TB programme

Note: A, B and C before each activity means actual level of services, i.e., A: good, B: fair, C: not conducted.

Hierarchy	Malnutrition	Diarrhoea	Worms/Amoebiasis	Skin/Ear/Eye	Wounds/Fractures	Mental Disorders
Communities Home based care Organisation for health, including revolving fund Health education including when to seek health services	C. Health education on feeding C. Home based care C. Collaboration with other sectors e.g. agriculture, social development	Health education on sanitary A. ORT	Health education on water & latrines, etc.	Health education on water & latrines, etc.	Health education	Community diagnosis Referral to health facilities Community-based programme for psychiatric patients
Dispensaries Primary health care Diagnosis & treatment of uncomplicated cases Detection & referral of complicated cases	B. Growth monitoring A. Food education C. Home visits	A. Clinical diagnosis A. ORT Referral of severe dehydration	B. Clinical diagnosis A. Anti-helminth B. Anti-protozoa	A. Clinical diagnosis A. Ointment B. Oral antibiotics	A. Treatment of simple wounds & burns A. Referral of suspected fracture & severe injury	A. Clinical diagnosis A. Administration of oral tranquilliser A. Referral of suspected psychosis
Health Centres Primary & secondary health care Diagnosis supported by basic laboratory tests Short time "holding" beds Delivery care	B. Growth monitoring A. Food education C. Home visits	Same as above B. Intravenous fluid therapy B. Exclusion of malaria B. Microscopic test of stool	B. Clinical diagnosis B. Microscopic test of stool A. Anti-helminth B. Anti-protozoa	A. Clinical diagnosis A. Ointment B. Oral antibiotics B. Drainage of abscess	Same as above A. Minor surgery	A. Clinical diagnosis A. Administration of oral tranquilliser A. Referral of suspected psychosis
Hospitals Primary, secondary & tertiary health care Range of tests, inc. biopsy, X-ray, U-S Inpatient care Surgical operation	B. Growth monitoring B. Investigation of under-lying diseases	Same as above A. Treatment of severe dehydration B. Stool culture B. Blood chemistry A. Report of notifiable disease	A. Microscopic test of stool A. Inpatient care for complicated cases A. Surgical procedure	B. Secondary care	A. Care of severe injuries & fracture A. X-ray A. Surgical procedure A. Blood transfusion B. Rehabilitation	A. Clinical diagnosis B. Inpatient care for severe psychosis C. Back referral to RHF C. Supervision of RHF

Note: A, B and C before each activity means actual level of services, i.e., A: good, B: fair, C: not conducted.

Hierarchy	Chronic Disorders	Maternal care
Communities Home based care Organisation for health, including revolving fund Health education including when to seek health services	Health education on the disorders, life style, diet etc.	Home visit by TBA/CHW Health education Detection & referral of any abnormality regarding maternal health
Dispensaries Primary health care Diagnosis & treatment of uncomplicated cases Detection & referral of complicated cases	Detection & referral of chronic diseases Follow-up of the back referral	Referral of high risk pregnancy & obsteric emergency Detection & referral of abnormal genital bleeding
Health Centres Primary & secondary health care Diagnosis supported by basic laboratory tests Short time "holding" beds Delivery care	Same as above	Normal Referral of high risk pregnancy & obsteric emergency Detection & referral of abnormal genital bleeding
Hospitals Primary, secondary & tertiary health care Range of tests, inc. biopsy, X-ray, U-S Inpatient care Surgical operation	Regular check up by Medical Doctor Evaluation of current status of the diseases Back referral & instruction to RHFs	Care of high risk pregnancy Cassarean section Obsteric emergency Gynaecologic examination & treatment

2) Preventive and Promotive Service

Hierarchy	MCH			Preventive		Monitoring
	Maternity Health	Family Planning	Child Health	Environmental Control	Health Education	
Communities Health education Organisation of CBHC, e.g. TBAs, CHWs Community based prevention Sanitation	B. Ante & postnatal care, delivery care by TBAs B. Referral of high risk pregnancy & complicated delivery B. Prevention of FGM	Health education Oral contraceptives Condoms	Health education Day-care centres	Participation in: water protection latrine construction waste disposal food hygiene vector control home improvement	B. Home based health education Prevention of diseases Behaviour change - smoking, diet, alcohol & drugs	C. Notification of priority diseases
Dispensaries Promotion of community based prevention Health education and enlightenment Technical advice for community Diet guidance Monitoring of morbidity / mortality Staff training	B. Antenatal care B. Postnatal care B. Referral of high risk pregnancy & obstetric emergency	B. Family planning Counselling Oral contraceptive pills Condoms Repeat injection of Depo provera	B. Growth monitoring C. Home visits B. Immunisation	Liaison with PHC and supervision of community education	B. Patients education individual & group B. Community health education supervision and participation B. School health education	B. Epidemic of malaria B. Notifiable diseases C. Nutritional status C. Morbidity / mortality
Health Centre Health education and enlightenment Technical advice for community Diet guidance Monitoring of morbidity / mortality Staff training	Same as above Normal delivery	Same as above IUDs	B. Growth monitoring C. Home visits B. Immunisation	Technical advice & support on environmental activities	Same as above	B. Epidemic of malaria B. Notifiable diseases C. Nutrition status C. Morbidity / mortality B. Birth
Hospitals/DHMT/PH Office Educational programme provision Staff training Monitoring of morbidity / mortality	Same as above Vacuum extraction Caesarean section Care of high risk pregnancy Pregnancy test	Same as above Tubal ligation Vasectomy Therapy for infertility	B. Growth monitoring B. Home visits A. Immunisation Care for sickle cell anaemia	Technical advice & support for all District environmental activities Continuing education for all environmental staff	Patients education individual & group Community education planning & participation in IEC programme	Same as above C. Health service activities of Health Centres and dispensaries

Note: A, B and C before each activity means actual level of services, i.e., A: good, B: fair, C: not conducted.

Chapter 9

Referral System

9. REFERRAL SYSTEM

9.1 BACKGROUND

In partnership with government officials, local people and researchers, the JICA Study Team conducted a study based on referral system with the following objectives:

1) to describe the general system of referring patients and specimens in the Study Areas;
2) to determine the problems, issues, gaps and concerns in the referral system;
3) to analyse the causes and contributory factors;
4) to describe the lessons learned from previous and on-going attempts to improve the referral system; and
5) to describe planning issues and directions.

Data were collected by various means. Existing record, documents and literature were reviewed (Annex 1). Facility surveys A and B (Annex 2) were conducted primarily to assess the trends in referral as well as the availability of logistical support. Health personnel in the facilities were interviewed on the organisation and management of the referral system. Focus group discussions were held among the members of the District Health Management Board and Team.

This interim report highlights the findings and planning issues related to referral system. For this study, the definition of referrals is limited to the transfer of patients or specimens among health facilities. Inter-departmental transfer within the same facility is excluded.

9.2 CONCEPT OF REFERRAL SYSTEM IN KENYA

9.2.1 The Organisation

In the past, the Ministry of Health established the referral system based on the hierarchical structure of its own organisation. Later, the concept of referral system has been expanded to include other providers such as non-governmental organisations, missions, private sector, home-based providers, volunteer health workers, and traditional practitioners (Table 9.1).

Table 9.1 The Organisation of the Referral System in Kenya*

Type of Care	Level	Facility Category
Specialised Care	National	National Referral Hospital
	Regional	Provincial Hospital
Tertiary Care	District	District/Sub-district Hospitals
Secondary	Division	Health Centre
Primary	Community	Dispensary Outreach Traditional Practitioners
	Household	Home Care

*Source: *Manual for Rural Health Workers*

9.2.2 The Services

Based on their capacities and available resources, the health facilities, particularly within the government structure, are expected to provide certain types of health services[1] (Table 9.2).

Table 9.2 Standard Services For Each Facility Category

Facility Category	Essential Package (Out patient)	Laboratory service	Inpatient service	Specialist care
Dispensary	PHC	-	-	-
Health Centre	PHC Ante-natal Care, FP, CWC Immunisation	YES (Simple microscopy)	MATERNITY 24 Hour EMERGENCY	-
District hospital	PHC Ante-natal Care, FP (inclusive of Tubal Ligation), CWC Immunisation	Range of tests Biopsy specimens taken X-ray Ultrasound	Range of inpatient care Theatre services	YES

Below is a description of different types of government health facilities.

[1] The services and staffing patterns are based on the standards set forth in the 1991 "Report of a Technical Committee on Definition and Categorisation of Health Facilities in Kenya".

a. Dispensaries

Staffed by 5-11 enrolled community nurses, subordinate staff, public health technician, and/or watchman, dispensaries are mandated to provide basic curative outpatient services, environmental health services, and other primary health care activities. Type 1 dispensaries are to serve a catchment population of up to 10,000 whereas Type 2 can serve up to 15,000. The three-roomed health facility and basic treatment facilities have no beds. Also, laboratory tests are not conducted in dispensaries.

b. Health Centres

On top of primary services, health centres are expected to provide secondary services in the following fields: nutrition, maternity, limited oral health, minor surgery, laboratory, and inpatient (12 hours maximum length of stay before the patient is referred). 31-46 members staff would be responsible for managing consultation and treatment rooms, laboratory, minor surgery, pharmacy, sterilisation, delivery, kitchen, and laundry facilities. There would be about 18-24 beds available for maternity and other cases. Staff houses would be provided. The catchment population for Type 1 is from 50,000-70,000 while that for Type 2 is from 50,000-100,000.

c. Sub-district and District Hospitals

Aside from primary and secondary services, sub-district and district hospitals are designed to provide inpatient services on a longer term and to act as a referral centre for internal medicine, obstetrics/gynaecology, surgical services (limited capacity for sub-district and full services for district), dentistry, psychiatry, ophthalmology, otorhinolaryngology, and forensic medicine. They have operation theatre, intensive care, and radiographic facilities. They are capable of conducting more sophisticated laboratory examination such as blood chemistry, serology, screening for HIV & VDRL, sputum smear, blood typing and cross-matching. The 80-150 beds in a sub-district hospital are expected to serve a population of 100,000-250,000. The 150-300 beds in a district hospital cater to 250,000-1,000,000 residents.

d. Provincial and National Hospitals

Provincial hospitals provide the entire spectrum of primary, secondary, tertiary, and specialised health services. They accept referrals from district hospitals particularly for diagnostic and therapeutic care that require highly qualified specialists in various disciplines. They have from 250 to 800 beds to cater to a catchment population of 1 to 2 million.

The Kenyatta National Hospital is a national referral and teaching hospital providing mainly tertiary and specialised services. It is also the centre for clinical research.

There are other specialised hospitals in the country such as the Spinal Injuries Hospital, Mental Health Hospitals, Infectious Diseases Hospitals (inclusive of Tuberculosis and Leprosy Hospitals), and Maternity Hospitals. The physical facilities, staffing norm, and number of beds vary according to the specialisation of the hospital.

9.2.3 Referral of Specimens

Aside from referral of patients, specimens may also be transferred to laboratories (Table 9.3). These specimens are collected usually at the district hospital, processed and then sent by post or courier services to the provincial or national laboratory at the Kenyatta National Hospital. For other specific diagnostic examinations (e.g. X-ray and endoscopy) patients are referred to centres with these facilities.

Table 9.3 Standard Laboratory Tests Available by Facility Category

Facility Category	Tests Available	Types of Test and Recipient Facilities for Referral
Dispensary	None	Patients referred to HC or Hospital
Health Centre (HC)	Blood slide for malaria Simple microscopy (stool and urine) Haemoglobin estimation	For complex tests, patient referred to District Hospital (e.g. X-ray)
District Hospital	**Blood:** Smear for parasites, Complete blood cell count, ESR, Haemoglobin/ haematocrit. **Blood chemistry:** Sugar **Culture and sensitivity tests** **Blood group and X-match** **Radiological** : Plain X-ray, Intravenous Pyelography, Ultrasound **Serology:** Widal, Brucella **Screening:** HIV, VDRL **Sputum:** smear	Specimens sent to Provincial or national hospital (Kenyatta National Hospital): Biopsy Fungal swabs Virology culture Patients sent to Provincial or national hospital for: Specialised radiological tests Endoscopic tests

9.2.4 Transportation for Referral

When it comes to the transportation that should be used for referral, the ideal situation dictates that the referring facility is expected to be responsible particularly during emergencies. On discharge, the recipient facility is required to provide transport. In case of death, the relatives or community is responsible for the return of the body for burial at home if they so require. In non-emergency situation, the referring facility is expected to provide a return ticket for the patient and one escort health worker. The choice of mode of travel lies with the referring doctor or clinician. In extreme emergencies, a patient could be flown by the "Flying Doctor Service" of AMREF".

9.2.5 Referral of Emergency Cases

Ideally, patients may be referred upward and downward the hierarchy - upward for services that are not available in the lower facility categories and downward for follow up care and feedback. For emergency care, however, patients may be brought to the nearest facility

prior to transfer to a more appropriate one. For example, patients requiring radiographic examinations, an operating theatre, or specialist in obstetric, gynaecologic, surgical, or acute medical care would finally have to be referred to a district hospital.

9.3 REFERRAL SYSTEM IN THE STUDY AREAS

The referral system as conceptualised by the MoH is functional in the Study Areas. Indeed patients and pathological specimens are referred among different levels of health facilities and across various types of providers. Preliminary data showed several trends.

9.3.1. Direction

The direction of referral is multiple (Table 9.4). All facilities seem to refer to others regardless of the owner of the facility. Nonetheless, GOK facilities would tend to refer to other GOK facilities, one third of which are outside their district boundaries.

Table 9.4 Number of Referrals: By Source and Recipient

RECIPIENT		SOURCE OF REFERRAL											
		GOK*				PRIVATE				MISSION			
		H	HC	D	T	H	HC	D	T	H	HC	D	T
GOK	H**	0	6	6	29	0	0	0	1	0	2	0	3
	HC	0	0	4		0	0	0		0	0	0	
	D	0	0	0		0	0	0		0	0	0	
(outside the district	KNH***	1	0	0	13	1	0	0	1	1	0	0	1
	PGH	1	0	2		0	0	0		0	0	0	
	DH	0	5	4		0	0	0		0	0	0	
PRIVATE	H	0	2	0	8	1	0	0	1	0	1	0	2
	HC	0	0	0		0	0	0		0	0	0	
	D	0	0	0		0	0	0		0	0	0	
	Unspecified	1	4	1		0	0	0		0	0	0	
	Outside the District	0	0	0	0	0	0	0	0	1	0	0	1
MISSION	H	0	6	5	11	0	0	0	0	0	0	0	2
	HC	0	0	0		0	0	0		0	0	0	
	D	0	0	0		0	0	0		0	0	0	
(outside the district)	MISSION	0	0	0	0	0	0	0	0	1	1	0	2
OUTSIDE	KNH	1	0	0	14	1	0	0	2	1	0	0	4
THE	PGH	1	0	2		0	0	0		0	0	0	
DISTRICT	DH	0	5	4		0	0	0		0	0	0	
	MISSION	0	0	0		0	0	0		1	1	0	
	PRIVATE	0	0	0		0	0	0		1	0	0	
	Unspecified	0	0	1		1	0	0		0	0	0	

* GOK = Government of Kenya
** H = Hospital; HC = Health Centre; D = Dispensary; T = Total
*** KNH = Kenyatta National Hospital, KEMRI, NPHL; PGH = Provincial General Hospital; DH = District Hospital

The facilities owned by the missions seem to be neutral as far as their choice. They refer equally to GOK and to Mission. They have more referrals to facilities outside their district boundaries. The number of private facilities surveyed is limited to observe a definitive trend.

Furthermore, there is no downward movement documented in the survey. However, tuberculosis patients are referred back to lower facilities once their diagnosis is confirmed at hospitals.

9.3.2 Number

Incoming Referrals

Results of Study B (Table 9.5) showed that from 1.03 to 8.4% of patients seen in the facilities surveyed were incoming referrals. As expected, Kericho and Northern Kisii received the highest number of referrals. The data from Kisii may be a spurious one which may be attributed to poor records.

Table 9.5 Total Number of Patients Seen and Incoming Referrals (July 1996 - June 1997)

	New cases	Re-Attendance	Referrals	Total
Bomet	82,126	15,168	1,191 (1.2%)	98,485
Gucha	35,266	14,655	921 (1.81%)	50,842
Kericho	56,114	10072	6,102 (8.44%)	72,288
Kisii	124,777	25,339	526 (0.35%)	150,642
Northern Kisii	93,130	13,267	1,118 (1.03%)	107,515
Total	391,413	7,8501	9,858 (2.05%)	479,772

Outgoing Referrals

Looking at the average number of outgoing referrals per month that was collected in Study A (Table 9.6), it seems the number of referrals from health centre and dispensary are almost the same. The low average for hospitals is expected as it is designed to be the referral centre within the district.

By ownership, public facilities refer more patients (11 per month) than mission facilities (7). The only private facility surveyed reported the least number of referrals per month.

Table 9.6 Average Number of Referrals Per Month

CRITERIA		Mean
Category	Hospital	1
	Health Centre	9.9
	Dispensary	11
Owner	GOK	10.4
	Private	0.5
	Mission	6.5

9.3.3 Peak Season

Some facilities (17%) reported no peaks while others observed that their referrals increased unusually from March to July because of malaria, from August to December of maternity cases, from April to August of acute respiratory infection, and in December because of severe injuries. The referral pattern runs parallel to the disease pattern.

Table 9.7. Number of Facilities Reporting Heavy Volume of Referrals

Month	Malaria Cases	Maternity Cases
January	1	0
February	1	0
March	2	0
April	2	0
May	7	0
June	8	0
July	11	0
August	5	1
September	0	3
October	0	1
November	0	1
December	0	1

9.3.4 Transportation and Communication Facilities for Emergency and Non-emergency Referrals

All mission and private health facilities have their own ambulance (Table 9.8). In contrast, only 11% of GOK facilities have a functional vehicle that can be used for transporting patients. In the past, the government distributed ambulance units to some health centres. It seems, however, that the centres had difficulty in maintaining the units.

Generally, the mode of transportation for emergency or non-emergency cases seems to be similar. The patients would tend to arrange it by themselves even if a facility vehicle is available. This is evident in Kericho, Gucha and Kisii. The results of Study B (Tables 9.9 & 9.10) showed that patients would prefer to commute or take the public transportation ("matatu").

Patients coming from mission hospitals, however, would at times avail of the facility vehicle. In fact, one of the mission hospitals has an air plane that could be used for emergency referrals.

When it comes to communication facilities, some key informants reported the presence of telephone units in all district hospitals, some health centres, and a few dispensaries. However, some telephone lines have been disconnected already because of the inability to pay for the bills.

Table 9.8 Transportation Used for Referring Patients

Criteria		Facility Plane		Facility Vehicle		By Themselves		Total
		No.	%	No.	%	No.	%	No.
Category	Hospital	1	25	3	75	3	75	4
	Health Centre			3	27	9	82	11
	Dispensary					8	89	9
Owner	GOK			2	11	17	89	19
	Private			1	100	1	100	1
	Mission	1	25	3	75	2	50	4
District	Bomet	1	25	2	25	5	63	8
	Kericho			3	33	9	100	9
	Gucha					4	100	4
	Kisii					1	100	1
	Northern Kisii			1	50	1	50	2

Table 9.9 Mode of Transport for Incoming Referrals

	Northern Kisii	Kisii	Gucha	Bomet	Kericho	Total
Walking	2	3	4	4	6	19
Bicycle	1	0	0	3	3	7
Matatu/ bus	3	1	2	4	6	16
Taxi	0	0	1	2	4	7
Own car	0	0	1	2	2	5
Ambulance	0	0	0	0	0	0
Other	0	0	1	2	0	3
	6	4	9	17	21	57

Table 9.10 Mode of Transport for Outgoing Referral

	Northern Kisii	Kisii	Gucha	Bomet	Kericho	Total
Walking	2	2	3	0	4	11
Bicycle	1	0	0	0	1	2
Matatu/ bus	6	4	4	6	5	25
Taxi	0	2	1	0	4	7
Own car	0	1	1	1	2	5
Ambulance	0	0	0	3	1	4
Other	1	0	0	2	0	3
	10	9	9	12	17	57

9.3.5 Cases Referred for Diagnostic Examination

A total of 25 diagnostic examinations were cited as reasons for referral (Table 9.11). Chest X-ray is the most common as all the GOK health centres and dispensaries were unanimous. The other common requests include the following: Widal Test, Kahn VDRL, Sputum smear and culture for suspected TB cases, culture and sensitivity testing, cytology and histology, liver, function test, HIV serology, pregnancy testing, blood typing and cross-matching, blood sugar, and PAP smear. All these can be considered as appropriate referrals.

Table 9.11 Diagnostic Tests Requested for Referral (Total Facilities = 24)

#	Description of Examination	B	KE	G	KI	N	T	% of 24
1	Chest X-ray	5	7	4	1	1	18	75
2	Widal Test	3	5	1	1	1	11	46
3	Kahn VDRL	2	5	2	1	1	11	46
4	Culture for TB Sputum	1	7	0	0	0	8	33
5	Malaria Smear	2	2	3	0	1	8	33
6	Sputum AFB	1	5	1	0	0	7	29
7	Stool Examination	2	1	3	0	1	7	29
8	Haemoglobin; Haematocrit	1	2	2	1	1	7	29
9	Culture & Sensitivity	2	2	1	1	0	6	25
10	Urinalysis	1	1	2	0	1	5	21
11	Cytology and Histology	3	2	0	0	0	5	21
12	HIV serology	0	1	0	1	2	4	14
13	Liver Function Test	1	1	0	0	0	2	8
14	Stool Culture	0	2	0	0	0	2	8
15	Blood Typing & Cross-matching	0	1	0	0	1	2	8
16	PAP SMEAR	1	1	0	0	0	2	8
17	Pregnancy Test	0	2	0	0	0	2	8
18	Erythrocyte Sedimentation Rate	1	0	0	0	0	1	4
19	Blood Sugar	0	0	1	0	0	1	4
20	CT SCAN	1	0	0	0	0	1	4
21	Histo-salpingography	1	0	0	0	0	1	4
22	Ultrasound	0	1	0	0	0	1	4
23	Electrolytes	0	1	0	0	0	1	4
24	Thyroid Function Test	1	0	0	0	0	1	4
25	Lumbar Puncture	1	0	0	0	0	1	4

* B = Bomet; KE= Kericho; G = Gucha; KI = Kisii; N = Northern Kisii; T = TOTAL

However, there were referrals coming from the health centres that would be considered inappropriate because they are expected to have the capacity to perform the tests. For example, 45% of the health centres surveyed had to refer for malaria testing, 27% for stool examination, and 19% for urinalysis.

At present, the district hospital laboratories are designated as the referral centre for HIV testing. There is another facility in Kisumu that has advanced laboratories for different types of examinations. This facility, Kenya Medical Research Institute (KEMRI) for Malaria, conducts drug-resistance testing.

9.3.6 Referral of Emergency Cases and Others Requiring Specialised Services

At least 19 reasons have been documented as reasons for referring patients to other facilities (Table 9.12). The most common cases in descending order are the following: fractures and dislocation; deep wounds and injuries; first, complicated and high-risk pregnancies; acute abdomen; accidents, tumours/cancers, complicated malaria, and severe anaemia. All these cases are referred appropriately to hospitals within, or sometimes outside, the district boundaries. Referral of delivery of first born to hospital is encouraged to minimise the risks to both mother and child.

Table 9.12 Emergency and Other Specialised Services Requested for Referral (No. of Facilities = 24)

#	Description	B*	KE	G	KI	N	Total	
							No.	% of 24
1	Fractures; Dislocation	5	6	0	0	1	12	50
2	Wounds; Injuries	3	6	2	1	0	12	50
3	Complicated & High-risk Deliveries	4	3	3	1	1	12	50
4	All Other Obstetrics Cases	1	6	0	0	1	8	33
5	First Pregnancy	3	0	3	1	0	7	29
6	Acute Abdomen	2	1	2	0	0	5	21
7	Accidents	0	1	2	0	0	3	13
8	Tumours/cancer	1	2	0	0	0	3	13
9	Malaria (complicated)	0	1	1	0	1	3	13
10	Anaemia (severe)	0	0	1	0	1	2	8
11	Abortion(threatened)	1	1	0	0	0	2	8
12	Vesico-vaginal Fistula	1	1	0	0	0	2	8
13	Caesarean Section	1	0	0	0	0	1	4
14	Dog bites	0	1	0	0	0	1	
15	Bleeding Peptic Ulcer	0	1	0	0	0	1	4
16	Poisoning (insecticide)	0	0	0	1	0	1	4
17	Septic Dermatitis	0	1	0	0	0	1	4
18	Tuberculosis Cases	0	1	0	0	0	1	4
19	Spinal Injury	0	1	0	0	0	1	4

* B = Bomet; KE = Kericho; G = Gucha; KI = Kisii; N =Northern Kisii

9.4 PROBLEM, ITS EFFECTS AND CAUSES

9.4.1 Core Problems

The existing referral system seems to be working according to plan. However, it may not be optimal considering the following:

1) downward referral or provision of feedback was hardly observed;
2) occasional inappropriateness particularly coming from the health centres; and
3) some patients would bypass the hierarchical structure.

9.4.2 Direct Effects

Some direct effects of a sub-optimal referral system include congestion in the district hospitals and under-utilisation of the rural health facilities.

9.4.3 Direct Causes

There are causes that can be attributed to the supply side and others to the demand side of health service delivery. From the supply side, the general inadequacy in the provision of essential health packages is a pervasive problem among GOK facilities. Table 13 shows that only 13% of the facilities can provide the full range of essential package at the time of the survey. By facility category, the problem becomes worse as one goes down the organisational hierarchy. All of the facilities surveyed in Bomet and Kericho could only provide some services but none fully.

Table 9.13 Proportion of Facilities Providing Full Range of Essential Package at the Out Patient

Facility Type	Bomet	Gucha	Kericho	Kisii	Northern Kisii
Dispensary	0/3	0/3	0/4	0/3	1/3 (Magombo)
Health Centres	0/3	1/3 (Kenyenya)	0/6	1/3 (Masimba)	1/3 (Keroka)
District hospital	0/1	-	0/1	1/1	0/1

Source: JICA Study Team

Still on the supply side, the other factors that contribute to sub-optimal operation of the referral system are as follows:

1) limitations in the capacity and performance of laboratory services and the absence of a referral network;
2) difficulties in the maintenance of ambulance services; and
3) transport facilities for referral are hardly linked to communication facilities.

From the demand side, there are two possible causes. On one hand, it seems the referral system was introduced without informing the public of the types of services that can be availed of in different facility categories.

On the other hand, bypassing of lower-level facilities can also be attributed to more pragmatic reasons. Nearness to their residence is a common one. Availability and quality of services may be strong "pull" factors for patients to go directly to hospitals. Although services at the dispensaries are for free, and consultation fee at the hospitals would be cheaper if they have referral letters, still there would be some patients who would give these up. Nowadays, the effectiveness of these economic incentives is threatened as some dispensaries have started to collect some amount for their cost-recovery fund.

9.5 PREVIOUS AND ON-GOING ACTIVITIES

Previous and on-going activities have not been directed at a campaign to strengthen directly the referral system. Instead, the programmes have been targeted at specific elements of the government health care delivery organisation. For example, there are programmes for the development of human resources and essential health packages. Some of the programmes, however, have been criticised on the grounds of being strongly dependent on donors' contribution leaving doubts on their sustainability.

The programmes that might have the most direct impact on the referral system could be that on the mobile services and the Health Management Information System. The GOK introduced the mobile and outreach services as a strategy to reach out to nomads and under-served communities. Instead of transferring the patient from the communities to the health facilities, the concept was to bring the facilities to the communities. In the facilities surveyed, mobile or outreach services of the GOK have all been discontinued because the vehicles have broken down and inadequate budgetary and staff support. There are two mission hospitals (i.e. Tenwek and Kaplong) which continue to provide outreach services on a fee-for-service basis. Occasionally, there would be other non-governmental organisations providing special services for the handicapped.

Regarding the Health Management Information System, it seems too early for the rural health staff to feel and assess the impact of on-going activities. Nonetheless, there is a need to review the information system vis-à-vis the requirements for an effective referral system.

According to interviews, a concerted effort to improve the laboratory services is still wanting. In the past, there was no specific comprehensive programme yet in this field.

9.6 PLANNING ISSUES

9.6.1 Strengthening of Laboratory and Other Diagnostic Capacities

- There is a need to support the health centres so that they can conduct essential laboratory examinations.

- The establishment of a system of networking among laboratories and diagnostic centres could be entertained with the end in view of optimising existing capacities of both public and non-public facilities.

- Recognising the need to control common diseases (e.g. malaria, diarrhoea and tuberculosis) and rapidly spreading emerging diseases (e.g. HIV), a more aggressive strategy in conducting definitive diagnostic tests could be developed.

9.6.2 Development and Support for a Sustainable Communication, Transportation and Information Systems

- There is a need to incorporate a communications facility development plan to any system of transporting patients on an emergency or elective basis.

- A more effective, efficient, equitable and sustainable transportation system has to be developed. There is a demand from both elective and emergency cases. However, at least three things may have to be done first.

- One, there is a need to quantify the demand and determine the optimal combination and distribution of vehicles. Possible networking with mission or private facilities should be considered. The issue of a multi-purpose or uni-purpose vehicle could be discussed.

- Two, there is a need to identify mechanisms to finance the maintenance of these vehicles.

- Three, there is a need to train the users of these vehicles on proper use, maintenance and trouble-shooting. Training of drivers on paramedic skills can also be included.

- In the information system, there is no major issue that needs to be addressed except for the need to reproduce the existing letter or forms used for referring patients, improve the system of keeping the records and possible re-designing of the reports to make it more useful to decision-makers.

9.6.3 Revision of Economic Incentives for Patients to Comply with Referral System

- There is a bigger issue of whether economic incentives or disincentives can really be a policy instrument to affect the behaviour of patients. If the decision is

affirmative, then there is a need to coordinate the cost-recovery activities of some dispensaries and the fee structure in hospitals. There is a need to review the pricing policies as well as the price difference threshold to encourage people to avail of functional lower-level facilities.

- Addressing the Needs of Under-served Communities Through Promotion of Mobile Clinics or Outreach Services

- If the goal is to improve access to health services in the long run, then it is inevitable that the deployment of mobile clinics has to be viewed within bigger strategy of the development of more permanent facilities such as dispensaries and health centres.

- To improve access to essential health services, training of local people as community health workers could be considered as an alternative in hard-to-reach communities.

- In the Study Areas, mobile clinics or outreach service may be organised under two conditions. On one hand, it can be a transitory strategy while waiting for the benefits of long-term solutions. On the other hand, it can be an effective tool for specific campaigns particularly when a high-profile activity is needed to increase the public awareness or achieve programme targets. Much can be learned from the system of missions and NGO in keeping the mobile and outreach services sustainable.

9.6.4 Communicating with the Public on Referral System

To minimise "by-passers" of lower-level facilities, it is essential to communicate to the public the merits of following the hierarchical system of referral. The success of the referral system depends partly on the compliance of the public.

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ANNEX 2 : NUMBER OF FACILITIES SURVEYED

FOR STUDY A

CRITERIA		BOMET	KERICHO	GUCHA	KISII	NORTHERN KISII	TOTAL
Category	Hospital	2	2	0	0	0	4
	Health Centre	3	4	2	1	1	11
	Dispensary	3	3	2	0	1	9
Owner	GOK	6	7	4	1	1	19
	Private	0	1	0	0	0	1
	Mission	2	1	0	0	1	4
Informant	ECHN	3	4	2	1	1	11
	Nurse	3	3	0	0	1	7
	Clinical Officer or Doctor	0	2	0	0	0	2
	Subordinate Staff	1	0	0	0	0	1
	Laboratory Assistant	1	0	0	0	0	1
TOTAL		8	9	4	1	2	24

FOR STUDY B

District	Hospitals	Health centres	Dispensaries	Total
Bomet	2 (1 Mission)	3	3	8
Gucha	0	2	3	5
Kericho	1	6 (1 Mission)	3 (1 Mission)	10
Kisii	1	3	3	7
Northern Kisii	1	3	3	7
Total	5	17	15	37