

PW-ABG-201

68407

# IMPLEMENTING ISSUES FOR HEALTH CARE COST SHARING IN KENYA

## VOLUME I: ENSURING ACCESS TO CARE

December 1989

# Resources for Child Health Project

---

**REACH**



John Snow, Inc.  
1100 Wilson Boulevard, 9th Floor  
Arlington, VA  
22209 USA  
Telex: 272896 JSIW UR  
Telephone: (703) 528-7474

**IMPLEMENTING ISSUES FOR HEALTH CARE COST SHARING IN KENYA**

**VOLUME I:  
ENSURING ACCESS TO CARE**

**December 1989**

**Joyce H. Huber, REACH Consultant  
Benson Obonyo, REACH Consultant  
Randall P. Ellis, REACH Consultant**

**Prepared by the Resources for Child Health (REACH) Project  
USAID Contract No. DPE-5927-C-00-5068-00**

## EXECUTIVE SUMMARY

Currently fees are charged for many basic services both in the health and non-health sector. The fees charged are often substantially higher than those proposed for government health facilities. Nonetheless people are paying these fees. Health facilities that charge fees currently experience a very small percent of patients unable to pay. The very informal mechanisms for identifying these patients are adequate for the currently low volume. However, the case load will increase substantially when cost-sharing is introduced, thus more formal mechanisms may be necessary. Coordination with other government departments may be very useful for identifying those unable to pay.

Information on a patient's ability to pay is available from three sources: the person him/herself, the knowledge and assessment of health facility personnel, and the knowledge and assessment of other community leaders who may know the individual. The guidelines for assessing ability to pay suggested here describe the information available from the three sources and how that information can be used. Since none of the three sources is completely accurate, considerable flexibility and discretion is left to the individual facility. Because of the degree of discretion available to the facilities in determining who is able to pay, it is essential to closely monitor the number and appropriateness of waivers at the facility and district level.

There is considerable evidence from household and facility-based surveys that people are willing to pay to ensure higher quality care. The percentage of individuals surveyed willing to pay 10KSh per visit to ensure higher quality is 61% in both Nakuru and South Nyanza. Patients generally associate quality of care with availability of appropriate drugs. In order for cost-sharing to be widely accepted it is essential that patients perceive immediate improvements in drug supply.

The percentage of outpatients able to pay the 10KSh fee at government health centres depends on the distribution of income and assets in each district, the distribution of illness in that district, and the propensity to seek treatment. The more often a household or individual requires treatment, the less likely he/she is able to pay an additional monthly charge. Comparisons of probable health care costs to income were made using data from Nakuru, South Nyanza, and Meru Districts. While the probability of being ill is considerably higher in the South Nyanza sample, the proportion of ill individuals seeking treatment in South Nyanza was much lower. The distribution of case income in each district was used as a basis for determining the percentage of outpatient visits requiring a waiver. This method results in an estimate of the maximum percentage of outpatients requiring waivers since the measure of household income used does not fully account for households' in-kind income and level of wealth. Considering these factors, most of the population is able to pay 10KShs for health care. However, there is likely to be a considerable number who require waivers on an occasional basis.

## TABLE OF CONTENTS

### EXECUTIVE SUMMARY

#### I. INTRODUCTION

#### II. REVIEW OF EXISTING MECHANISMS FOR GUARANTEEING ACCESS TO BASIC SERVICES IN KENYA

- A. Evidence from South Nyanza on Current Methods of Guaranteeing Access to Health Care
- B. Review of Methods Used in Other Sectors for Guaranteeing Access to Basic Services
- C. Summary

#### III. GUIDELINES FOR DETERMINING ABILITY TO PAY

- A. A Formal Administrative Mechanism for Assessing Ability to Pay
- B. How Information Might be Used to Determine Ability to Pay
- C. Additional Guidelines for Inpatients
- D. Strategies for Collecting Revenue from Inpatients Who are Suspected of Being Able to Pay
- E. Extent to Which Observable Criteria Predict Ability to Pay

#### IV. EVIDENCE ON WILLINGNESS AND ABILITY TO PAY

- A. Willingness to Pay
- B. Ability to Pay

#### V. CONCLUSION

## I. INTRODUCTION

This report assesses the extent to which the proposed health care cost-sharing might exclude people from access to health care, and suggests methods for mitigating that effect. That some people are unable to pay for basic services is not a new problem or unique to the health sector. Currently fees are charged for other basic government services as well as for government and non-government health services. Section II reviews the extent of the problem at health facilities that charge fees, and describes current methods in the health sector and other sectors for guaranteeing access. Section III uses the acquired knowledge of health facilities that are currently charging fees and the experience of institutions in other sectors to suggest guidelines to health facilities on how to determine ability to pay. Since health care personnel deciding on ability to pay will not have access to information on the actual income of the individual, they will be relying primarily on observable factors that are correlated income. The accuracy with which those factors predict income is also assessed. Finally, Section IV uses income and other data from household and facility based surveys to estimate the percentage of outpatient and inpatient care at different facility levels that might have to be provided free of charge to those unable to pay.

## II. REVIEW OF EXISTING MECHANISMS FOR GUARANTEEING ACCESS TO BASIC SERVICES IN KENYA

Many services and goods that are considered basic needs are provided by the government and private sector for a fee. Goods and services that fall under this category of basic needs include health care, education, and food, among others. Although most people can afford the fees charged, some cannot. Since they are considered basic needs, methods have been developed both in the health and non-health sectors to provide those unable to pay with access to these basic services. The following sections review current methods of assessing ability to pay and guaranteeing access to health care and other goods such as education, food, and electricity.

### A. EVIDENCE FROM SOUTH NYANZA ON CURRENT METHODS OF GUARANTEEING ACCESS TO HEALTH CARE

Currently fees are charged at a large percentage of health care providers, including private practitioners, mission facilities, and inpatient departments in government hospitals. Most health facilities where fees are charged encounter some patients who cannot pay. This section reviews evidence on the magnitude of the problem of nonpaying patients. Evidence in this section is from interviews with 13 facility heads in South Nyanza. South Nyanza was chosen as the site for a facility based and household based health survey because of the relatively poor level of health indicated by its health statistics. Table 1 presents a summary of the different Mechanisms for ensuring access in South Nyanza.

Personnel at all paying facilities recognised that some people have incomes too low to afford the fees and have ad hoc methods of assessing low income individuals. The most common method is to verify a family's inability to pay through local officials or religious figures. A social worker is often employed to assess ability to pay or look into the patient's background. Other factors that are considered in assessing ability to pay are mental or physical disability, marital status, age, and number of visitors to an inpatient. Most of these methods are less effective for outpatients than for inpatients since there is less time for observation and gathering information and the fee does not justify the cost of collecting the information. However, most of the facilities visited do not have much of a problem with people unable to pay the outpatient fees. Most facility heads said it was very rare that someone could not pay their outpatient fees, even though these fees are higher than the proposed government fees. Nonpayment of inpatient fees was also infrequent, less than 5% of inpatients at all facilities. The number of patients unable to pay at government facilities once fees are introduced will be higher since the current alternative of going to a lower priced or non-charging government facility will be less readily available.

Most facilities recognised that there are two levels of patients who might not be able to pay for health. The first level is the very poor who cannot pay any amount due to low income. The second level are those who can pay some for health care but may not be able to pay all the time or at all levels of facilities. People may not be able to pay for all health care

TABLE 1

Magnitude and Methods of Coping with Non-Payment:  
Evidence from South Nyanza Health Facilities

<u>FACILITY</u>	<u>AVG. FEE</u>	<u>NUMBER WAIVED</u>	<u>METHOD OF WAIVING</u>	<u>WHO WAIVES</u>
<u>Mission Health Centres</u>				
<u>Rapogi</u>				
inpatient	15/day +20 drugs	10/month	pay later full history from location chief	nurses
outpatient	25-30/visit	—		
<u>Atemo</u>				
inpatient	20/day +drugs	rare	trace relatives invoice relatives	medical coordinator
outpatient	15/visit	—		
<u>Mirogi</u>				
inpatient	20/day +10 food/day	—	appearance discussion type of service	senior in-charge
outpatient	10/visit +10 drugs	—		
<u>Rakwaro</u>				
inpatient	—	15-20/mth	residency	nurse
outpatient	25/visit	—	ask contact people (public health aide) give partial drugs	
<u>Ranen</u>				
outpatient	70/visit	4/month (<1%)		clinical officer
<u>Missionary Hospitals</u>				
<u>Kendu Bay (7th Day Adventist)</u>				
inpatient	70/day	3/month	pastor confirms with chief	medical director hospital committee
outpatient	100-150/ visit	rarely	part payment give partial drugs cancer	chief of medical staff for outpatients Hospital secretary

TABLE 1 (continued)

Magnitude and Methods of Coping with Non-Payment:  
Evidence from South Nyanza Health Facilities

<u>FACILITY</u>	<u>AVG. FEE</u>	<u>NUMBER WAIVED</u>	<u>METHOD OF WAIVING</u>	<u>WHO WAIVES</u>
<u>Government Hospitals</u>				
<u>Homa Bay District Hospital</u>				
inpatient	20/stay	rarely	disabled no. of visitors	nurse off. in-charge medical supt.
<u>Ombo Sub-district Hospital</u>				
inpatient	20/stay	<1/month	no. of visitors marital status disability/age	nurse off. in-charge hospital secretary
outpatient	2(card)	never		
<u>Nyanza Provincial Hospital (Kisumu)</u>				
inpatient	20/stay	5%	ability to pay	consultant in-charge medical supt.

either because their income fluctuates, or because the household experiences many episodes of illness and thus high health care costs. A household may be able to pay for only a certain amount of health care before the expenditure becomes a burden. It is important to remember that fluctuations in income as well as frequency and duration of illness within a household contribute to inability to pay.

Recognizing that some individuals have temporary cash constraints, most facilities have provisions for partial or delayed payments. At several South Nyanza facilities, part of the prescribed drugs are withheld until full payment is received.

It is also recognised that certain illnesses are either very debilitating or very costly and thus reduce an individual's ability to pay. Some facilities acknowledged that they are more likely to exempt from payment individuals who are suffering from cancer and physical and mental disability. There was no standardised list of illnesses used by facilities to help them make such judgments. Hence it would be useful to clarify and standardize those categories of illnesses that are likely to impose a financial burden on families and for which all or part of the fees need to be waived. Examples of such illnesses might include AIDS, and some cancers. It is also likely that a series of different illnesses within a family in a short period of time could pose a financial burden on a family. Evidence of extensive health care costs such as receipts for payment at government facilities should be considered a factor affecting ability to pay.

In addition to asking health care personnel to assess current arrangements for charging and waiving fees, facility heads were also asked to assess the likely impact of the new government cost-sharing on demand for their services, particularly by low income groups. Most of those interviewed felt that the impact would depend critically on what happened to quality of care at government facilities. The in-charges at both NGO and government facilities felt that once people started paying at government facilities they would expect better care, and were concerned about the ability of government facilities to provide that improved care. In particular, 64% of the people interviewed mentioned availability of drugs as their biggest concern, or said that availability of drugs at government facilities would be the biggest factor determining demand for health care services at all facilities. Whether the utilization at government facilities will increase or decrease will depend critically on the availability of drugs.

#### B. REVIEW OF METHODS USED IN OTHER SECTORS FOR GUARANTEEING ACCESS TO BASIC SERVICES

This section assesses the mechanisms for guaranteeing access to basic services in other sectors. In particular, the Ministry of Education, the Ministry of Culture and Social Services, and Kenya Power and Lighting Co. all recognise that some individuals cannot afford to pay for some basic services and have developed mechanisms for assuring access. The following three sections review the current mechanisms for guaranteeing access used by those three sectors.

## 1. Education

This section focuses on mechanisms for ensuring access to secondary education since primary education is free. There are no waivers as such for school fees. Rather the Ministry of Education operates a bursary fund which is given to schools on the basis of each school's estimated needs. Applicants for a bursary are required to fill out an application. The information required on the form includes parents' nationalities, occupations, number of siblings, and their ages and occupations, including the number of children in school. The applicant is also asked to indicate a guardian's name and occupation. Sources of family income are also required. This includes income to parents, the guardian, and any working brothers and sisters. Finally, the total amount of school fees for brothers and sisters is asked in order to assess the burden of education expenses on the household. A bursary request form for higher education is included as an example in Appendix 1.

The information provided by the applicant is validated by writing to the Children's Department of the Ministry of Home Affairs in the home district of the applicant. The department investigates and provides the school with information that guides decision on individual cases.

The decision as to who receives funds, and how much they receive is reached at the school's board of governors meeting, by a team comprised of the head teacher, the local district officer, and representatives of the Ministry of Education. For obviously desperate cases, the head teacher may decide and make recommendations to the board of governors for award.

## 2. Social Services

The Department of Social Services in the Ministry of Culture and Social Services runs a social welfare program. This is intended to take care of some of the basic needs of the destitute, including assistance to widows, orphans, abandoned children, and the aged. Assistance is given mainly to cover education, including school fees, rehabilitation and retraining of adults, improvement of homesteads, and care for orphans and the aged. Currently, direct support is being discouraged in favor of eliciting more support from relatives.

The department in the district is headed by District Social Development Officers, who supervise Social Development Officers and their assistants. There are also Social Welfare Officers in charge of the social welfare functions of the departments. The lowest cadre officers in the field are the Community Development Assistants (CDAs). They are employees of local authorities but work for the Department of Social Services. They are recruited and stationed locally. Often they are school leavers who undergo a one year course in social development and three months of on-the-job training in community development.

Community Development Assistants with the help of local leaders carry out casework in which they investigate the family background of each of the cases they handle. Basic information sought in assessing each case includes: names of immediate members of the family and other relatives,

their addresses or current residence, their occupations, sources of family income, size of the family, and other socioeconomic information.

The final decision to give assistance rests with the District Social Welfare Committee which reviews cases that have been recommended for assistance by the CDAs. This committee is comprised of a Social Welfare Officer and representatives of various NGOs. The decision of this committee remains final without further reference to the headquarters.

### 3. Electricity

In order to improve access to electricity in low income urban areas Kenya Power and Lighting differentiates its charges between users of small and large amounts of electricity and between poorer and richer urban areas. Low level users of electricity are likely to also be poorer, therefore, the charge per unit is 37 cents per unit for the first 50 units, 87 cents for the next 50 units, 107 per unit for the next 200 units, and 133 cents for all additional units consumed up to 7000 units.

Besides this built-in system which accommodates all classes of domestic power consumers, the company also differentiates its standing charge per meter by location in a town. In Nairobi, a consumer with a residence in a middle class residential estate pays a standing charge of 30KShs, while a resident of a lower class residential area pays a standing charge of 20KShs.

### C. SUMMARY

Certain methods of assessing ability to pay currently in use by the above sectors could be adapted to the health sector. Education, Social Services, and Health all assess ability to pay based on occupation and assets of the household and also consider household demographic information, such as age, marital status, number of siblings and dependents. They also use local officials or social workers familiar with the area to look into the background of particular cases. The fact that the Ministry of Culture and Social Services already has local personnel in the field assigned to identify needy cases should be of use to health facilities, who can use these Community Development Assistants to help identify those unable to pay for health care. The method of Kenya Power and Lighting of identifying poor areas and charging a lower fee can be less readily used by health facilities since health facilities must rely on the patient for information as to where he/she lives. The proposed guidelines for assuring access in Section III incorporate many of the mechanisms currently used in other sectors.

### III. GUIDELINES FOR DETERMINING ABILITY TO PAY

The previous chapter has identified certain information that may be feasible to obtain from people applying for waivers from health cost-sharing. This chapter suggests some modifications to that information, and how it might be used by health facilities to help determine who is able to pay. There are no hard and fast rules to determine whether or not a person cannot pay and therefore the ultimate decision is left to the judgment of the staff of the health facility. The information gathered from all sources, should be combined with the judgment of the person deciding on a waiver to determine whether a waiver is granted. Since no one factor alone determines whether a fee is waived, it is hoped that individuals will be less able to get waivers by giving false statements.

The information gathered and whether written records are retained should be left up to the individual health facility in consultation with the district medical officer. At rural health centres, in which a majority of the patients are known personally by the staff of the facility, a formal waiver mechanism may not be needed. For outpatient services provided by urban health centres and hospitals, some more formal mechanism may be needed, and written records of prior waiver decisions are probably desirable. For inpatient services at government hospitals, even more careful record keeping may be desirable. Whether or not facilities use formal or informal methods of determining ability to pay, all facilities should record and report regularly on the number of waivers granted. Since the charges levied on patients are much higher for inpatient care, further efforts to ensure access and collect fees may be appropriate. Suggestions on how to collect payment from inpatients who are unwilling but able to pay are discussed in Section B.

#### A. A FORMAL ADMINISTRATIVE MECHANISM FOR ASSESSING ABILITY TO PAY

This section describes a formal mechanism for assessing ability to pay that might be used by an urban health centre or hospital for assessing ability to pay for both outpatient and inpatient services. Even for facilities using a less formal procedure, many of the guidelines included here may prove useful.

1. The clerk responsible for collecting fees should be a different person from the person determining ability to pay. This is desirable to avoid excessive queues for paying fees. For example, at a health centre, the statistical clerk could collect fees while an enrolled community nurse could decide on waivers. At a hospital outpatient department the nursing officer could be the one to decide on waivers. People requesting a waiver of fees should first be required to wait in the same queue as those paying fees. In this way the total wait for people requesting a waiver will be longer than for people paying fees. People that are truly able to pay will be less willing to request a waiver if they are required to wait in an additional queue. When a person claims inability to pay he/she is sent by the clerk to the person designated to grant waivers. This person will be called the waiver officer for the rest of this document.

2. The waiver officer first checks his/her records to see if the patient applying for a waiver has applied for a waiver in the past. If no

application is on file then the waiver officer fills out a new application by interviewing the patient or using information available from the patients medical card if available. At a rural health centre, where patients are known to the facility or other local authorities there is less need for the form. The same information could be gathered more informally but could still be used to help determine ability to pay.

4. Once the waiver application form is completed the waiver officer will assess all the available information and decide on whether the patient should be waived.

If the decision is to waive, an "exempt" stamp will be attached to the patient's health card and stamped with the date. Showing that stamp at facilities will entitle the patient to free care for one month from the date on the stamp. However, the person will be informed that he/she will not receive another waiver at that facility without a note from an authority (pastor, social worker, chief, school head, etc.). The fact that the patient was exempt will be recorded and the form will be filed.

If the decision is to not waive, "not exempt" will be written on the application and it will be filed. The person will be told that he/she can appeal the decision by bringing more information, such as a letter from a community leader that confirms his/her inability to pay.

5. If a person applying for a waiver has a waiver application already on record (whether that waiver application was accepted or denied) then in order to receive a waiver, the patient must have brought the appropriate letter from an authority or have one already attached to his/her application.

6. A waiver form is only good for a period of three to six months. A three month period is recommended to capture seasonal fluctuations in income. If a patient applies for a waiver and the waiver application on file is more than 3 months old then the waiver form should be updated, and a new letter is required.

7. Both the in-charge for the facility and a representative from the district headquarters (such as the DMOH or the DPHN) should monitor the number of waivers given. At the end of each month (and perhaps more frequently initially) the number of waivers given should be carefully reviewed. If the number of waivers granted seems too high or too low relative to predicted levels or in comparison with other similar health facilities, then the waiver procedures and any written documents should be reviewed. The criteria used for granting or denying waivers should be discussed with the waiver officer, and perhaps revised.

In addition, each facility should develop its own list of village chiefs and other community leaders that it should keep on file. Over time, village leaders that provide too many letters requesting waivers should be identified, and perhaps consulted with to change their practice. Any community leaders found to be charging for waiver letters should be reported to the appropriate officials. Patients providing names of community leaders that are not on the facility's list should be questioned.

SAMPLE OF INFORMATION THAT COULD BE GATHERED FROM PATIENTS

Name	_____	_____	_____	_____
Address	_____	_____	_____	_____
Location	_____	_____	_____	_____
Village	_____	_____	_____	_____
Street (if available)	_____	_____	_____	_____
Box Number	_____	_____	_____	_____
Telephone number	_____	_____	_____	_____
Age	_____	_____	_____	_____
Sex	_____	_____	_____	_____
married/not married	_____	_____	_____	_____
Occupation of husband/self/father	_____	_____	_____	_____
Education	_____	_____	_____	_____
Name and type of employer	_____	_____	_____	_____
Occupation of wife/self/mother	_____	_____	_____	_____
Education	_____	_____	_____	_____
Name and type of employer	_____	_____	_____	_____
Next closest Relative				
Name	_____	_____	_____	_____
Address	_____	_____	_____	_____
Telephone number	_____	_____	_____	_____
Name of community leader (pastor, chief, party representative, school official, etc.) who can certify inability to pay				
Name	_____	_____	_____	_____
address	_____	_____	_____	_____
telephone number	_____	_____	_____	_____
title or position	_____	_____	_____	_____
Number of children	_____	_____	_____	_____
How many of these children are less than 12?	_____	_____	_____	_____
How many children are in school?	_____	_____	_____	_____
How did you get here today?	_____	_____	_____	_____
Do you smoke?	_____	_____	_____	_____
Is the person wearing shoes?	_____	_____	_____	_____
Physical appearance of person?	_____	_____	_____	_____
Does person have a physical disability?	_____	_____	_____	_____
(The following should be obtained from health cards or patients records if available)				
Number of health revenue stamps paid for				
in the last 6 months.	_____	_____	_____	_____
Number of days in hospital in last 6 months.	_____	_____	_____	_____
Other health information?	_____	_____	_____	_____

B. HOW INFORMATION MIGHT TO BE USED TO HELP DETERMINE ABILITY TO PAY

Address of patient - Some addresses may be known to be in locations where people are very poor.

Age - very old people may be less able to pay because they are less likely to be employed. They are more likely to have poor health or be disabled which leads to less ability to earn income and are more likely to have high health care costs.

Sex - combined with other information may be useful.

Married/not married - a single woman with many children is less likely to be able to pay. A married person is more likely to have two people working and thus is more likely to be able to pay.

Occupation of husband or wife - if this information is given correctly by the individual it tells a lot about ability to pay. For example, certain categories of occupations should always be required to pay such as civil servants, teachers, health care workers, etc. The fact that the husband or wife even has an occupation, even though it may be very informal, indicates some income earning potential. If a person is unemployed it indicates that he/she may not be able to pay. There is a lot of potential for giving false answers here and thus the answer to this question alone should not be the only criteria for waiving.

Education of husband/wife/self/parents - people above a certain level of education are assumed to have some income earning potential and thus should be able to pay. For example all families in which either the husband or wife has at least a high school education should be able to pay. A low level of education may indicate an inability to pay, but is not in and of itself sufficient to waive fees because of the potential for giving false statements, and the fact that not all uneducated people are poor.

Employer of husband/wife/self/parents - The income and employment status of an individual can be verified with the employer. If appropriate, the employer's address can be collected. The fact that an employer may be contacted is an incentive not to give a false name or apply for a waiver if it is not justified. The fact that neither a husband nor wife has an employer is not enough to determine whether or not a person is able to pay.

Name and address of next closest relative - This gives an additional source for verifying ability to pay. Although the individual may not be able to pay, one may be able to verify with the community leader whether or not the next closest relative may be able to pay.

Name and address of community leader who is certifying inability to pay - Everyone should be able to provide the name of some community leader (i.e. religious figure, local government official, school head, etc.) who can be contacted to confirm inability to pay. If a patient gives a false name or the name of someone who is not a community leader (such as a relative) this would be found out if the waiver officer tried to contact that person.

Although the waiver officer will not contact all the names given by people who apply for waivers, each month a few of the names will be contacted. The possibility that a community leader may be contacted should help to deter people from giving false information about income, employment, number of children, etc.) At small facilities, the names of community leaders are probably known. At large facilities, names of community leaders will become known over time since certain names will appear on many waiver applications.

Number of children - people with large families are less likely to be able to pay. Again this should be combined with other information such as whether or not the person is married, unemployed, the age of children, etc.

Ages of children - children under twelve are likely to be in school, or at least not generating income. Having children of this age implies certain financial obligations which may reduce ones ability to pay for health care.

Number of children in school - this should be compared to the age of the children. If the person has school age children who are in school this implies some ability to pay. If a person has school age children who are not in school this perhaps indicates an inability to pay, although again one must be aware of the potential to give false statements.

How did you get here? - certain answers, such as "I drove my car" or "I came in my brother's car" indicate ability to pay. If a person says that they walked, this should be compared with their home address to determine how far they walked. The fact that a person walked a long distance suggests an inability to pay.

Do you smoke? - a person that can afford to smoke should be able to pay.

Is person wearing shoes - The absence of shoes may be a signal of a poor ability to pay. The condition of the shoes may also be another signal.

What is the physical appearance of the person? - Again this may not always be a reliable indicator, but it can be useful. In some cases you may be able to detect those affluent enough to pay. If the person or any of the accompanying children show signs of malnutrition, this is a clear signal of an inability to pay.

Number of outpatient visits in last 6 months - many visits indicates that the patient has been ill and thus may not have been able to earn as much income or may have incurred high health costs. Both of these factors may indicate an inability to pay additional fees.

Number of days in hospital in last 6 months - This is similar to the above and indicates that a person has had high health costs in the recent past. The person may also have lost income due to a hospitalization and thus be less able to pay.

Other health information - This could include any disabilities described by the patient and verified by the waiver officer. It might include other medical indicators of malnutrition that are not obvious by inspection. It could also include excessive expenditure on health care due to illness of

another family member. The patient would have to verify this by showing hospital receipts or the health cards of the other family members.

C. ADDITIONAL GUIDELINES FOR INPATIENTS

1. For inpatient charges it may be worthwhile to send someone around to the patient's village, both to inquire about the patient's ability to pay, and to identify other people that may be able to help the person pay. One should speak to the patient's visitors as well.
2. A record of the number of visitors to an inpatient and their appearance is a useful indicator of ability to pay. If possible, their names and addresses should also be gathered, in order to increase the number of people to contact and request payment from.

D. STRATEGIES FOR COLLECTING REVENUE FROM INPATIENTS WHO ARE SUSPECTED OF BEING ABLE TO PAY

Most hospitals experience a considerable number of patients who could pay but do not pay. Private hospitals in the Nairobi area experience bad debt on the order of 1%-5% of revenue.<sup>1</sup> Likewise, KNH also experienced considerable bad debt in its amenity wards. In the first 9 months of 1987/88, 6.0% of its amenity ward patients did not pay, which equaled 12.2% of revenue. In the same period in 1988/89, 3.4% of its amenity ward patients did not pay, which equaled 2.1% of revenue.<sup>2</sup> Since people who cannot afford to pay these prices have the alternative of much cheaper government health facilities or wards, it can be assumed that the majority of these patients should be paying. Current methods used by Nairobi area hospitals for collecting fees from those who do not pay include continuous invoicing, lawyers, and invoicing relatives. In the case of inpatient care most facilities require some prepayment before admittance and immediate payment on discharge. This section suggests further methods of collecting fees from inpatients who do not pay. The suggestions in this section are probably not relevant to outpatients since the cost of collection often outweighs the value of the fee.

1. Bills of outstanding inpatient charges should be given to the patient and kept on file. Some people may return to pay their bills. If the amount is large it may be desirable to assign someone to visit the patient's village in order to collect fees that are still unpaid.
2. Tell the person that you will be giving their name to the community leader they have mentioned as well as others, and that you will encourage that community leader to request Harambee donations at some future date when the person is more able to pay. This may encourage the person to pay the fees now.

---

1 Kenyatta National Hospital Board: Plan of Action for Reform, Volume 1, 1988, Appendix E, Exhibit III C1.

2 "Evaluation of User Fees at KNH," World Bank Pre-Appraisal Team Report, 1989, p.II-4.

3. It may be possible to ask the person to leave an identity card or some other valuable item with the facility (to be stored in a very safe place!) and kept until the patient has been discharged. This will discourage people from disappearing without paying, as well as give the hospital some bargaining power over the patient.

4. For medical services that are not medically necessary but which may still be desired by the patient (e.g., optional drugs, elective surgery) the facility is in a good position to deny these services unless the patient pays for them.

5. Individuals who do not have a valid hospital receipt or waiver will be required to pay for follow-up care, whereas it would be free for individuals who have paid.

E. EXTENT TO WHICH OBSERVABLE CRITERIA PREDICT ABILITY TO PAY

There are no perfect indicators of ability to pay. This section uses data from Nakuru on reported cash income and socio-economic characteristics of outpatients to determine how well those characteristics predict cash income. This is done to assess how well the information available on households, described in Section III.A., predicts ability to pay. Cash income is just one measure of ability to pay. Other factors such as total income and level of wealth in terms of land, livestock, vehicles, and other assets, also help determine ability to pay but are not conclusive. For example, a household with a lot of assets may not be able to readily convert those assets into income, and thus may not be able to pay in the short term. Similarly, a household may have considerable income but may be unable to pay due to very high expenses such as the hospitalization or death of a family member.

In order to predict ability to pay from the type of socio-economic information available to someone granting a waiver, several linkages need to be established or assumed. The first linkage is between socio-economic characteristics and income. The second linkage is between income and ability to pay. The data from Nakuru only allows for examination of the first linkage between socio-economic characteristics and income. A further weakness of the data is that the income variable includes mainly cash income and does not include income in-kind, which is extremely important especially for low income families. Thus the relationship that is examined in this section is the extent to which certain information obtainable about individuals and his or her household is able to predict cash income. It is assumed that cash income has some positive relationship with ability to pay, although the extent of this relationship is not known. Further analysis of the data from South Nyanza, will enable some of the missing links to be established.

The household and individual characteristics available from the Nakuru data are the respondent's sex, age, marital status, family size, education, occupation, mode of transportation to the health facility, and whether or not he/she is the household head. If the respondent is not the household head, additional information is available on the education and occupation of the household head. If the waiver application form suggested on page 10 is

used, more information than this will be available to health facility personnel when they decide whether or not to grant a waiver. For example, with no personal knowledge of the waiver applicant, health facility personnel can determine the number of dependents and whether or not they are in school, as well as the family size. In addition, they will be able to assess the physical appearance of the individual, whether or not they smoke, and recent expenditures on health care. This additional information will help facility personnel determine ability to pay. However, those variables are not available in the Nakuru data and thus the extent to which they are good predictors of income cannot be assessed.

In this section, annual cash income is regressed against the socio-economic variables available from the Nakuru data in order to determine how well those variables predict cash income. The sample represents individuals over age 5 who attended a public facility for curative care. The average respondent is 28 years old, has 6 years of education, and comes from a household with 5.7 members and an annual income of 13,000KSh. The majority of the respondents were female, married, and walked or took a bus to the health facility. The most frequently represented occupations among the respondents and household heads were wage employment followed by farming. A description of the sample characteristics is found in Appendix 2.

As was suggested in Section III.B, certain socio-economic characteristics can be used as indicators of ability to pay. For example, older people, unmarried people, female household heads, households with a large number of children, and the unemployed may be less able to pay, while married people, wage employees, and those with more education may be more able to pay. It was also suggested that those who traveled a long distance on foot may be less able to pay while those who came in their own car may be more able to pay.

The results of regressing annual cash income against the above variables are shown in Table 2. The signs of most of the coefficients substantiate the hypotheses described above. However, the coefficients are generally not significant, and the total predictive ability of the model, as measured by the  $R^2$  is only .10, indicating that the variables only explain 10% of the variability in cash income.

The signs of the coefficients substantiate the relationships between socio-economic characteristics and cash income as hypothesized above. For example, the coefficients on female headed households and individuals over 70 years of age are negative indicating that annual household cash income is lower for these groups of individuals. Annual cash income increases with household size, however, larger households still may be less able to pay due to lower income per person. The coefficients on education of the respondent and the household head are strongly positive, thus indicating that education strongly increases income. Respondents who are single, widowed, separated, or divorced have lower incomes than respondents who are married. Respondents who walked or came by bicycle have lower incomes on average than those who came by bus or matatu, while those who drove their own car have higher incomes. The occupation category of household heads that produces

TABLE 2

Regression of Annual Cash Income against Socio-economic Characteristics

R-squared=.103      Std. Error of Regr.- 18647      Number of Observations=656

<u>Variable</u>	<u>Coefficient</u>	<u>Std. Error</u>	<u>T-ratio</u>
constant	-2855.58	6138.18	-.465
household size	789.661	262.515	3.008
female head of household	-4928.01	2895.81	-1.702
female	3932.14	1827.24	2.152
age greater than 70	-2808.78	9948.34	-.282
household head education	295.70	260.38	1.136
respondent education	648.16	274.72	2.359
marital status			
single	-1116.81	2094.93	-.533
widowed/divorced/separated	-3756.95	4186.69	-.897
married	—	—	—
mode of transport to facility			
walked * distance	-.92	301.35	-.003
bicycle	-1209.77	5019.15	-.241
own car	6133.42	5066.30	1.211
employers car	-2319.95	4475.09	-.518
bus/matatu	—	—	—
occupation of household head			
housewife	19677.40	8361.10	2.353
farming	2830.27	5631.57	.503
wage employment	3904.42	5522.71	.707
self employed	3991.60	5739.99	.695
casual worker	3025.04	6252.18	.484
student	8454.19	9479.22	.892
other	11658.90	8190.37	1.423
unemployed	—	—	—
occupation of respondent			
housewife	-6085.19	4052.51	-1.502
farming	-155.69	3866.01	-.040
wage employment	2808.79	3838.03	.732
self employed	6363.85	4208.63	1.512
casual worker	-3163.43	5019.00	-.630
student	553.42	3757.42	.147
other	-3417.58	4503.16	-.759
unemployed	—	—	—

the lowest income is unemployed, as expected. Surprisingly, the two highest income employment categories are housewife and other. Unfortunately neither of these two categories is very useful in assessing ability to pay. Among the respondents' occupations the picture is less clear. Four occupation categories have lower expected incomes than the unemployed: housewife, farming, casual worker, and other.

Two potential problems occur in the regression described above. The first problem is that values of annual cash income less than zero, while feasible, are not observed in this sample. Ordinary Least Squares regressions may produce biased estimates of the coefficients in such cases where the dependent variable is truncated. A Tobit regression was therefore estimated to correct for this possible bias. The Tobit results were not substantially different from the Ordinary Least Squares result and thus are not reported here.

The second problem is that there is substantial multicollinearity between characteristics of the respondent and characteristics of the household head since in 40% of the observations the respondent is also the head of household. This collinearity between variables makes it hard to determine the independent explanatory power of individual variables. To reduce this problem separate regressions were run using either the characteristics of the respondent or the household head, but not both. The significance of the education variables and most of the employment variables increased considerably in the separate regressions, indicating that these variables do have some independent explanatory ability.

The goal of this section has been to determine how well one can predict household cash income based only on the limited information available to health facility personnel in charge of granting waivers. The answer to that question is that the information on individuals that can be readily obtained by health facility personnel is not a very good predictor of cash income. The most important factors explaining variability in cash income are education of both the respondent and household head, whether or not the individual is widowed, divorced or separated, and whether or not the household head is female. Mode of transportation and occupation are not very reliable indicators of cash income. Nonetheless, all information contributes to some extent to determining cash income and should be used in assessing ability to pay. However, the information analyzed here only accounts for 10% of the variability in cash income across individuals, and cash income itself is not necessarily a good indicator of ability to pay. Thus it seems appropriate to leave considerable discretion and judgment to the facility in determining ability to pay on a case by case basis.

#### IV. EVIDENCE ON WILLINGNESS AND ABILITY TO PAY

##### A. WILLINGNESS TO PAY

Evidence from Nairobi, Nakuru, and South Nyanza indicate that a majority of patients are willing to pay for improved service. In Nairobi, 62% of patients visiting all facilities said they were willing to pay for improved service. Sixty-six percent had visited facilities that charge fees at least once.<sup>3</sup> In Nakuru, 67% of outpatients surveyed would be willing to pay something to ensure improved quality of care. Sixty-one percent of outpatients would be willing to pay 10KSh per visit to ensure improved quality.<sup>4</sup> In South Nyanza, 61% said that they were willing to pay at least 10KSh per visit to insure improved quality.

Inpatients appear to be even more willing to pay as evidenced in Nakuru, where 82% of inpatients would be willing to pay something to insure improved services. Seventy-eight percent said that they would be willing to pay 20KSh per day, which is the new fee at government hospitals.<sup>5</sup>

Willingness to pay does not always imply ability to pay. There are likely to be a considerable number of individuals who are able to pay but are unwilling. Likewise there may be considerable number willing to pay but find themselves unable to pay for one reason or another. For example, in Nakuru, 45% of those visiting government outpatient facilities for curative care (i.e. the class of patient most affected by cost-sharing) said that they would not be willing to pay 10KSh per visit at that facility. However, of that 45%, 29% have paid for health care in the past, 8% had insurance or a valid NHIF card, 3% had income in the top 40%, and 18% had two or more of the above. This leaves only 18% of the curative outpatients at public facilities in Nakuru who were both unwilling to pay and show no indication of being able to pay.

There is also a group of patients who may be willing to pay but are unable to pay. The following section relates the proposed fee structure to household cash incomes to determine the percentage of outpatients who may not be able to pay.

##### B. ABILITY TO PAY

###### 1. Methodology for Determining Ability to Pay

A frequently used benchmark is that a typical household should not have to pay more than 5% of their income on health care. Information available from other middle income African countries, although relatively dated, indicates that the average percent of household income spent on health care is in the range of 2.2-4.3%. In Senegal the percentage is 2.2% (1981), Nigeria, 2.5% (1960), Zimbabwe, 1.9-2.5% (1960), and Ivory Coast, 4.3%

---

3 Nairobi Area Study, (NAS) Volume I, Final Report, 1988, p.51.

4 Provincial and District Study (PADS), 1989, p.33.

5 Ibid.

(1969).<sup>6</sup> Evidence from the 1981/1982 Rural Household Budget and Expenditure Survey in Kenya indicates that households, even in the lowest income category of 0-299 KSh/month, spend a considerable amount on health care. The two districts which had the highest average expenditure per month in the lowest income group were Muranga, 12.5KSh, and Meru, 10.5KSh, which is greater than 5% of income for a large percent of these low income households.<sup>7</sup>

The 10KShs per month outpatient fee at government health centres is less than 5% of income for any household that has at merely 199KShs per year of income. However, to use 200KShs/year income as the cut-off above which people can pay would be highly misleading since most households have more than one member and each member is likely to have episodes of illness in more than one month. Thus health care expenditure will be greater than the 5% benchmark for higher income households that have multiple episodes of illness.

The next section focuses on the percentage of outpatients presenting to health centres and district and provincial hospitals that may need a waiver of fees for that month based on annual cash income. First the probability of an individual having at least one episode of illness per month is calculated using data from household surveys conducted in Meru and South Nyanza. These monthly probabilities are used to calculate the expected number of months in which an average family will require health care. In order to determine the percentage of outpatients who may not be able to pay the fee for a particular month, the likely number of months requiring payment of fees is compared to the distribution of cash income in several districts where household or facility based health surveys have been conducted. The households for whom total health expenditure is greater than 5% of cash income are assumed to be unable to pay for that month of health care. These calculations produce a percentage of clients presenting to facilities for whom fees may have to be waived. These figures are not the same as the percentage of the population that cannot pay, since many of the households will have already paid a considerable amount for health care before they require a waiver.

The three districts that are analyzed are Nakuru, South Nyanza, and Meru. In Nakuru, a facility based survey of client characteristics was conducted.<sup>8</sup> In South Nyanza and Meru, household based surveys were conducted on household characteristics and health care utilization.<sup>9</sup> The three surveys were all conducted in 1989. In the Nakuru sample, only individuals who were over age 5 and were attending public facilities for

---

6 David de Ferranti, "Paying for Health Services in Developing Countries: An Overview," World Bank Staff Working Paper No. 721, 1985

7 Central Bureau of Statistics, "Rural Household Budget and Expenditure Survey," Table 25.

8 For more information see: Provincial and District Study (PADS), 1989, p.33.

9 For more detail on the Meru survey see, Kirigia, Joses Muthuri, Patrick Fleuret, Mark Renzi, and Daniel J. Byrne, (1989), "Effects of Health Care User fees: Evidence from Meru District." p.12.

curative care were included in the sample. In the South Nyanza and Meru sample, only those households who had at least one member over age five who attended a government facility in the previous month were included. These subsamples were chosen to correspond to the group that will be required to pay fees at government facilities and therefore might need a waiver.

The methodology used here probably over-estimates the percentage of outpatients requiring waivers. One reason for this is that the income variable obtained from all three surveys is cash income in the previous four weeks. This income variable underestimates total income since it excludes income in-kind. The result is that the incomes appear lower than they actually are and the percentage of households unable to pay appears higher. Another reason for the over-estimate is that demand for health care at government facilities will fall as a result of fees. If this fall is uniform across all income classes then it will not effect the percentage of low income outpatients at government facilities. However, if the price elasticity of demand for health care is higher for low income households<sup>10</sup> then the number of outpatients from the lower income groups will fall more than the number from high income groups, and thus the percentage requiring waivers will be less than predicted here.

2. Percentage of Curative Outpatients Not Able to Pay Monthly Charge:  
Evidence from Nakuru, South Nyanza, and Meru

a. Nakuru

In Nakuru, 11% of the population, or 73 households out of 678 total households, reported income of less than 200KSh per year. This is an over estimate of the number of households in this low income category since income variables that were missing or not known by the respondent were treated as zeros. Appendix 3 shows the distribution of household income among the survey population in Nakuru, South Nyanza, and Meru.

It is assumed that anyone with less than 200KSh/year of cash income can not pay for any health care since even 10KSh is 5% of income or more. In addition, people in higher income groups may not be able to pay for a particular month of care depending on the frequency of illness in that household.

The probability of an individual having at least one episode of illness in the last month is based on a household survey in Meru which found 216 individuals who had been sick among 141 households.<sup>11</sup> The average household size was 5.6. This produces an estimate of 792 individuals that were sampled of which 216 had an episode of illness in the last four weeks. This results in a 27% chance of being ill in a month. Of 216 individuals who

---

10 Avi Dor, Paul Gertler, and Jacques Van Der Gaag, "Non-Price Rationing and the Choice of Medical Care Providers in Rural Cote D'Ivoire," Journal of Health Economics, (1987) Vol. 6, p.291-304.

11 Kirigia, Joses Muthuri, Patrick Fleuret, Mark Renzi, and Daniel J. Byrne, (1989), "Effects of Health Care User fees: Evidence from Meru District." p.12.

were ill 207 sought treatment outside the home, resulting in a 26% chance of being ill and seeking treatment in a month.

In Nakuru, the average household size in the sample is 5.66 members. It is assumed that the average household has four members over age 5 and who therefore pay for treatment. This means that the average household may have to pay for health care in 0-48 months depending on the degree of illness in a household. For example, about 25% of households will need to pay 6-10 months of charges, or 60KSh-100KSh per year. An additional 58% of households will need to pay for 11 to 15 months of health care, or 110KSh-150KSh per year. Another 15% will have to pay for 16-20 months of charges, or 160KSh-200KSh per year. The probability of paying for more than 20 months of illness is less than 6 in 1000 cases, therefore, only in very exceptional circumstances will a household with more than 4000KSh be unable to pay. Appendix 4 describes in more detail the assumptions and methodology used to determine probabilities of requiring 0-48 months of health care.

The results indicate that in districts with income distributions similar to Nakuru it is likely that as many as 19% of outpatient visits at health centres may have to be provided free of charge. Of those curative outpatients unable to pay, approximately 20% will have cash income less than 2000KSh/year, 58% will have 2000-2999KSh/year of cash income, and another 28% will have 3000-3999KSh/year of cash income. Very few outpatients with more than 4000KSh/year of income will be unable to pay unless they have had exceptionally high health costs. The figure of 19% of outpatients needing free care is likely to be the maximum number since, as mentioned previously, most available income data overestimates the percentage of the population in the lower income categories. In addition, percentage of lower income patients presenting to facilities is likely to be less once fees are introduced due to differential price elasticities of demand as discussed in Section IV.B.1. The estimate of 19% free outpatient visits does not include revisits in a month for which a fee has been paid.

Since the outpatient fee at hospitals is 20KSh/month rather than 10KSh per month, a greater percentage of households may not be able to pay this fee. If households received all their health care at 20KSh per month, a large percent of outpatient charges would probably need to be waived. However, district and provincial hospitals are supposed to treat only those cases that cannot be treated at lower level facilities. Therefore, households should be receiving most of their care from health centres and only pay the 20KSh at hospitals if they are referred. In Nakuru, only 23% of the curative outpatients at Nakuru PGH, and 8% at Naivasha District hospital were referred. Fee exemptions should only be given to non-referred cases in exceptional circumstance. Of those referred, it is likely that only slightly more than 19% will not be able to pay the outpatient fee.

#### b. South Nyanza

A household survey was conducted in South Nyanza in October, 1989. Interviews were conducted in 553 households resulting in information on health and health care choices of 3063 individuals. The average number of adults over five years per household is 4.3. Calculations in this section, as in the previous one, are based on household with 4 members over five

years of age. In South Nyanza, 33% of the individuals had at least one episode of illness in the previous four weeks. Seventy percent of those sick sought treatment outside the home at least once. This means that the probability of being sick and seeking treatment is only .22 in South Nyanza. This is in contrast to Meru where only 27% of the households had at least one episode of illness and 96% of the ill individuals sought treatment. The higher probability of illness in South Nyanza is partly explained by the prevalence of malaria. The lower proportion of individuals who seek treatment may be explained by lower incomes and less accessible health care facilities. Most of those who did not seek treatment said the problem was not serious. However, this tendency to not seek treatment no doubt contributes to the high morbidity and mortality evidenced in the health statistics from South Nyanza.

The data from South Nyanza indicates an income distribution that is worse than in Nakuru, as evidenced by Appendix 3, Table 3.B. Whereas in Nakuru only 11% of the sample population had income from 0-199KShs, in South Nyanza 26% of the sample population has income in this range. In Nakuru, 32% of the sample population has income below 4000KShs per year, the cut off above which a household should almost always be able to pay for health care. In South Nyanza, 62% of the households have income below 4000KShs. There are several reasons why the disparity of income between Nakuru and South Nyanza may not be as wide as these figures indicate. The first reason is that the survey in Nakuru was a facility based survey and thus may not capture the very low income groups who do not present themselves to the facilities that were surveyed. The second reason is that South Nyanza may have a more subsistence based economy than Nakuru and the incomes reported in South Nyanza may greatly underestimate true income. Further analysis on the South Nyanza data will produce better estimates of income.

In South Nyanza, the distribution of health care costs across households with four members older than five years is similar to that in Nakuru, since the probability of seeking treatment in a month is similar to the estimates used in Nakuru. Forty-seven percent of households will pay for treatment in 6-10 months, or have health care costs of 60-100KShs per year. Another 45% will seek treatment in 11 to 15 months, requiring health care expenditure of 110-150KShs per year. Although the probability of visiting a health facility in a month is lower in South Nyanza than in Nakuru, the low incomes result in an estimate of 47% of outpatients presenting to health centres that need to be exempt from fees.

### c. Meru

The expected health expenditure of a typical family in Meru is identical to Nakuru. The results are the same since the average family size is the same in both districts, and the calculations to determine the probability of seeking treatment in a month is based on the Meru data, and thus is .26 in both districts.

The distribution of income in the Meru sample is somewhere between that of Nakuru and South Nyanza as evidenced by Appendix 3. In Meru, 10% of the households have 0-199KShs of annual cash income compared to 11% in Nakuru and 26% in South Nyanza. However, 68% of the households in Meru have income

less than 4000KShs compared to 32% in Nakuru and 62% in South Nyanza. This results in an estimate of 46% of the outpatient visits in Meru that require a waiver of fees.

#### 4. Summary

Evidence from Nakuru, South Nyanza, and Meru, indicate the people are very willing to pay for improved services. In Nakuru, 82% of the individuals surveyed either said that they were willing to pay at least 10KSh per visit to ensure improved quality, or showed evidence of being able to pay. When probable health care expenditures were compared to reported income, 81% of outpatients appeared to be able to pay their monthly fee.

In South Nyanza and Meru, the situation appears to be considerably worse. Although 61% of individuals surveyed in South Nyanza indicated that they were willing to pay at least 10KShs per outpatient visit, when probable health care expenditure is compared to income, only 53% of the outpatients in South Nyanza and 54% in Meru appeared able to pay that month's fee.

Further information on income distribution by district is needed to assess the validity of these results, and to expand the analysis to other districts. Income distribution tables for most districts, such as those in Appendix 3, should be obtainable from the Central Bureau of Statistics, either from the Integrated Rural Survey, 1977/78 or 1984/85, or from the Rural Household Budget and Expenditure Survey, 1981/82. Unfortunately, the Central Bureau of Statistics has been unwilling to provide this information. Provincial level income distribution is available from the 1974/75 Integrated Rural Survey.<sup>12</sup> However, this data is too highly aggregated and is too dated to be of much use for this analysis.

---

12 Integrated Rural Survey, 1974-1975: Basic Report, Central Bureau of Statistics, March 1977.

## V. CONCLUSION

This report has assessed the willingness and ability to pay for health care among a sample of the Kenyan population, and suggests guidelines for facilities in determining whether or not a patient is able to pay. It has shown that mechanisms for providing access to basic needs exist in other sectors and their experience can be used by the health sector to assure access. The guidelines suggested for determining ability to pay are based on the observations of health personnel, information reported by the person applying for a waiver, and information from community leaders. None of this information is an entirely reliable indicator of ability to pay. Thus there is the need for a great deal of discretion and flexibility at the facility in determining ability to pay, and there is great need for careful monitoring of the number of waivers given by facility and district.

This report has used survey data from three districts to determine the percent of outpatient visits that might have to be provided free of charge due to inability to pay. The percentage differs dramatically between the three districts, indicating a need for district specific assessment of ability to pay in order to monitor access to health care and revenue collection.

APPENDIX 2

Description of Socio-economic Characteristics of Nakuru Sample

Variable	Mean	Std. Dev.	minimum	Maximum
Annual Cash income	12946	21285	0	244,200
Age	27.6	13.2	0	85
Education of Household head	6.7	3.9	0	25
Education of Respondent	6.3	3.9	0	18
Household size	5.7	3.0	0	19

Frequency of Occupation Categories

	Respondents		Household Head	
	Frequency	Percent	Frequency	Percent
housewife	84	13%	9	1%
unemployed	41	6%	15	2%
farming	125	19%	154	23%
wage employment	152	23%	309	47%
self-employment	63	10%	97	15%
casual worker	44	7%	57	9%
student	95	14%	6	1%
other	54	8%	11	2%

Frequency on Mode of Transportation to Health Facility

	Frequency	Percent
walk	318	48%
bicycle	15	2%
bus/matatu	289	44%
own/private car	15	2%
employer's car	19	3%
other	2	0%

Frequency on Marital Status

	Frequency	Percent
married	371	56%
single	257	39%
widowed/divorced/separated	30	5%

Frequency on Sex and Sex of household head

	Frequency	Percent
Female	372	57%
Male	286	43%
Female household head	80	12%
Male household head	578	88%

APPENDIX 3

TABLE 3.A  
Distribution of Self-reported Cash Income in Nakuru  
(individuals older than 5 years  
attending public facilities for curative care)

<u>Income Range</u>	<u>Frequency</u>	<u>percent of respondents</u>	<u>cumulative percent</u>
0-199	73	10.8	10.8
200-399	1	.1	10.9
400-599	1	.1	11.0
600-799	2	.3	11.3
800-999	2	.3	11.6
1000-1999	26	3.9	15.5
2000-2999	49	7.3	22.8
3000-3999	60	8.9	31.7
4000-4999	59	8.8	40.5
5000-5999	13	1.9	42.4
6000-6999	40	5.9	48.3
7000-7999	46	6.8	55.1
8000-8999	21	3.1	58.2
9000-9999	28	4.2	62.4
10,000-19,999	143	21.3	83.7
20,000 +	110	16.3	100.0

TABLE 3.B  
Distribution of Self-reported Cash Income in South Nyanza  
(households who had at least one member older than 5 years  
who visited a public facilities for curative care in previous 4 weeks)

<u>Income</u> <u>Range</u>	<u>Frequency</u>	<u>percent of</u> <u>respondents</u>	<u>cumulative</u> <u>percent</u>
0-199	53	26.0	26.0
200-399	5	2.4	28.4
400-599	4	2.0	30.4
600-799	1	0.5	30.9
800-999	3	1.5	32.4
1000-1999	25	12.2	44.6
2000-2999	22	10.8	55.4
3000-3999	14	6.9	62.3
4000-4999	6	3.0	65.3
5000-5999	4	2.0	67.3
6000-6999	7	3.3	70.6
7000-7999	3	1.5	72.1
8000-8999	7	3.4	75.5
9000-9999	10	4.9	80.4
10,000-19,999	18	8.8	89.2
20,000 +	22	10.8	100.0

TABLE 3.C  
Distribution of Self-reported Cash Income in Meru  
(households who had at least one member older than 5 years  
who visited a public facilities for curative care in previous 4 weeks)

<u>Income</u> <u>Range</u>	<u>Frequency</u>	<u>percent of</u> <u>respondents</u>	<u>cumulative</u> <u>percent</u>
0-199	4	10.0	10.0
200-399	1	2.5	12.5
400-599	0	0.0	12.5
600-799	1	2.5	15.0
800-999	2	5.0	20.0
1000-1999	7	17.5	37.5
2000-2999	7	17.5	55.0
3000-3999	5	12.5	67.5
4000-4999	2	5.0	72.5
5000-5999	0	0.0	72.5
6000-6999	2	5.0	77.5
7000-7999	1	2.5	80.0
8000-8999	1	2.5	82.5
9000-9999	1	2.5	85.0
10,000-19,999	2	5.0	90.0
20,000 +	4	10.0	100.0

APPENDIX 4

If illness strikes randomly in the population, and the probability of an individual getting sick in a given month is  $p$ , then distribution of months of illness can be represented with the binomial distribution. This can be written as follows:

The probability of  $k$  months of illness out of a possible  $n$  months -

$$\frac{n!}{k! * (n-k)!} * p^k (1-p)^{n-k}$$

The assumptions for the following calculations are that there are 4 household members over age 5, thus there are 48 possible months of health care costs ( $n=48$ ). The probability ( $p$ ) of being ill and seeking treatment in a month is .26 in Nakuru and Meru, and .22 in South Nyanza. This formula for the binomial distribution assumes that the probability of being ill in a particular month is independent of whether one was ill in another month or whether other household members are or have been ill. This assumption, while not completely justified, should produce a reasonable approximation for the distribution of illness within a household. Another assumption implicit in these calculations is that the probability of being ill and seeking treatment is the same at all income levels. While it is likely that lower income households have higher incidence of illness, they are less likely to seek treatment. These two factors counteract each other and thus the assumption of constant probability of being ill and seeking treatment may be justified.

TABLE 4.A  
Calculations of Percentage of Outpatients in Nakuru  
Unable to Pay for a Month of Outpatient Treatment at a Health Center

(1) k months illness	(2) probability of household with 4 members older than 5 years having n months of illness	(3) cost of health care for n months of illness	(4) income for which that cost is > or = to 5% of income	(5) proportion of out- patients who have income < or = previous column	(6) column (2) x column (5) proportion of outpatients whose income is < or = column (4) times probability of health care costs equal to column (3)
0	0.000	0	0	—	.000
1	0.000	10	200	.11	.000
2	0.000	20	400	.11	.000
3	0.000	30	600	.11	.000
4	0.002	40	800	.11	.000
5	0.005	50	1000	.12	.001
6	0.012	60	1200	.12	.002
7	0.026	70	1400	.14	.006
8	0.046	80	1600	.14	.012
9	0.072	90	1800	.14	.022
10	0.099	100	2000	.16	.038
11	0.120	110	2200	.16	.057
12	0.130	120	2400	.16	.078
13	0.127	130	2600	.22	.106
14	0.111	140	2800	.22	.131
15	0.089	150	3000	.23	.151
16	0.064	160	3200	.24	.166
17	0.043	170	3400	.24	.177
18	0.026	180	3600	.24	.183
19	0.014	190	3800	.31	.187
20	0.007	200	4000	.32	.190
21	0.003	210	4200	.32	.191
22	0.001	220	4400	.34	.191
23	0.001	230	4600	.34	.191
24	0.000	240	4800	.34	.192
25	0.000	250	5000	.41	.192
26	0.000	260	5200	.41	.192
27	0.000	270	5400	.41	.192
28	0.000	280	5600	.42	.192
29	0.000	290	5800	.42	.192
30	0.000	300	6000	.42	.192
31	0.000	310	6200	.47	.192
32	0.000	320	6400	.47	.192
33	0.000	330	6600	.47	.192
34	0.000	340	6800	.48	.192
35	0.000	350	7000	.48	.192

TABLE 4.B  
Calculations of Percentage of Outpatients in South Nyanza  
Unable to Pay a for a Month of Outpatient Treatment at a Health Center

(1) k months illness	(2) probability of household with 4 members older than 5 years having n months of illness	(3) cost of health care for n months of illness	(4) income for which that cost is > or = 5% of income	(5) proportion of out- patients who have income < previous column	(6) column (2) x column (5) proportion of outpatients whose income is < or = column (4) times probability of health care costs equal to column (3)
0	0.000	0	0	—	.00
1	0.000	10	200	.26	.00
2	0.001	20	400	.28	.00
3	0.002	30	600	.30	.00
4	0.008	40	800	.31	.00
5	0.020	50	1000	.32	.01
6	0.041	60	1200	.32	.03
7	0.069	70	1400	.39	.05
8	0.100	80	1600	.40	.10
9	0.125	90	1800	.41	.15
10	0.138	100	2000	.45	.21
11	0.134	110	2200	.45	.27
12	0.117	120	2400	.45	.34
13	0.091	130	2600	.53	.39
14	0.064	140	2800	.55	.42
15	0.041	150	3000	.55	.44
16	0.024	160	3200	.57	.46
17	0.013	170	3400	.57	.47
18	0.006	180	3600	.57	.47
19	0.003	190	3800	.62	.47
20	0.001	200	4000	.62	.47
21	0.000	210	4200	.62	.47
22	0.000	220	4400	.63	.47
23	0.000	230	4600	.63	.47
24	0.000	240	4800	.63	.47
25	0.000	250	5000	.65	.47
26	0.000	260	5200	.65	.47
27	0.000	270	5400	.65	.47
28	0.000	280	5600	.66	.47
29	0.000	290	5800	.67	.47
30	0.000	300	6000	.67	.47
31	0.000	310	6200	.70	.47
32	0.000	320	6400	.70	.47
33	0.000	330	6600	.70	.47
34	0.000	340	6800	.71	.47
35	0.000	350	7000	.71	.47

TABLE 4.C  
Calculations of Percentage of Outpatients in Meru  
Unable to Pay for a Month of Outpatient Treatment at a Health Center

(1) k months illness	(2) probability of household with 4 members older than 5 years having n months of illness	(3) cost of health care for n months of illness	(4) income for which that cost is > or = to 5% of income	(5) proportion of out- patients who have income < or = previous column	(6) column (2) x column (5) percent of outpatients whose income is < or = column (4) times probability of health care costs equal to column (3)
0	0.000	0	0	—	
1	0.000	10	200	.10	.000
2	0.000	20	400	.13	.000
3	0.000	30	600	.13	.000
4	0.002	40	800	.15	.000
5	0.005	50	1000	.20	.001
6	0.012	60	1200	.23	.004
7	0.026	70	1400	.25	.010
8	0.046	80	1600	.35	.027
9	0.072	90	1800	.35	.052
10	0.099	100	2000	.38	.089
11	0.120	110	2200	.43	.140
12	0.130	120	2400	.43	.196
13	0.127	130	2600	.50	.259
14	0.111	140	2800	.50	.315
15	0.089	150	3000	.55	.364
16	0.064	160	3200	.58	.401
17	0.043	170	3400	.60	.426
18	0.026	180	3600	.60	.441
19	0.014	190	3800	.68	.451
20	0.007	200	4000	.68	.456
21	0.003	210	4200	.68	.458
22	0.001	220	4400	.68	.459
23	0.001	230	4600	.70	.460
24	0.000	240	4800	.70	.460
25	0.000	250	5000	.70	.460
26	0.000	260	5200	.70	.460
27	0.000	270	5400	.70	.460
28	0.000	280	5600	.70	.460
29	0.000	290	5800	.70	.460
30	0.000	300	6000	.70	.460
31	0.000	310	6200	.73	.460
32	0.000	320	6400	.73	.460
33	0.000	330	6600	.75	.460
34	0.000	340	6800	.75	.460
35	0.000	350	7000	.75	.460

REPUBLIC OF KENYA

MINISTRY OF EDUCATION

HIGHER EDUCATION BURSARIES AND SCHOLARSHIPS

- 1. (a) Bursary or Scholarship being applied for .....
- (b) Value of other Bursaries, Scholarships and/or other financial aids applied for .....

2. Personal Details

- (a) Name ..... Mr./Mrs./Miss  
(Surname First: Capital Letters)
- (b) Permanent address .....
- (c) Date of birth .....
- (d) Place of birth ..... District ..... Location .....
- (e) Birth Certificate No. ....
- (f) Nationality/Citizenship (Mark 'X' appropriately)
  - (i) Kenyan ..... (ii) Other (specify) .....
  - (iii) If Kenyan, state whether by birth, Registration, Naturalization .....
- (g) Married or single .....
- (i) If married, name of husband/wife .....
- (ii) Number of children .....
- (h) Applicant's occupation .....
- (i) Do you have any dependants .....
- (j) How will you maintain your dependants while at College .....

3. Educational Background (applicant)

- (a) Primary (Std. 1 to 7/8)
  - (i) .....
  - (ii) .....
  - (iii) .....
- (b) Secondary (Form 1 to 6)
  - (i) .....
  - (ii) .....
  - (iii) .....
- (c) College (academic or professional training)
  - (i) .....
  - (ii) .....
- (d) Examination passed:
  - (i) Highest academic examination and date passed .....
  - (ii) Detailed result by subjects .....
  - (iii) Highest professional examination and date passed .....
  - (iv) Detailed results of (d) (iii) ..... (v) Other (specify below) .....

4. Family Details

- (a) Father (i) Name

**4. Family Details—(Contd.)**

- (iv) Nationality (Citizenship) Registration Certificate No. ....  
(v) Occupation .....
- (vi) Postal Address .....
- (b) Mother (i) Name .....  
(ii) Place of birth ..... District ..... Location .....  
(iii) Nationality (Citizenship) .....  
(iv) Nationality (Citizenship) Registration No. ....  
(v) Occupation .....  
(vi) Postal Address .....
- (c) Siblings (i) Number of brothers ..... (ii) Their ages .....  
(iii) Number of sisters ..... (iv) Their ages .....  
(v) Number of brothers and sisters in school and/or College .....
- (d) Who supports your Education? (Mark 'X' appropriately)  
(i) Father ..... (ii) Mother .....  
(iii) Guardian .....  
(iv) If you are supported by a guardian, state the relationship between you and the guardian .....  
(v) Guardian's name .....  
(vi) Guardian's nationality (Citizenship) .....  
(vii) Guardian's nationality (Citizenship) Registration Certificate .....  
(viii) Occupation .....  
(ix) Guardian's address .....

**5. Financial Statement**

- (a) Father (i) Income from salary £ ..... p.a.  
(ii) Income from all (or any) other sources ..... p.a.
- (b) Mother (i) Income from salary £ ..... p.a.  
(ii) Income from all (or any) other sources ..... p.a.
- (c) Total income of father and mother £ ..... p.a.
- (d) Guardian (i) Income from salary £ ..... p.a.  
(ii) Income from all (or any) other sources ..... p.a.  
(iii) Total income of guardian £ ..... p.a.
- (e) Other sources of family income:  
(i) Number of earning brothers .....  
(ii) Total income of earning brothers £ ..... p.a.  
(iii) Number of earning sisters .....  
(iv) Total income of earning sisters £ ..... p.a.
- (f) Applicant (i) Income from salary (present employment) £ ..... p.a.  
(ii) Income from all (or any) other sources £ ..... p.a.  
(iii) Total income of applicant £ ..... p.a.
- (g) Total income £ ..... p.a.

- (iv) Nationality (Citizenship) Registration Certificate No. ....
- (v) Occupation .....
- (vi) Postal Address .....
- (b) Mother (i) Name ..... District ..... Location .....
- (ii) Place of birth .....
- (iii) Nationality (Citizenship) Registration No. ....
- (iv) Nationality (Citizenship) Registration No. ....
- (v) Occupation .....
- (vi) Postal Address .....
- (c) Siblings (i) Number of brothers ..... (ii) Their ages .....
- (iii) Number of sisters ..... (iv) Their ages .....
- (v) Number of brothers and sisters in school and/or College .....
- (d) Who supports your Education? (Mark 'X' appropriately)
- (i) Father .....
- (ii) Mother .....
- (iii) Guardian .....
- (iv) If you are supported by a guardian, state the relationship between you and the guardian .....
- (v) Guardian's name .....
- (vi) Guardian's nationality (Citizenship) .....
- (vii) Guardian's nationality (Citizenship) Registration Certificate .....
- (viii) Occupation .....
- (ix) Guardian's address .....

**5. Financial Statement**

- (a) Father (i) Income from salary £ ..... p.a.
- (ii) Income from all (or any) other sources ..... p.a.
- (b) Mother (i) Income from salary £ ..... p.a.
- (ii) Income from all (or any) other sources ..... p.a.
- (c) Total income of father and mother £ ..... p.a.
- (d) Guardian (i) Income from salary £ ..... p.a.
- (ii) Income from all (or any) other sources ..... p.a.
- (iii) Total income of guardian £ ..... p.a.
- (e) Other sources of family income:
- (i) Number of earning brothers ..... p.a.
- (ii) Total income of earning brothers £ ..... p.a.
- (iii) Number of earning sisters ..... p.a.
- (iv) Total income of earning sisters £ ..... p.a.
- (f) Applicant (i) Income from salary (present employment) £ ..... p.a.
- (ii) Income from all (or any) other sources £ ..... p.a.
- (iii) Total income of applicant £ ..... p.a.
- (g) Total income £ ..... p.a.

**IMPLEMENTING ISSUES FOR HEALTH CARE COST SHARING IN KENYA**

**VOLUME II:  
REFERRAL PATTERNS**

**December 1989**

**Dr. S.K. Sharif, REACH Consultant  
Randall P. Ellis, REACH Consultant**

**Prepared by the Resources for Child Health (REACH) Project  
USAID Contract No. DPE-5927-C-00-5068-00**

29

## EXECUTIVE SUMMARY

This report begins with a review of the referral guidelines and actual referral patterns for different government health facilities. Previous studies have shown that the current referral system is imperfect in that many patients bypass lower level facilities and go directly to higher level facilities without obtaining a referral letter. In many cases this increases total costs and causes congestion at higher level facilities. On the other hand, existing evidence for patients received by health professionals suggests that most formal referrals are for appropriate reasons. It is desirable to encourage people to use formal referral channels rather than the current practice of self referrals.

Guidelines are suggested for creating incentives for more appropriate referrals. Central to this is the idea that user fees can be used to encourage patients to visit lower level facilities and then be referred to higher level facilities only as appropriate. The mechanism for doing this is to give the patient a credit against charges at the higher level facility when evidence of an appropriate referral and a receipt from the lower level facility is provided.

Referral guidelines for various levels for health delivery points are also suggested.

## TABLE OF CONTENTS

### EXECUTIVE SUMMARY

#### I. INTRODUCTION

#### II. EXISTING MINISTRY OF HEALTH GUIDELINES FOR REFERRALS

#### III. ACTUAL REFERRAL PATTERNS

- A. Overview
- B. Findings from a facilities survey in South Nyanza, Nyanza Province
- C. Findings from the Provincial and District Health Services (PADS) Study
- D. Findings from Nairobi Area Study
- E. Findings from the Kenyatta National Hospital Study.

#### IV. SUGGESTED INTEGRATION OF FEES WITH THE REFERRAL SYSTEM.

#### V. SUGGESTED REFERRAL GUIDELINES

- A. Kenyatta National Hospital
- B. District and Provincial Hospitals
- C. Health Centres, Sub-Health Centres and Dispensaries

#### VI. CONCLUSION

#### APPENDICES

## I INTRODUCTION

Because of the way in which the delivery of health care services is structured, the referral system is a key component in the efficient delivery of health services in Kenya. The health delivery system in Kenya is organized in the shape of a pyramid, with lower level facilities providing basic services and referring patients requiring specialized services to higher level facilities. Dispensaries, which are the lowest level facility in the system, are directed by a community nurse and provide only basic curative care. Health centres, staffed with a clinical officer, are expected to provide all of the services offered by dispensaries, as well as preventive care, simple surgical procedures, and maternity services. Dispensaries and health centres are only responsible for providing primary care.

District and provincial hospitals, staffed by physicians, provide "secondary care," which includes a wide range of inpatient care and specialty outpatient treatment using more elaborate facilities. Because provincial hospitals often have a variety of specialists on staff, patients requiring treatment by a specialist are often referred to provincial rather than district hospitals.<sup>1</sup> At the top of the pyramid, Kenyatta National Hospital serves as a national referral centre, providing "tertiary care" which involves expensive and very specialized care, frequently involving physician specialists.

This structure of health delivery is intended to provide widespread access to basic health services at low cost, while providing more specialized treatment as needed at more expensive, higher level facilities. For most illnesses and conditions, dispensaries and health centres are intended to provide the first point of contact for patients. At the same time, health centres and dispensaries are the most cost effective way to provide basic follow-up services for patients following discharge from a hospital. Appropriate referrals upward and downward are essential to ensure that patients receive treatment from the lowest cost facility that can provide the necessary services.

At this time when the Kenyan MOH is in the process of implementing a new schedule of cost-sharing for health services, it is appropriate to examine whether any changes in referral procedures and guidelines are desirable. This report, prepared at the request of the MOH and US AID makes an effort to serve that purpose.

The report is organized as follows. Chapter II describes existing Ministry of Health referral policies. Chapter III summarizes actual referral patterns for different facilities. Particular attention is given to referral patterns as found in South Nyanza, Nakuru, and the Nairobi area. These locations were examined because facility surveys that shed light on referral patterns have recently been conducted in each area.

---

<sup>1</sup> Sub-health centres and sub-district hospitals, as their names suggest, provide levels of services intermediate between other levels.

113

Chapter IV suggests how referrals could be integrated into the fee system in a manner that will encourage greater use of referrals, while Chapter V discusses simple referral guidelines that could be put in place for different level facilities. Conclusions and discussion are provided in Chapter VI.

4/11

## II. EXISTING MINISTRY OF HEALTH GUIDELINES FOR REFERRALS

### A. DISPENSARIES AND HEALTH CENTRES

Guidelines for referrals from dispensaries and health centres to higher facilities are based on:

1. Services that are provided at these facilities,
2. Cadre of personnel at these facilities, and
3. Disease categories that can be treated at these facilities.

Guidelines for lower level facilities are covered to some extent in the book Manual for Rural Health Workers that shed light on referral patterns<sup>2</sup> published by the Ministry of Health and included in the curriculum used to train the health workers.

### B. HOSPITALS

There are no written guidelines on what cases to refer from a district hospital to a provincial hospital or KNH. Referrals are based on the referring facility's ability to cope with patients that are presented to it. Often this depends upon the availability of specialized equipment and medical personnel. Kenyatta National Hospital is a national referral hospital that receives patients for specialised services that are not available elsewhere.

Although the Ministry of Health has not provided written guidelines on which cases to refer from a hospital, it has to some extent provided guidelines on the level of facility to which hospitals should refer their patients, i.e. higher level facilities for complicated case and lower level facilities for follow-up treatment.

The absence of written guidelines for referrals between hospitals does not appear to have been a major problem to date. Any system of referrals must rely upon the clinical judgment of the medical officers to a great extent. Nonetheless some standardization of referral procedures is probably desirable.

---

<sup>2</sup> Manual for Rural Health Workers. Ministry of Health, Kenya 1986.

### III. ACTUAL REFERRAL PATTERNS

#### A. OVERVIEW

Referrals generally follow the vertical structure described previously where patients from district hospitals are referred to a provincial hospital and then to Kenyatta National Hospital. It is important to recognize that referrals from one facility to another do not adhere to administrative boundaries. For example, Kiambu District Hospital, Thika District Hospital and Machakos Hospital all use Kenyatta National Hospital as their referral hospital since KNH is closer than their respective provincial hospitals. Likewise, Nakuru Provincial General Hospital, which is in Rift Valley, is a referral hospital for Nyahururu District Hospital even though Nyahururu is in Central Province.

District and Provincial hospitals are referral centres for lower level facilities.<sup>3</sup> They should thus be seeing a large proportion of their outpatients as referrals. However most district and provincial hospitals are in urban centres and hence also serve as points of primary health care for these urban areas.

The volume of outpatient referrals that a health facility receives is difficult to establish since there is no systemised form for recording referrals. Thus most health facilities record referred patients as new attendances. Similarly data about outpatients referred to another facility are scanty, although health centres and dispensaries report the number of patients referred in their monthly outpatient morbidity returns, it does not indicate the facilities the patient were referred to or disease categories that were referred.

#### B. FINDINGS FROM A FACILITY-BASED SURVEY OF SOUTH NYANZA, NYANZA PROVINCE

In a facility-based study of 13 health facilities in South Nyanza (Appendix 1) all of the responding facilities referred patients to other health facilities. The most common reasons given for referring patients to higher level facilities (Appendix 2) were lack of trained personnel, lack of drugs or supplies, or unavailable equipment. Given available resources at these sending facilities, most of the reasons given appear to be appropriate reasons for referrals.

Facilities in the survey received between 1 and 20% of their outpatients as referrals and between 1 and 10% of their inpatients as referrals (Appendix 5). All except one dispensary reported that less than 2% of their patients were inappropriate referrals. The exceptional dispensary reported 10% of their referrals as inappropriate. The inappropriate referrals were due to drug shortages in other government health centres and from a mission hospital because of inability of patients to pay.

---

<sup>3</sup> Guidelines for the Management of Hospital Outpatient Services. Ministry of Health, Kenya, 1982.

46

Drug shortages are another important cause of referrals. Five out of seven government health facilities often experienced shortages of drugs and supplies (Appendix 3). Two of the seven government health facilities referred patients to another facility because of shortage of drugs, while none of the mission hospitals referred patients because of shortage of drugs. Three out of seven government health facilities received referred patients because of shortage of drugs at government health facilities while three out of the six mission health facilities received referred patients from government health facility because of drug shortage (Appendix 4). Except for referrals induced by drug shortages, referrals in South Nyanza appear to be mostly for appropriate reasons.

C. FINDINGS FROM THE PROVINCIAL AND DISTRICT HEALTH SERVICES (PADS) STUDY

The PADS study in Nakuru district was completed during the fall of 1989 as part of the REACH project. The study included a series of questions to both inpatients and outpatients about whether or not they had been referred and the reasons for their referrals. Tables 1, 2 and 3 summarize the responses of outpatients receiving curative treatment from the relevant questions from that study.

As shown in Table 1 the proportion of outpatients that are referred to facilities varies substantially as should be expected. For example, at Nakuru Provincial General Hospital, 23 percent of all outpatients were referred there. At Naivasha Sub-District Hospital, 8 percent of the outpatients were referrals. MOH health centres and dispensaries in the study saw only two and four percent referrals, respectively. Five percent of the outpatients attending the one mission facility were referrals.

Out of the 90 people in the PADS study who indicated that they had been referred, 85 indicated where they had been referred from. Their responses are tabulated in Table 2. 49 out of these 85 referrals were upward in the health pyramid, from a health centre or dispensary to one of the two MOH hospitals, while only 3 referrals were downward from a hospital to a health centre or dispensary. Four outpatients were referred from another hospital to the Nakuru Provincial Hospital, which indicates Nakuru's role as a referral facility even for other hospitals.

Table 3 summarizes the reasons people gave for being referred to Naivasha or Nakuru among the 59 people that were referred there. Just over one third were referred there to be examined by a doctor, while another third were referred there because the drugs needed were not available at a lower level facility. The lack of lab services at the health centre or dispensaries was mentioned by only five percent of the people. These referrals generally appear to be appropriate since patients were referred to hospitals for services such as doctor consultations and lab tests that lower level facilities are not supposed to be offering. The only questionable category of referrals are those referred for needed drugs. It is not clear whether the drugs needed were those that health centres are not expected to carry, or whether the lower level facilities were simply out of stock.

**TABLE 1**  
Percentage of Curative Outpatients that were Referred  
by Receiving Facility

Were you referred here today?	Receiving Facility					row total
	Nakuru Provincial Hospital	Naivasha District Hospital	Mercy Mission Hospital	MOH/municipal Health centre	MOH dispensary	
no	159	329	129	207	129	953
yes	47	27	7	4	5	90
column total	206	356	136	211	134	1043
percent referred	23%	8%	5%	2%	4%	8.6%

**TABLE 2**  
Frequency of Referrals by Sending an Receiving Facility

Referred from	Receiving Facility					row total
	Nakuru Provincial Hospital	Naivasha District Hospital	Mercy Mission Hospital	MOH/municipal Health centre	MOH dispensary	
hospital	4	1	2	1	2	10
health centre	26	7	1	0	1	35
dispensary	12	14	2	1	2	31
other	3	5	0	1	0	9
column total	45	27	5	3	5	85

**TABLE 3**  
Reason for Referrals from Health Centres and Dispensaries  
to Nakuru PGH or Naivasha

Why were you referred to this hospital	Where were you Referred from?		row total	row percentage
	Health Centre	Dispensary		
Operation	1	0	1	2%
To be examined by doctor	13	8	21	35%
Drugs needed not available	10	10	20	34%
Seriously ill	3	1	4	7%
Specialized care here	0	4	4	7%
No lab services there	2	1	3	5%
Other	4	2	6	10%
total	33	26	59	100%

The PADS study also conducted a survey of inpatients at Nakuru, Naivasha, and Mercy hospitals. For all of these facilities combined, only 14 percent had evidence of a referral. This means that 86% of inpatients surveyed in the study had no evidence of being referred to the facility i.e. presented themselves to the hospital without passing through lower level facilities.<sup>4</sup>

The results from PADS suggest that the biggest problem with regard to referrals is not that they are occurring for inappropriate reasons, but that not enough of them are occurring. Too often patients are showing up at higher level facilities such as Nakuru provincial hospital without any referral note and requesting treatment. Some of these patients could be treated appropriately and more inexpensively at lower level facilities.

#### D. FINDINGS FROM THE NAIROBI AREA STUDY

The Nairobi Area Study, completed in 1988 by the Health Care Financing group of John Snow, Inc., through the REACH project, examined a wide range of Nairobi City Commission and NGO facilities in the Nairobi area. For the Pumwani Maternity Hospital it was found that 86% of women who delivered at the hospital were referred from other Nairobi City Commission facilities.<sup>5</sup> The study also found that government facilities in the city reported lack of equipment, lack of inpatient facilities and lack of specialised care as the main reason for referring patients to another health facility.<sup>6</sup> Patients were also referred to other facilities for preventive and promotive care, Maternal and Child Health and Family Planning (MCH/FP).

For the Nairobi area, one of the problems identified is that too many referrals were occurring because existing facilities were not able to provide all of the services that were supposed to be able to. Lack of equipment and inadequate staffing has resulted in many patients being referred to higher level facilities for the equipment and staffing at those higher facilities. This reason for referrals no doubt contributes to high costs and congestion at these facilities

#### E. FINDINGS FROM THE KENYATTA NATIONAL HOSPITAL STUDY

A study of the Kenyatta National Hospital (KNH) was completed in 1988 under the supervision of John Snow, Inc., as part of the REACH project. This study included a large number of surveys of patients and facility personnel.

Medical Records review of inpatients in the Kenyatta National Hospital study found that at least 50% of inpatients were non-referred patients.<sup>7</sup> In the outpatient survey (which was completed prior to the closure of the

---

<sup>4</sup> JSI/Reach, Volume I, p. 144, 1989.

<sup>5</sup> Nairobi Area Study, JSI/Reach, p. 225, 1988.

<sup>6</sup> Nairobi Area Study Final Report, JSI/Reach p. 222, 1988.

<sup>7</sup> Kenyatta National Hospital Study. Comprehensive Report, Vol. III, p. 36 JSI/Reach, 1988.

outpatient filter clinic) only 54% of patients were referred to the hospital.<sup>8</sup> In interviews with clinicians, there was great concern about other health facilities in the city and the surrounding districts referring patients to KNH because of shortage of drugs. The deputy director of KNH cited Kiambu District Hospital as referring patients for Caesarean section because of lack of sutures at Kiambu District Hospital.

Given the central importance of KNH as a national referral hospital responsible for providing tertiary care, the large number of patients that are self-referred and do not provide an appropriate referral letter is a source of concern.

---

<sup>8</sup> Kenyatta National Hospital Study. Comprehensive Report, Exhibit III, Sec. C.4, JSI/Reach, 1988.

#### IV. SUGGESTED INTEGRATION OF FEES WITH THE REFERRAL SYSTEM.

From the preceding discussion of four surveys done in different areas, two summary conclusions appear warranted.

- \* In the rural areas covered by PADS and the South Nyanza studies, formal referrals appear to be occurring mostly for appropriate reasons, but there is a need for encouraging more referral letters.
- \* In Nairobi, too many referrals are occurring because of shortages of drugs and supplies, unavailable staff, or a lack of equipment. An effort to correct these problems could reduce the need for many referrals and cut costs. Perhaps motivated in part by the knowledge that lower level facilities are often not able to provide the necessary services, too many people are showing up for treatment at KNH without a referral letter.

By charging higher inpatient and outpatient fees at higher level facilities, cost-sharing will create incentives for clients to attend the lowest level facility that is able to provide the required services. Hence, in areas with both a hospital and a dispensary, many people requiring outpatient treatment will probably choose to go to the dispensary first (since it is free) rather than going directly to a hospital. The high fees proposed for KNH are particularly likely to discourage clients from going there unless they have explored the possibility of treatment elsewhere.

Referrals can be encouraged even more if fees are also used to reward people for getting appropriate referrals. For example, if people appearing at a hospital with a referral letter are charged a lower fee than people appearing without a referral letter, getting an appropriate referral letter becomes more important. Similarly, people that have already visited a hospital for treatment should be encouraged to receive any necessary follow-up treatment at a lower level facility rather than requiring them to return to the (more expensive) higher level facility. Hence, treatment at a lower level facility should be provided free of charge following a visit to a higher level facility.

The above incentives for appropriate referrals are summarized in the following two basic principles:

##### For outpatient treatment:

The patient should pay the appropriate fee for outpatient treatment at the first facility visited. Having paid this fee, visits to any facility at the same or lower level are free for 30 days. Visits to a higher level facility should require paying the incremental cost difference between the lower level and higher level facility.

##### For inpatient treatment:

Previous payment of outpatient fees should be credited against the first day's inpatient charge for patients showing a referral letter.

Patients not presenting a referral letter should have to pay the full fee for the first day of treatment. For patients transferred from one hospital to another, days spent at the first facility should be credited towards the five day cap on charges at the second facility visited. Outpatient treatment for the first thirty days following discharge should be provided free upon presentation of the hospital discharge slips and receipts.

An important reason for providing credit to inpatients for any outpatient fees is that except for emergency cases and a small number of urgent referrals, patients virtually always attend a hospital's outpatient department before being admitted. Hence if no adjustments are made, patients will virtually always have to pay both the hospital's outpatient fee (20/-) and the inpatient fee (20/-) for the first day of treatment at a hospital. This is contrary to the desired goal of charging only 20 shillings per day for the first five days at district and provincial hospitals. In light of this it seems very desirable to give patients credit for payment of outpatient fees.

By a similar argument, it also make sense to credit earlier payments of outpatient fees against the inpatient charges. For instance, a patient should be rewarded for getting a referral from a lower level facility, which can be done by getting a credit for the outpatient fees already paid when a referral letter is presented. Crediting a patient with such previous outpatient payments also provides further limits on the total payment for health care during a short period of time, helping ensure access.

It is desirable to encourage follow-up treatment, and hence it seems desirable to provide free follow-up treatment for thirty days following an admission. However if a person cannot produce hospital receipts to show payment, then the facility should charge for follow-up treatment.

## V. SUGGESTED REFERRAL GUIDELINES

This chapter suggests referral guidelines that could be implemented for each level of facility in the MOH health delivery system. Reflecting the finding that inappropriate referrals are more of a problem in Nairobi than in rural areas, the guidelines are more specific for KNH, and less specific for dispensaries and health centres. A mechanism for documenting the reasons for referrals and whether or not they are for appropriate reasons is also suggested.

### A. KENYATTA NATIONAL HOSPITAL

1. By legal notice Kenyatta National Hospital is a referral facility for specialised care, providing specialized services to clients from Nairobi as well as the entire country. Since KNH is the only government non-specialty (general) hospital within Nairobi, it also serves as a general hospital for the city of Nairobi. Kenyatta National Hospital should establish criteria and procedures for referrals that reflect both of these functions.

2. Referrals must be from one of the following sources:

- a. Registered Medical Practitioners
- b. Provincial Hospitals
- c. District Hospitals
- d. Medical Officers in Nairobi Health Facilities

3. All referrals must be accompanied by a detailed referral letter indicating reasons for referral. Since the filter clinics at KNH have closed, all outpatients to KNH should be either referrals or emergencies.

4. The outpatient attendances at KNH are either to the casualty department or to one of the various specialty clinics.

#### Casualty Department

5. Except in cases of true emergencies involving life threatening conditions (eg. road traffic accidents), patients who attend casualty should have a valid referral letter. Patients not presenting a valid referral note should be requested to get one elsewhere before receiving treatment unless their condition is such that any delay will seriously jeopardize the condition of the patient.

6. Any facility or private medical practitioner making an emergency referral should ring the Casualty Department at KNH about the referral. General emergency cases should be handled by the staff on call in the casualty department, while emergencies requiring a specialist should be referred to the casualty department and then the specialist team on call. The specialist team on call for the appropriate specialty (e.g. neurosurgery) should then review the patient and decide on management. Since emergency specialty referrals will be from a specialist in the district or the province, these patients should be attended to immediately.

50

Specialty Clinics

7. Speciality clinics should receive only patients bearing an appropriate referral letter or Consultation Request form.
8. Appropriately referred patients should be seen by the medical records officer (MRO), and reviewed by the specialists in charge of that specialty clinic. The appropriate specialist should then ask medical records to book the patient for the appropriate day depending on the urgency of the patients condition and the availability of necessary resources.
9. Consultants should make every effort to discharge or refer patients from specialty clinics w.en patients can be treated appropriately at other facilities. For example, many cases of hypertension and epilepsy may not require the continuing services of KNH.

Summary

General Emergency Cases —————> CASUALTY  
Specialist Emergency cases—————> CASUALTY —> SPECIALIST TEAM ON CALL  
Referral to Specialist Clinics —> BOOK THROUGH MEDICAL RECORDS.

Documentation of Reasons and Sources of Referrals to KNH

10. From the present data available it is not possible to give details on the percentage of patients referred inappropriately i.e. patients who could be treated at other facilities if they had the necessary drugs and personnel. There is no data on facilities which refer patients inappropriately i.e. referring patients with hypertension that can be treated by doctors at Nairobi City Commission facilities. Therefore KNH should begin to gather information on where referrals come from and whether such referrals are appropriate.
11. It is proposed that KNH should introduce a modified form of the outpatient register (Table 4) for a short period of time, such as 6 months. The first five columns are already in use. Column 6 indicates the name of the facility which referred the patient and should be filled in by the medical records officer (MRO) using information from the patient's referral letter. After the patient has been seen by the doctor the patient's medical record card should be collected by the MRO and column 7 should be filled in from the patient's record. The medical officers in the casualty should indicate on the card if the referral was appropriate. Guidelines should be given to the medical officers by the manager or the consultant in charge of the casualty about appropriateness of the referral. The MRO should enter into his register the comments about the appropriateness of referral.

59

Table 4

Suggested Revision to Outpatient Department Register KNH

1 OPD NO	2 NAME	3 AGE	4 SEX	5 ADDRESS	6 REFERRING FACILITY	7 DIAGNOSIS: Ref.      Final diag.     diag.	8 APPRO- PRIATE Referral?

94

12. KNH should use this information to identify facilities that are referring patients to the casualty inappropriately and the reasons for which patients are being referred.

13. If a facility is referring patients due to lack of drugs then KNH should inform the facility to stock the drugs.

14. Use of the proposed modified outpatient register:

- a. The MRO will compile a list of facilities that are sending inappropriate referrals by diagnosis.
- b. The list is to be submitted to the manager of the casualty who will then submit it to the committee dealing with referrals.
- c. The referral committee will then write to the facility which is sending inappropriate referrals to improve i.e. if the referring facility is sending patients to KNH only for drugs then the referring facility should improve its drug supply.

#### B. SUGGESTED REFERRAL GUIDELINES FOR DISTRICT AND PROVINCIAL HOSPITALS

1. Patients referred from a dispensary should see either a preventive/promotive MCH/FP official or a clinical officer in charge of curative services.

2. Patients referred from a health centre should be permitted to see the medical officer in the outpatient department.

3. Referred patients from either a health centre or a dispensary to a district hospital or a provincial hospital should be seen immediately since they have followed the model referral system. It is proposed that district and provincial hospital keep a tally of all referred patients they receive. It is easy to introduce in the existing outpatient register where new attendances and reattendances are recorded. They can tally the number of referrals as the patient is being registered as a new attendance.

4. Referrals from a district hospital to a provincial hospital should be made by the medical officer or the specialist in charge of the particular field of medicine appropriate for the patients condition. Since referral criteria will differ among various district hospitals because of differences in staff and equipment it should be left to the medical officer or the specialist to decide when to refer a patient to a provincial hospital. Written guidelines cannot be given since different district hospitals have different staffing ratios especially when different types of specialists are considered.

5. All referrals must have an appropriate referral letter. This letter should contain a detailed history, investigations done, and the reason for the referral.

65

C. REFERRAL GUIDELINES FOR HEALTH CENTRES/SUB HEALTH CENTRES AND DISPENSARIES.

1. The existing guidelines contained in the Manual for Rural Health Workers should be followed.
2. All referrals must be made by the most senior officer and all referrals must have an appropriate referral letter. This letter should contain a detailed history, investigations done, and the reason for referral.

46'

## VI. CONCLUSION

From various studies it is evident that a large number of patients bypass lower level facilities and go directly to hospital outpatient departments. These non-referred patients lead to congestion at the outpatient department of hospitals and add to the cost of hospital services since cost of health care delivery is higher at the hospitals.<sup>9</sup> Lower level facilities such as dispensaries and health centres do not mean low quality care, as shown in the outpatient quality of care review in the PADS Study.<sup>10</sup> Patients seek health care in a facility of their own choice. Since hospitals do not turn away patients who present for health care, the higher fee at the hospital for these appearing without a referral letter will reduce the number of non-referred patients. Similarly a lower fee level at the health centre will encourage patients to seek medical care at the health centres.

Referred patients constitute a small proportion of outpatients and inpatients in the district and provincial facilities. These patients have been referred to the institutions for various reasons including inability of the referring facility to cope with the patient. These patients need to be encouraged to obtain a referral, and thus a lower fee schedule for the referred patient is recommended. Since referred patients have been to another facility and spent time there, hospital outpatient departments should deal with these patients first and then the non-referred cases, except in cases of emergency.

Referral guidelines exist for health centres and dispensaries and only need to be reinforced by the Ministry. Copies of the Manual for Rural Health Workers should be distributed more widely to the rural health facilities.

Referral guidelines for district hospitals are more difficult to standardise because of the many variables in a district hospital such as availability of specialists which may vary between district hospitals. Thus standard referral guidelines are probably undesirable. Until the full complement of staff by various specialities is complete in district hospitals, guidelines should not be considered. However it is recommended that the specialist in charge of a particular field or a medical officer in charge of a particular ward decide on where to refer patients. This decision to refer patients from a district hospital to another hospital should not be left to clinical officers.

Kenyatta National Hospital should enforce strict protocols on accepting referrals from other institutions. These protocols and the procedures for accepting referral should be communicated to all in health facilities in Nairobi and other hospitals in the country.

---

9 PADS. JSI/Reach, Volume I, p. 56, 1989.

10 PADS, JSI/Reach, Volume I, p. 75, 1989.

For the referral system to function efficiently it is important to improve availability of drugs and supplies at dispensaries and health centres as this is one of the major reasons for bypassing these facilities to seek health care at hospitals.<sup>11</sup>

---

<sup>11</sup> PADS, JSI/Reach, Volume I, p. 179, 1989.

13

APPENDICES

1. Facilities Studied in South Nyanza
2. Reasons for Referring Patients to Other Facilities in South Nyanza
3. Reasons Why Patients Were Referred From Another Facility in South Nyanza
4. Frequencies of Shortages of Drugs and Supplies at Health Care Facilities in South Nyanza
5. Percentage of Patients Referred From Other Facilities in South Nyanza.
6. Persons Contacted During the South Nyanza Facilities Study

Appendix 1

FACILITIES STUDIED IN SOUTH NYANZA

FACILITY	LEVEL
GOVERNMENT HEALTH FACILITIES	
Homa Bay District H. spital	District hospital
Ombo Hospital	Sub-district hospital
Ndhiwa Health Centre	Health centre
Rongo Health Centre	Health centre
Oyugis Health Centre	Health centre
Kandiege Sub-health Centre	Sub-Health centre
Ober Dispensary	Dispensary
MISSION HEALTH FACILITIES	
Kendu Bay Mission Hospital	Hospital
Rapogi Mission Hospital	Health centre
Atemo Health Centre	Health centre
Mirogi Health Centre	Health centre
Ranen Health Centre	Health centre
Verna Maternity and Dispensary	Health centre

Appendix 2

REASONS FOR REFERRING PATIENTS TO OTHER FACILITIES IN SOUTH NYANZA

GOVERNMENT HEALTH FACILITIES	Facility Patient is Referred to:	Reason For Referral:
Homa Bay District	Government Hospitals	Lack of surgeon, lack of drugs, emergency surgery, XRays, specialised services eg. Radiology, second opinions for complicated cases
	Health Centre	Follow-up care, such as removal of stitches daily dressing.
Ndhiwa Health Centre	Government Hospitals	Complicated cases that could not be handled at the health centre eg complicated maternity cases.
Kandiege Sub-Health Centre	Government Hospitals	Obstetric problems Complicated cases
Rongo Health Centre	Government Hospitals	Complicated cases that would not be handled at the health centre
Oyugis Health Centre	Government Hospitals	Complicated cases that would not be handled at the health centre Shortage of drugs.
Ombo Hospital	Government Hospitals	Specialised services e.g psychiatric services, surgery and second opinions
Ober Dispensary	Government Hospitals Health Centres	Complicated cases Laboratory tests, maternity cases for delivery

61

Appendix 2 (continued)

REASONS FOR REFERRING PATIENTS TO OTHER FACILITIES IN SOUTH NYANZA

MISSION HEALTH FACILITIES	Facility Patient is Referred to:	Reason For Referral:
Kendu Bay Mission Hospital	KNH	Specialised services e.g. Oncology
	Government Hospital	Specialised services - surgery ophthalmology, XRays
	Private Hospital	Ultrasound
Rapogi Health Centre	Government Hospitals Mission Hospital	Complicated cases " "
Atemo Health Centre	Government Hospitals Mission Hospital	Complicated cases " "
Mirogi Health Centre Verna Maternity and Dispensary	Government Hospital	Complicated cases
	Mission Hospital	" "
	Government Hospital	" "
Ranen Health Centre	Government Hospital	" "
	Mission Hospitals	" "

(p)

Appendix 3

REASONS WHY PATIENTS WERE REFERRED FROM ANOTHER FACILITY IN SOUTH NYANZA

Facility	Facilities from which patients were referred	Reasons for referral
GOVERNMENT		
Homa Bay D. Hosp.	Government Health Centres	Complicated cases that could not be managed at health centre
	Government Hospitals	Technical problems e.g. shortage of water
	Mission Hospital	XRays
Ombo Hospital	Government Health Centres	Complicated cases that could not be managed at health centres.
	Government Dispensaries	Complicated case that could not be managed at health dispensaries
	Government Hospitals	Lack of drugs and dressing
Ober Dispensary	Mission Health Centre	Inability to pay
	Government Health Centre	Shortage of drugs
	Government Hospitals	Follow-up care eg. removal of stitches
Ndhiwa Health Centre	Government dispensaries	Laboratory investigations, materials cases
	Mission Health Centre Government Hospitals	Maternity cases Follow-up are e.g. removal of stitches
Rongo Health Centre	Mission Health Centre	Maternity cases
	Government Dispensaries	Laboratory investigations of shortage of drugs Maternity cases
Kandiege Sub-Health Centre	Government Hospital	Follow-up care, such as removal of stitches

Appendix 3 (continued)

REASONS WHY PATIENTS WERE REFERRED FROM ANOTHER FACILITY IN SOUTH NYANZA

Facility	Facilities from which patients were referred:	Reasons for referral:
<b>GOVERNMENT FACILITIES</b>		
Oyugis Health Centre	Government Dispensaries	Complicated cases, shortage of drugs
	Government Hospitals	Follow-up care, such as removal of stitches
<b>MISSION FACILITIES</b>		
Kendu Bay Hospital	Government health Centres	Complicated cases, shortage of drugs
	Government Hospitals	Shortage of drugs
Rapogi Mission Hospital	Dispensaries	Maternity cases
Atemo Health Centre	Dispensaries Private Practitioners	Shortage of drugs Laboratory investigations
Mirogi Health Centre	_____	_____
Ranen Health Centre	Dispensaries	Complicated cases, shortage of drugs
Verna Maternity and Dispensary.	_____	_____

6/11

Appendix 4

FREQUENCIES OF SHORTAGES OF DRUGS AND SUPPLIES AT DIFFERENT FACILITIES  
IN SOUTH NYANZA

	Government Facilities	Mission Facilities
Never	0	2
Rarely	2	3
Often	5	1
All the time	0	0

65

Appendix 5

Percent of Patients Referred From Other Facilities  
in South Nyanza.

	OUTPATIENTS	INPATIENTS	Inappropriate
Ranen HC	<1%	0	<2%
Atemo HC	N/A	N/A	Small percent
Mirogi HC	None	None	None
Verna Maternity	None	None	None
Kandiege Sub-Health Centre	N/A	N/A	N/A
Oyugis HC	3%	3%	<1%
Ombo Hospital	10%	<1%	<1%
Ndhiwa HC	5%	1%	<1%
Rongo HC	2%	1%	<1%
Ober Dispensary	2%	None	10%
Homa Bay D.Hosp.	N/A	N/A	N/A
Kendu Bay Hosp.	20%	<10%	<1%
Rapogi HC	10%	10%	None

N/A Not available.

64

Appendix 6  
Persons Interviewed for this Report

Nyanza Provincial Hospital - Kisumu  
Dr. Opar Medical Superintendent/Surgeon

Homa Bay District Hospital  
Dr. Jimbo Medical Officer of Health  
Dr. Misore Medical Superintendent/Paediatrician

Kendu Bay Adventist Mission Hospital  
Dr. Darlene de la Cruz Chief of Medical Staff

Ombo Hospital  
Mr. Okulio Hospital Administrator  
Dr. Heinemans Medical Officer  
Ms. Asewe Matron

Rapogi Health Centre  
Sister Cecilia

Oyugis Health Centre  
Mr. Lukio Olare Clinical Officer

Kandiege Health Centre  
Mr. David Osire Enrolled Community Nurse

Verna Maternity and Dispensary  
Sister Clara Registered Nurse  
Sister Priscilla Enrolled Nurse/Midwife

Mirogi Health Centre  
Sister Elizabeth Enrolled Nurse/Midwife

Atemo Health Centre  
Ms. Margaret Orimba Enrolled Community Nurse

Ober Dispensary  
Ms. Bernadatte Mbori Enrolled Community Nurse

Ranen Health Centre  
Mr. Christopher Onyuna Clinical Officer

Rongo Health Centre  
Ms. Ann Mugoi Community Nurse/FP

Ndhiwa Health Centre  
James Savilane Clinical Officer  
Mr. Bodo Deputy Director/Orthopedic Surgeon

Kenyatta National Hospital  
Mr. Wilson Noreh Hospital Secretary  
Medical Records Office

67