



**Client Satisfaction and  
Out-of-Pocket Expenditures  
on Maternal Health and  
Malaria Health Services**  
A population-based survey in  
North-West Tanzania 2007

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It is hoped that the findings of the study will find wider applicability for the betterment of the health service delivery systems in Tanzania and other resource constrained countries.

## Executive Summary

This study has been carried out on request of Cordaid. Cordaid wished to better understand the effect of their Pay for Performance Programme (P4P) and the introduction of a flat rate fee system introduced in 2007 in some of the health facilities which Cordaid supports. The effect of the intervention has been measured in terms of client satisfaction and out-of-pocket spending on maternal and malaria health services of households in the Catholic Diocese Bukoba in Muleba, Missenyi and Bukoba Districts in North West Tanzania. A population-based cluster-sampled survey was carried out July-Aug 2007 and included 1946 households with members using all types of health service providers. Two main research questions were addressed: (1) to what extent are health services from the various providers in the area being utilized and how much has been paid for these services by households out-of-pocket, and (2) to what extent are people satisfied with the health services that are being provided in terms of perceptions on quality, access and affordability? The results of the survey are presented in this report and should be regarded as mid-2007 baseline for a follow-up survey in 2-3 years time. Therefore, the report is limited in analysing effects of the P4P and introduction of flat rates, though efforts have been put into comparing faith-based and government health facilities.

This executive summary addresses key findings on maternal health and malaria services separately. For overall conclusions and recommendations the reader is referred to Chapter 5.

### MATERNAL HEALTH SERVICES

#### Utilization

The 419 women who were pregnant during the 12 months before the survey received 731 times health care, at the facility (97%) or at home (3%). At facilities more than half of the services attended was for ANC (56%), followed by 'normal' delivery services (26%) and PNC (14%). In case of 'serious' maternal problems a special questionnaire section on obstetric care was administered. This (emergency) obstetric care occurred in 4% of all services. Two third of the maternal services were provided by faith-based health facilities (65%), especially district hospitals and village health posts. The rest was at government facilities (34%) with a few services by private facilities (1%). This allocation reflects the government vs. non-government distribution of health facilities in the sampled region.

#### Out-of-pocket expenditure

Out-of-pocket expenditure per service visit was measured over a 12-month time period.

*Free or non-free service visits* In Tanzania maternal services are supposed to be provided free of charge. Most facility-based ante-natal and post-natal services were provided free of charge, though 6% of ANC services and 17% of PNC services still had to be paid for (on average for ANC Tsh. 1,267 and for PNC Tsh. 1,606). This is similar for faith-based and government health facilities. The picture for normal delivery care in facilities is less favorable. On average, 6 out of 10 services (60.4%) involved out-of-pocket payments, ranging from Tsh. 500 to 30,000 with a mean of Tsh. 6,188. At government facilities clients are better off in this respect, service charges for normal deliveries are applied in less than half of all visits with a mean out-of-pocket expenditure of Tsh. 3,534. At faith-based facilities the average payment for normal deliveries is Tsh. 7,177. A quarter of the 27 (emergency) obstetric services provided to WRA with serious maternal problems had to be paid for, with a mean expenditure of Tsh. 15,529, costs ranging from Tsh. 2,000 to Tsh. 40,000 per visit.

*Home-based costs* Home-based maternal services are hardly provided and women usually do not pay for them. Although this could not be verified for the whole region, in some places a fine of Tsh. 5,000 for home deliveries needs to be paid to qualify for any treatment after delivery at the health facility.

*Transportation and accommodation costs* To receive services for normal deliveries, ANC and PNC at the health facility in most cases women go on foot and there are no transportation costs. One in eight women (13%) paid on average Tsh. 3,478 for transportation. Accommodation costs of attendants are

hardly paid, most women return home the same day. Expectedly, accommodation costs for accompaniments of women with maternal problems is relatively high (mean OOPE Tsh. 16,333). Nearly two third of the respondents (62%) finance the maternal health costs from their own or household regular income.

### **Client satisfaction on Quality**

Perception on the quality of maternal services was operationalised by measuring the general satisfaction level on services used together with the perception on the competence and friendliness of service providers. Information was collected for each visit.

In general, clients are satisfied with the majority of the visits for ante-natal, post-natal care and normal delivery care. Service visits for obstetric care in case of serious maternal problems are rated less satisfactory, the staff is considered to be less friendly and less technically competent. During focus group discussions in the field, respondents complained about the way they were treated by nurses and other staff in hospitals.

Although there is not much difference between government and faith-based/voluntary health facilities, government facilities score a little higher in overall satisfaction, friendliness and perceived technical competence. Hardly any difference was found between types of health facilities (referral hospital, district hospital, health centre and dispensary).

### **Client satisfaction on Access**

The majority of all maternal health visits to facilities are carried out on foot, one third takes over one hour, and 1 in 10 visits is taking more than two hours. The travel time for about half of all visits made for maternal reasons to health facilities was considered convenient. Surprisingly, longer travel times of pregnant mothers of more than an hour were not all considered inconvenient.

For the majority of maternal health services respondents are aware of the opening hours, and they are considered convenient, indifferent from the type of service or ownership of the facility.

One in five maternal health visits had waiting times of over one hour at the health facility. For visits where respondents had to wait for 1-3 hours (15%), more than one third of them (37%) considered this very inconvenient. Longer waiting times were all perceived as very inconvenient.

### **Client satisfaction on Affordability**

Fees charged for maternal health services were perceived as satisfactory for the majority of services. When clients are not aware of service fees they are more likely not to be satisfied with them. It is worth making clients aware of service fees for maternal health, because it generates more satisfied clients. One third of the clients indicated having difficulty in paying for the services and goods.

Households in the lowest wealth group spent almost 1,5 times more on maternal health services than the households in the highest group, which may be related to the lowest wealth group being a higher risk group with a higher frequency of visits during the period under study. The lowest group spent less on transport and accommodation. This saving almost averaged out the difference between the wealth groups.

## **MALARIA SERVICES**

### **Utilization**

Four hundred and eight children were reported having been ill with fever at any time during the 2 weeks before the survey. The fever could have been due to malaria or other causes. This could not be confirmed by tests. Almost all the children (93%) were taken for advice, treatment or drugs. For those without medical assistance caretakers reported lack of money as the reason.

Out of the 774 adults who reported having been ill with fever in the last three months, one in six (16%) did not seek any advice, treatment or purchased drugs. For those who sought medical assistance, over half went to a health provider (55%), whereas over a quarter (29 %) only treated themselves with anti-malaria drugs, herbs, other medicines or vitamins. Half of those who went to a health provider also treated themselves.

Overall, the utilization rates reflect the government vs. non-government distribution of health facilities in the sampled region. Especially clients went to faith-based district hospitals and village health posts

and government dispensaries. Few services were provided by private facilities. Home-based care for malaria was hardly reported.

### **Out-of-pocket expenditure**

Out-of-pocket expenditure per service visit was measured over a 3-month time period for adults and over a 2-weeks time period for children.

*Free or non-free service visits* Not all clients have had out-of-pocket expenditures for health services at the facility or for their transportation or accommodation of accompanying persons, though most of the services that are used are paid for. Adults are almost all paying for malaria services (86%), three quarter of the services for children over 5 years of age are paid for (77%) and two thirds of the services of children under 5 years involve out-of-pocket expenditures (66%). Contrary to payments for services, most clients and their attendants do not have transportation or accommodation expenses. Only for one quarter of all children's service visits (26%) money on transportation or accommodation was spent.

*Children under 5 not exempted* In Tanzania, children under five years of age are supposed to be exempted from payment for health services. However, the results suggest that this is not general practice in the health facilities. Although the costs are less than for children over 5 years of age, the expenditure on children under five is considerable. Even in government health facilities services and drugs for children are not free of charge. In more than half of the visits by under five children (58%) to government facilities the household paid on average about Tsh. 3,500 with a maximum of Tsh. 15,000. Going with an under five child to a faith-based facility is even more expensive. There, nearly three quarter of the visits (71%) was paid for, with a mean out-of-pocket expense of about Tsh. 7,500 (max. Tsh. 60,000).

Payments for health facility visits for malaria treatment for children 5-14 years and adults 15+ years of age do not show much difference.

*In-patient costs* Contrary to the few adults who stayed overnight, nearly a third of the children 0-14 yrs (30%) stayed overnight in the health facility for treatment. For almost all overnight visits there were costs involved, with mean out-of-pocket expenditures varying from about Tsh. 10,000 (in-patient children under 5 years) to Tsh. 15,000 (in-patient children 5-14 years). The maximum paid was Tsh. 60,000.

*Out-patient costs* per children's visit for malaria treatment is about one third lower than in-patient costs. Taking all children's visits that were not free of charge, on average about Tsh. 3,750 (out-patient children under 5 years) to Tsh. 4,500 (out-patient children 5-14 years) per visit was paid out-of-pocket, with a maximum of Tsh. 22,000. Taking all adult visits that were not free of charge, the mean expenditure was about Tsh. 10,000 per visit. It is important to note that amounts varied widely and the distributions of expenditures are skewed towards lower costs.

*Transportation and accommodation costs* The costs of transportation and accommodation is higher for child care than for adult care, in absolute and in relative terms. This is likely due to extra costs for accompanying caretakers and more in-patient treatments of children. Compared to adults, on average the additional costs of transportation and accommodation per visit is about Tsh.1,500 higher for children with malaria. In addition, for children's visits the mean costs for transport and accommodation is more than a quarter of the mean health service costs (28%), this is less than one tenth for adult visits (7%).

*Government vs. faith-based costs* On average for malaria related services in faith based health facilities the adult and child client pays about 1.5 times more than in government health facilities.

*Source of financing* Expenses are in halve (adults) to two third (children) of the health visits covered by regular income, the rest is borrowed or comes from savings.

### **Client satisfaction on Quality**

The perceived quality of malaria related services was measured by asking how satisfied clients were with the service in general, together with their impression on the friendliness and competence of the service providers. Overall, four out of five services we rated satisfactory with no difference between services for adults or children. Government providers score slightly higher than faith-based providers in terms of client satisfaction. This is more pronounced in services for adults than for children. Comparing types of facilities, the satisfaction score for health centres/posts is lower than average,

more pronounced in services for children as compared to services for adults.

In terms of friendliness adults rate the service provider for themselves more friendly (92%) than caretakers do for their children (81%). Also here, faith based-organisations score lower on friendliness for children's services, together with district hospitals.

In terms of technical competence, for most visits the caretaker of the child (91%) considers the service provider competent, whereas the adult client finds the service provider only competent in two out of five visits (41%). For adult clients referral hospitals score lowest (30%). The difference may be explained by gender. Caretakers are mostly mothers and likely judge the technical competence of the provider positively when the child has been cured. Adult clients are of mixed gender and are likely to give a less biased response.

### **Client satisfaction on Access**

Client satisfaction on access to and availability of malaria health services is operationalised by combining factual information like actual travel distance to the facility, mode of transportation, waiting time at the facility and opening hours, with information on convenience by the client.

In general, for one quarter of the visits by adults to health facilities for malaria services the travel time is felt inconvenient. This applies more to faith-based health facilities (31%) than to government health facilities (17%). Most adults reach the health facility on foot (69%). Walking for more than an hour to reach a facility is increasingly expressed as becoming inconvenient.

For four in five visits the opening hours for children services (81%) and adult services (78%) are considered convenient. Differences between government and faith based facilities, and also between the different types of health facilities are not apparent. Caretakers of children seem to be much more aware of the opening hours for malaria services (92%) than adult clients (61%).

The waiting time for adults is in two third of the visits less than 15 minutes, whereas for children this is the case for only one third of the visits. Most of the children had to wait between 15 minutes to one hour. Waiting times of more than one hour were considered inconvenient by caretakers of children for almost all visits. On the contrary, adult respondents did not complain about these longer waiting times for their malaria related services.

### **Client satisfaction on Affordability**

Affordability of malaria services and goods was analysed against wealth status, the level of satisfaction with fees charged, and problems with financing.

In general, clients were satisfied with the fees charged at service visits. Health centres score lowest in terms of satisfaction with service fees charged for children. Although all services for children under 5 should have been provided free of charge, at least at government facilities, not much difference was found in satisfaction with service fees between services for children under 5 and services for children 5 and above. An explanation could be that clients do not expect services free of charge, neither at government facilities nor elsewhere.

Despite the general satisfaction with user fee charges for malaria related services, households have problems with financing them. For about half of the clients who were treated for malaria related illness it was difficult to pay for the services, more difficult for adult services and less difficult for child malaria services. It is easier to finance services for children because they are at lower cost and more often they are without charge.

Mean out-of-pocket expenditure for malaria services for children decreases with increasing wealth level: on average the lowest wealth group spent nearly two times (1.8) the amount paid by the highest group. This could be related to the lowest wealth group being a higher risk group for illness with a higher frequency of visits to health facilities during the period under study.

Overall, the results do not support the proper functioning of the exemption and waiver system neither for children, women of reproductive age, nor for those most in need.

## List of Abbreviations & Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Care
CARF	Community AIDS Response Funds
CHF	Community Health Fund
DFID	Department for International Development
DHS	Demographic Health Surveys
ESRF	Economic and Social Research Foundation
HIV	Human Immunodeficiency Virus
IPD	In Patient Department
MCH	Mother and Child Health
MOHSW	Ministry Of Health and Social Welfare
NIMRI	National Institute for Medical Research
OOPE	Out-Of-Pocket Expenditure
OPD	Out Patient Department
P4P	Pay for Performance
PHC	Primary Health Care
PNC	Post Natal Care
PSU	Primary Sampling Unit
RA	Research Assistant
RC	Regional Commissioner
REPOA	Research for Poverty Alleviation
SCF	Save the Children Fund
SPSS	Statistical Package for Social Sciences
TANESA	Tanzanian Essential Strategies Against HIV/AIDS
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation
WRA	Women of Reproductive Age



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# 1. INTRODUCTION

This study has been carried out on request of Cordaid<sup>1</sup>. Cordaid wished to better understand the effect of their Pay for Performance Programme (P4P) that started in Tanzania in 2006, and the inherent abolishment of user fees and introduction of a flat rate fee system in 2007 in some of the health facilities which had received Cordaid support. The present report presents the baseline situation in 2007 with respect to services and goods for malaria and maternal health in the Bukoba Diocese in Kagera Region, Tanzania. Before further elaborating on the objectives and methodology of the study, background information is provided on the health care system in Tanzania and Cordaid's programmatic response and rationale for the present study.

## 1.1. Background

### Health care system in Tanzania

While some say that health care charges may bring improvements to the health system, others argue the opposite. Several authors have addressed health care charges and also informal out-of-pocket payments as obstacles in accessing health care in Tanzania (RAWG 2005; Mamdani & Bangser 2004; REPOA 2003; SCF 2005; SDC 2003). Furthermore other barriers of access to health service delivery include the long distances from health facilities, inadequate and unaffordable transport systems, poor quality of care complicated by poor governance and accountability mechanisms and poorly implemented exemption and waiver schemes meant to protect the most vulnerable and poor people. Access to essential referral care is perhaps the single most prominent barrier to health care for the poor (ACCESS 2004).

The 2003 Policy and Service Satisfaction Survey found that for 73 per cent of the respondents, health care had become "less affordable" in the last 5 years (REPOA 2003). Cost of treatment was ranked as the most serious problem in the health sector, with 50 per cent stating that it was a "serious problem". Several studies have shown that poor households with limited assets resort to a number of short-term survival or coping strategies to pay for health care, especially in emergencies and for chronic illnesses (Msechu and Mtenga 2005, Msuya et al. 2004, SCF 2003, SDC 2003, WDP 2004).

In terms of factors that compromise the quality of health care, the most pressing are a lack of health personnel who are sufficiently trained and appropriately deployed, and poor health worker performance (Mliga, Mwakilasa & Mwakalukwa 2005). There appears to be an absolute shortage of resources at the primary health care facility level, which in turn impacts negatively on the quality of health care delivered (RAWG 2004). Poor health worker performance includes lack of courtesy to patients, illegitimate charging for drugs and equipment, high levels of absenteeism, dual practice i.e. employed in the public sector yet running private practice, and poor task performance such as failure to conduct proper patient examinations.

There have been two national public expenditure tracking studies covering the health sector: the 1999 and the 2001 studies covering three and five districts, respectively. The 1999 study found that only 12 per cent of the funds reached the intended beneficiaries. The 2001 study found that less than half the funds reached the intended beneficiaries.

As part of the health reform, the Government of Tanzania started with the introduction of user fees in 1993 with the intent to reducing the financing gap, improving availability and quality of health services, and targeting the higher level facilities, i.e. district, regional and referral hospitals. Beginning 1998 the programme was rolled out to district level together with the introduction of the Community

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<sup>1</sup> Cordaid is based in the Netherlands and is one of the largest international development organisations with a network of almost a thousand partner organisations in 36 countries in Africa, Asia, Central and Eastern Europe and Latin America. Cordaid combines more than 90 years' experience and expertise in emergency aid and structural poverty eradication. The counterpart organisations work on various themes, including health care, quality of urban life, access to markets and peace and conflict. ([www.cordaid.nl](http://www.cordaid.nl))

Health Fund (CHF). This process has been scaled up and is now operational in all the districts. Cost sharing does not apply to children under five, MCH services (including immunizations), tuberculosis, leprosy, paralysis, typhoid, cancer, AIDS, the elderly aged 65+ and during epidemics. Non governmental and faith-based health facilities (which currently provide approximately 40% of health services in the country) have always charged user fees, but often employ effective waiver systems and/or pre-payment schemes<sup>2</sup>.

In Tanzania morbidity and mortality due to maternity or malaria rank high on the list of causal factors.

### **Maternal health**

Women's health status is compromised by early and frequently repeated pregnancies, inadequate family planning and maternal health services, especially in the rural areas (RAWG 2005). Pregnancy-related mortality has not improved over the last two decades, and is estimated at 578 maternal deaths per 100,000 live births (DHS 2004). Demographic surveillance sites have reported a decline, but these findings could be an artifact of the small number of maternal deaths in the datasets (RAGW 2005) as well as many studies omitting to account for the non-health facility maternal deaths. In 2004 the national level of assisted deliveries by health professionals was 46 percent and the level of facility-based deliveries was 47 percent. For rural women percentages are about half of those for urban women. Also, pregnant women with relatively greater income poverty have less access to both health facilities and skilled attendants. Many poor women in rural areas fail to access quality primary care when they need it most, and many more fail to obtain the necessary referral for more skilled care (RAGW 2005).

### **Malaria**

Malaria is one of the most important causes of morbidity and mortality in infants and under-fives in Tanzania. Although there are indications that morbidity and mortality due to malaria have been declining, still nearly one quarter (23%) of the under-fives reported to have had fever in the two weeks prior to the survey (DHS 2004). Nearly two-third (65% urban, 57% rural) of the under-fives with fever were given anti-malarial drugs. The urban-rural difference in bed net ownership is significant. About twice as much urban households (74%) owned bed nets as compared to rural households (36%). In terms of utilization of bed nets, the percentage of under-fives who slept under a net the night before the survey was around a third (37%) with no difference between rural and urban. This is nearly the same for pregnant women (33%), although few pregnant women (11%) slept under a treated bed net (DHS, 2004). Data from the National Malaria Control Program suggest an increase in under-fives sleeping under nets, and in particular those sleeping under treated nets (RAWG 2005).

### **Cordaid's response**

The aim of Cordaid is to make basic health care of better quality, affordable and accessible to the poorest. To become more results oriented, Cordaid added a performance dimension to its funding by introducing an incentive scheme for Diocesan health services. This move is in accordance with current developments in health financing and recommendations of the 2005 Annual Health Sector Review in Tanzania. The P4P financing scheme has been discussed and worked out in detail during 2005 and started in 2006. Indicators for performance include in-patient department admissions (IPD), out-patient department visits (new cases) (IPD), institutional deliveries, new HIV voluntary counseling and testing clients (VCT) and continuous availability of essential drugs and medical supplies.

The P4P financing scheme still has a modest effect in terms of improving access for the poor. Cordaid-supported facilities tend to use regressive and often inefficient "fee-for-service" schedules, thus deterring access for many of the poor and adding to indebtedness and impoverishment among vulnerable groups. Consequently, even if substantial improvements in service performance can be achieved through performance based incentives, those not able to pay the user fees will not benefit from better quality of care or improved drugs supply.

In 2006 the hospitals involved in P4P were invited to review their user fee policies. Six rural hospitals and 1 health centre introduced flat fee rate schedules in 2007. Flat fees are defined as lump sum payments per episode or case and are assumed to reduce uncertainty, improve timely access for the

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<sup>2</sup> 'Joint Statement on User Fees' by Agencies Providing Basket Pooled Funds, March 2005.

client, and support risk pooling between clients. Moreover, for the health provider a flat fee system would encourage cost containment (Cordaid 2006b). Introducing flat rates imply that some patients pay less, but others pay more than under the fee-for-service arrangement (Velde 2006). To determine the impact of such flat rate schemes (in combination with P4P) on household expenditures it is required to assess out-of-pocket expenditures for health services.

Apart from addressing affordability and out-of-pocket spending, one of the outstanding issues in Cordaid's P4P programme is to involve client satisfaction in the process of improving the quality and accessibility of health services (Cordaid 2006a). The assumption is that performance based financing is likely to create an incentive for improving client satisfaction: providers compete for patients whom they attract by offering convenient, friendly, and quality services (see also Soeters, R. et al. 2006).

Cordaid maintains partnerships with several faith-based organisations in Tanzania. Among these are the five Catholic Dioceses in Sumbawanga, Rulenge, Bukoba, Kigoma and Arusha. For reasons of cost containment one Diocese and two of the major marker health conditions were selected for the study. The Bukoba Diocese that covers Muleba, Missenyi and Bukoba Districts was chosen and the scope was limited to malaria and maternal health as markers.

## 1.2. Study objectives

The research addresses health services and goods for malaria and maternal health in the Bukoba Catholic Diocese, whereby two main aspects are studied: (1) client satisfaction on quality, access and affordability of health services and goods, and (2) the effect of a change in user payment arrangements for health services on the financial burden of households.

The research consisted of two consecutive population-based household surveys, initially a base-line and then latter on a follow-up survey. The research questions for the base-line study 2007 are:

- I. To what extend are health services from the various health service providers in the area being utilized and how much has been paid for these services by households out-of-pocket?
- II. To what extend are people satisfied with the health services that are being provided in terms of perceptions on quality, access and affordability?

The present report provides baseline information for the situation in 2007 and answers to the above research questions. Effects of the P4P program and changes in user fee arrangements will be analysed after follow-up fieldwork in 2-3 years time.

In line with Cordaid's intention to use research results for improved quality of services, another purpose of the research is to take action and inform policy makers and health facility staff.

## 1.3. Methodology

In this section the methodology of the base-line study 2007 is described. After a short description of concepts used in the study, the sample design, the instruments, survey preparation, the fieldwork, qualitative assessment methods, ethical considerations and data management and analysis are described.

### 1.3.1. Conceptual and operational issues

#### **Out-of-pocket expenditures**

Murray (2000) defines *household expenditure* for health as all direct and indirect financial contributions to the health system attributable to the household through taxes, social security

contributions, private insurance and out-of-pocket payments. WHO (2005) defines *out-of-pocket expenditure* (OOPE) as the direct outlays of households, including gratuities and payments in-kind, made to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or to the enhancement of the health status of individuals or population groups. This includes household payments to public services, non-profit institutions or non governmental organizations and non-reimbursable cost sharing, deductibles, co-payments and fee-for-service. WHO makes a distinction between non-reimbursable cost sharing, co-payments and deductibles under health insurance schemes, and fee-for-service payments (WHO 2003b, 2005). Thus an out-of-pocket payment is a direct payment by the individual or household for a health service at the time the service is received. The payment may be in cash or in-kind.

In terms of measurement, OOPE may increase when for example informal out-of-pocket payments are also taken into account. While there is no generally accepted definition of informal payments, its most common form involves payments to individuals and institutional providers in kind or in cash that are outside official payment channels or for purchases meant to be covered by the health system. These are expenditures outside audits of a country's health system and are often illegal and unreported (Lewis, 2002). Informal payments by households can be made in different forms, ranging from a small gift to a doctor as token of appreciation to all costs related to in-patient care of a hospitalized patient, including food, accommodation, bed sheets, etc.

#### **Client satisfaction on quality, access and affordability**

The satisfaction on health services is measured according to perceptions on quality, access and availability, and affordability by clients. This is in line with WHO's dimensions on utilization of or access to services where they propose to observe acceptability, availability and affordability of services (WHO 2005). Acceptability relates to the perceived quality of health services (friendliness and technical competence of the health provider). Availability concerns the presence or absence of needed health services (service delivery points within reasonable distance/time, opening hours, waiting time). And affordability refers to the extent to which clients of a service can or are willing to pay (ease of financing, source of financing).

Affordability depends on the economic capacity of the client or the household, on risk pooling mechanisms in place and on the share of other financing in health. Affordability also depends on the method of provider payment, as they have different financial risks for the client. While, for example, the capitation payment method<sup>3</sup> decreases the financial risk of the payer, the fee-for-service payment method increases the financial risk of the payer. A case or episode-based payment scheme tends to moderate the financial risk (PHRplus 1999). It is the episode-based payment scheme that Cordaid promotes. In line with Cordaid's objective to make essential health services more accessible, their programs encourage health units (initial focus on hospitals) to make a transition from "fee-for-service" to the presumed more efficient and equitable "flat rate" user fee schedules.

In the report, the term health services actually refers to health services and goods (including e.g. medicines, bed tissues, etc).

### **1.3.2. Population-based survey**

For the following reasons a population-based survey was applied, rather than using programme or facility-based data and client records together with exit interviews:

1. In a population-based survey other than health service out-of-pocket expenditures, like payments for transportation, food, accommodation, but also informal payments are included. OOPE on services may be indirectly measured with programme-based data using utilization

- records and costing information, however, the method is limited to only the costs at the health facility.
2. Non-clients may have other characteristics as compared to clients and may even use other services (see for example Ngulalu et al. 2002). Survey data ensure that clients and non-clients are included.
  3. Surveys (after screening) enable the inclusion of all women of reproductive age living in a specific area who have been pregnant in the last 12 months. This renders a sufficient number of these women for a proper analysis of maternal health issues.
  4. Interviewing clients about their satisfaction with services provided is assumed to provide less biased results when asked in a secluded household environment rather than at the health facility.

Nevertheless, facility records may be used for triangulation purposes, that is, using different methods to complement each other and verify validity and reliability of out-of-pocket expenditure findings.

### 1.3.3. Sample design

A cross-sectional survey with a multi-stage clustered sample design has been employed for the collection of household and individual level data on the pattern of health care utilization, satisfaction and out-of-pocket expenditures for specified reference periods before the survey date.

In the first stage the three districts that are part of the Bukoba Catholic Diocese were selected. Only rural districts were selected: Bukoba, Muleba and Missenyi. In these districts 11 health facilities were chosen on purpose. The criteria for the selection of health facilities included the presence of at least one district hospital and one health centre and/or dispensary per district, the selection of Cordaid and non-Cordaid supported facilities and for Cordaid supported facilities the inclusion of facilities under the P4P program of Cordaid. According to the actual balance between government and non government facilities, which was estimated at 40:60 for these districts<sup>4</sup>, the facilities were finally chosen. In Appendix 1 the listing can be found. Ease of access by the fieldwork team was another factor, though secondary, that influenced the selection.

In the second stage the catchment areas of the selected health facilities were determined by selection of wards and the listing of villages in these areas. In order to determine the primary sampling units (PSU) two to three villages were selected in each of these clusters; for the larger villages one or two sub-villages were selected per village. In the absence of population figures the selection of villages and sub-villages was carried out at random.

In the third stage all households in a PSU were screened for eligible cases with use of a short questionnaire. Information was collected on maternity and maternal problems during the last 12 months, on indications of malaria in the last 3 months among adults aged 15 years and on indications of malaria in the last two weeks among children (0-14 years). In addition, households were asked if any member had been hospitalized in the past 3 months or deceased due to malaria or maternal health problems, and where they went for health services. Village leaders assisted the fieldwork teams with the screening process, the listing of eligible households and the return of the teams to the households during the subsequent interviewing process. The fieldwork targeted 2,018 households.

Due to the lack of information on the population size of PSUs, selection probabilities could not be calculated. This means that we cannot scientifically conclude that we have used a representative sample of the population of Bukoba, Missenyi and Muleba. However, that does not mean that it is unlikely that the sample is representative. From the fieldwork our impression is that the sample represents the population under study.

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<sup>4</sup> In Tanzania the distribution between faith-based and government health facilities is the opposite (40 faith based : 60 government)



### 1.3.4. Research instruments

Screening of households was carried out with use of a short questionnaire (see Appendix 2). On return of the field team, representatives of eligible households were asked for completion of a household roster and a questionnaire on household characteristics. Individual questionnaires were administered for women (15-49 years) who had been pregnant during the last 12 months before the survey as well as for adults suspected for malaria (men and women age 15+), and for children 0-14 years suspected for malaria. The parent or caretaker of children completed two questionnaires on children 0-14 years: one that selected eligible children (child malaria I) and one per child (child malaria II). In total, the following questionnaires were used for the baseline survey:

1. Household roster
2. Household characteristics
3. Child malaria I
4. Child malaria II
5. Adult malaria
6. Maternal health
7. Hospitalized
8. Deceased

The household questionnaires (1 to 2) addressed demographic, housing and socio-economic characteristics. Individual questionnaires (3 to 6) addressed utilization of health services, out-of-pocket expenditures and client satisfaction on quality, availability and affordability of services received. Two questionnaires were added to collect similar information for those who had been hospitalized or were deceased due to maternal problems or malaria. The answers were given by replacement respondents.

English questionnaires were translated in Kiswahili. The piloting of key tools was done in Nyanguge Ward in Magu District in the Mwanza Region. Questionnaires were pre-tested for language, flow of questions and length of interviewing during a one-day practice in a rural area near Mwanza. The length of individual interviewing varied from about 30 minutes to up to 2,5 hours in case of complicated maternal health problems. The questionnaires have been added to the report in Appendix 3.

The questionnaire on maternal health included two main sections: one on serious (emergency) obstetric problems and one on antenatal care (ANC), normal delivery care and postnatal care (PNC). Obstetric problems may have occurred during pregnancy, at delivery or during the post partum period. When the report uses the term obstetric care it is used within the context of serious (emergency) obstetric problems.

### 1.3.5. Fieldwork

#### Recruitment and training

Ten Research Assistants (RA) were recruited and trained by TANESA for conducting the fieldwork. Seven of them were from the Mwanza Region and three from the Kagera Region. All RAs had a minimum of secondary education or high school and two of them were University graduates. The 5-day training of the RAs was conducted by four staff members of TANESA and covered the data collection tools, ethical issues and the focus of the study.

#### Fieldwork

Before starting the field activities TANESA made written and verbal contacts with the relevant Authorities at all levels, including the Regional Administration, Bukoba Diocese, and local Government Authorities in the wards, villages and sub-villages in the study districts.

The actual field work was conducted during the months July and August 2007 by the 4 TANESA research staff with support from 10 Research Assistants. The research team was divided into 3 groups,

one in Bukoba District (rural), one in Missenyi District and one in Muleba District. Every evening, a meeting was convened for feedback and exchanging field experiences, e.g completeness of questionnaires, identification of repeat visits where a respondent was missing when visited the first time, numbers of respondents who had been interviewed, etc..

After careful screening of all households in the PSUs to obtain those with at least one of its members that have had malaria and/or maternal related problems between a period of two weeks to one year (see section 1.3.3) a total of 2018 household were visited. Where the household head could not be found, other adults present were interviewed with assistance from household members. Households were revisited to the extent possible in case eligible individual household members were not present.

Data collection from selected household members was done through face-to-face interview using the structured questionnaires. The interviewer read out the questions and the corresponding response categories. The interviewee's response were circled depending on the choices made. For the few open-ended questions the interviewers were instructed to write down the respondent's own words.

### **Ethics and confidentiality**

Participants involved in the study were fully informed about the nature of the study, the research objectives, and the confidentiality of the data and the freedom to agree to respond or refuse. Their full consent for their participation in the study was obtained. To the extent possible interviews were conducted in a private setting while trying to take into account any sensitivities with respect to gender. The following section elaborates on these issues. For each respondent who had been identified, the interviewer started with an introduction: traditional greetings, the name of interviewer and TANESA as an organisation, and objectives of the study. The respondent was informed that TANESA assured him/her that all information from the questions answered would be kept strictly confidential and would not be shown to other persons. "I will write down the information that you give but your name will be kept a secret. The researchers who look at this information later will not know who you are. No one except the researchers will look at this information. No information that will identify you will go into this report." Then the participant was asked if s/he was willing to take part. "You have the right to refuse to participate. We want to tell you that there is no pressure for you to talk to us. The choice is completely yours. If you choose to talk with us, there may be some things you don't want to discuss about, or some questions you don't want to answer, you are free not to answer the questions. However, I hope that you will participate in this survey since your views are very important to us". All those approached were willing to take part and they did take part.

### **Fieldwork constraints**

Some constraints were encountered during the fieldwork. Heavy perennial rainfall and topographic characteristics made the data collection process a challenging event. The actual data collection was compounded by the fact that local militia were active in arresting those community members who did not contribute to an on-going campaign for building secondary schools in every Ward and health centres in every village in Kagera region. Some household members were hiding themselves from the interview teams mistaking them for the militia. Another constraint was the language. Some household heads interviewed could neither understand nor express themselves in Kiswahili. To overcome this challenge the teams were required to seek help from other members of the household for translation. In addition, the interview teams were challenged with respect cultural issues and find the right time to visit and meet household members (not during dinner time around 3pm, not on Sundays and Saturdays, etc). The use of influential people helped to overcome the challenges. All in all the research team managed with great effort to complete the field work in time.

### **Qualitative fieldwork**

Short visits to the field to verify some of the data and results were undertaken. Ad hoc focus group discussions were organized with groups of women and men in 5 locations within the sample area. In addition key informant interviews were held with government officials and health facility staff. The interviews covered general health system and facility management information, information on user fees and client satisfaction issues.

### **1.3.6. Data management and analysis**

Data checking was done in the field. Data were captured in Dbase IV. Initial data cleaning was done in STATA version VII by TANESA staff. Data files were further cleaned and analyzed in SPSS 15.

## **1.4. Limitations of the study**

The study is limited because of several reasons:

- The sample was drawn in the field and not guided by population numbers of districts, villages or sub-villages. Selection probabilities could not be calculated.
- Fieldworkers did not use the extension forms of the questionnaires that allowed for administering more than three visits to health providers.
- The extent to which socially acceptable responses were given on the questions related to client satisfaction cannot be validated
- For out-of-pocket expenditures, a reference period of 12 months for maternal health services has possibly caused a recall bias. Respondents may not exactly remember how much they have paid for services further away in time. The same recall bias applies to a certain extent the shorter reference periods for malaria services.
- For the calculation of out-of-pocket expenditures the mean was calculated. Not in all cases the break down of the costs, like charges on bed and meals, treatment, diagnostic tests, drugs, separate doctor's fees, other additional costs, were recalled and could be recorded. In most of these cases the total costs were provided by the respondent. Data cleaning and checking modules assisted in the proper calculation of total amounts. The analysis makes use of these totals and does not include broken down expenditures.
- Data on delays in seeking care were by omission not included in the questionnaire.
- Within the scope of the present assignment data from replacement respondents on hospitalized and deceased household members at the time of the survey were not analyzed.
- The variation in responses on out-of-pocket expenditures is large, as indicated by the standard deviations in the tables. Where mean values show small differences some caution is warranted in interpreting the difference. Due to confidence intervals of these mean values that likely overlap each other, the values may not statistically be different from each other. Where found necessary the differences were tested on statistical significance.

## 2. CHARACTERISTICS OF THE STUDY POPULATION

Information on demographic, education, and economic characteristics of households and their members was asked for in the study.

### 2.1. Demographic characteristics

In order to determine the representativeness of the study population, information on age and sex from the household roster is compared to data for the Kagera Region. Table 1 shows that in terms of sex distribution the sample is not different from the Kagera Region. In terms of age distribution the sample has a slight over-representation of children 0-4 years of age. The share of women of reproductive age (WRA) in the sample is almost the same as for the population of the Kagera Region.

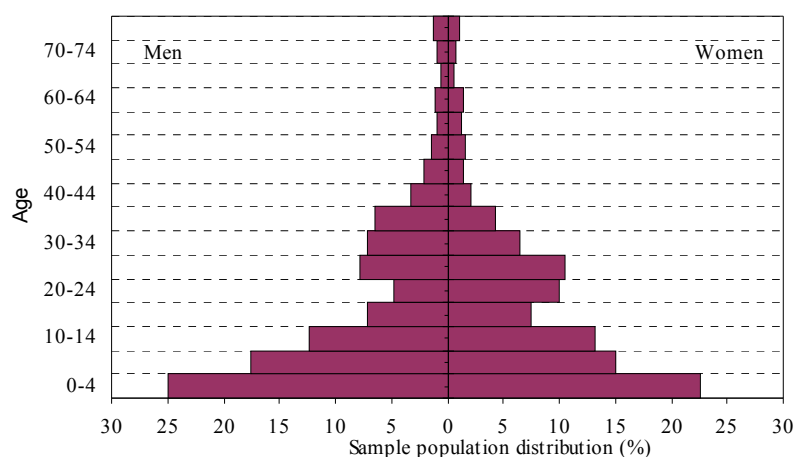
**Table 1: Sex and age distribution compared between Sample and Kagera Region**

	Sample		Kagera Region*
	# persons	%	%
Total	10,795	100	100
Male	5,292	49	49
Female	5,503	51	51
0-4 years	2,552	24	18
5-24 years	4,704	44	48
25+ years	3,539	33	34
WRA 15-49**	2,353	43	44

\* Source: Government, 2008 data provided by District Medical Office Bukoba

\*\* WRA = Women of reproductive age; denominator is all women

**Figure 1: Age pyramid of the sample population**

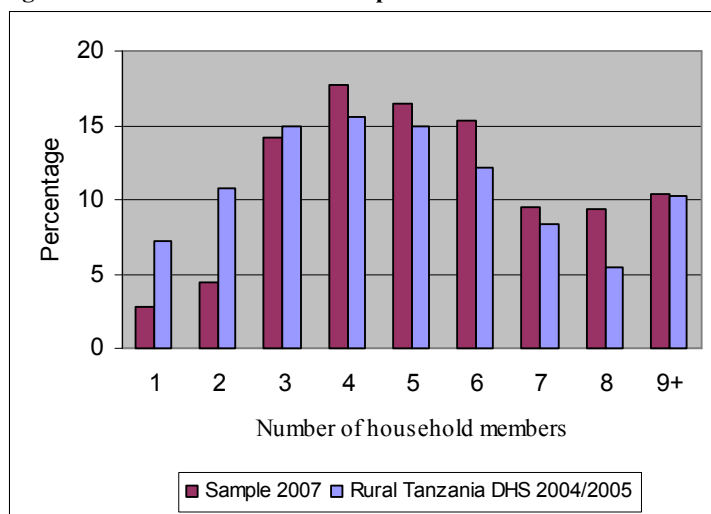


In Figure 1 the age pyramid for the sample population is shown. The pyramid reflects a non-even distribution for women and for men. For women we observe relative larger proportions in the age group 20-29 years with a dip in the 15-19 years age group. For men the dip is in the age group 15-24 years with relative larger shares in the 30-39 age groups. Many reasons may

be responsible for this finding. Cohort mortality patterns in Bukoba, Muleba and Missenyi due to malaria outbreaks, migration, but also age reporting and the relative small sample size may cause the pattern.

As compared to the total rural population of Tanzania (excl. Zanzibar, DHS 2004/05) the mean size of the households in the sampled area is slightly larger, with 5.5 in the sample area compared to 5.0 for rural Tanzania. There are less smaller households in the sample, especially 1 and 2 person households (Figure 2).

**Figure 2: Household size in Sample and Rural Tanzania**



## 2.2. Economic status of household

As a measure of economic status a wealth index was calculated for all 1946 households in the survey. A wealth index has several advantages. It represents a more permanent status than does either income or consumption. In the form that it is used, a wealth index is more easily measured (with only a single respondent needed in most cases) and requires far fewer questions than either consumption expenditures or income. (Rutstein and Johnson 2004)

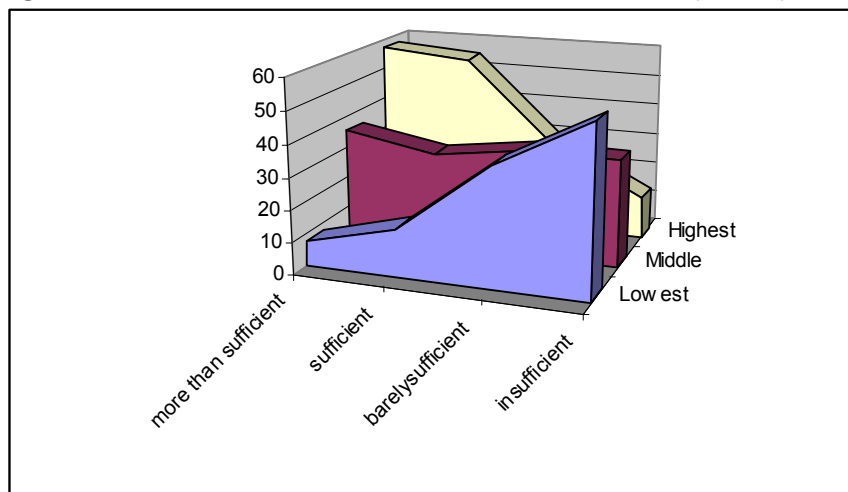
The wealth index, which is used as a background characteristic in tables and figures of the report, has been tested in a number of countries in relation to inequalities in household income, use of health services, and health outcomes (Rutstein and Johnson, 2004; Rutstein et al., 2000). It is an indicator of the level of wealth that is consistent with expenditure and income measures (Rutstein, 1999). The wealth index was constructed using household asset data and principal components analysis (SPSS module). Asset information was collected in the household questionnaire and covers information on household ownership of a number of consumer items ranging from a paraffin lamp and radio to a bicycle or car, as well as dwelling characteristics like source of drinking water and type of sanitation facilities.

Each asset was assigned a weight (factor score) generated through principal component analysis, and the resulting asset scores were standardized in relation to a standard normal distribution with a mean of zero and standard deviation of one (Gwatkin et al., 2000). Each household was then assigned a score for each asset, and the scores were summed for each household. Individuals were ranked according to the total score of the household in which they resided. The sample was then divided into quintiles (5 groups) from one (lowest) to five (highest) and into three groups: lowest third, middle third and highest third. Due to the relative small sample size quintiles were not used for the disease/event specific analysis of household members.

The questionnaire also asked for perceived wealth status. It asked if the current financial status of the household was sufficient to buy all the basic needs. Figure 3 shows the relation between perceived wealth status and estimated wealth status. Both variables are much correlated. Most of the households

in the lowest group perceive their financial situation as insufficient, whereas most of the households in the highest group regard their financial situation as sufficient. In the middle group the perception on their financial status varies. We conclude that the wealth index provides an adequate basis for analysis of the economic status of households.

**Figure 3: Perceived and estimated wealth status of household (N=1946)**



## 2.3. Household Expenditure

To obtain insight into expenditure levels of households in the sample area, heads of households were asked to specify household expenses for food and non-food items. Overall medical costs were included.

### 2.3.1. Food and non-food expenses

Recall periods for food and non-food items differed. Expenses on food items covered the last week, non-food items covered the last month. An itemized list guided the responses. For reasons of comparison expenses were calculated per year. Table 2 shows mean out-of-pocket expenditures in Tanzania Shilling for all households, for the lowest and for the highest quintile.

Overall, standard deviations are relatively high, meaning that there is a large variation between households regarding costs per item.

Households in the sample area spent about 1 million Tanzania Shilling per year on both food and non-food items. As expected, poorer people spent less. The lowest quintile spent around Tsh 590,000 annually, whereas the highest quintile spent nearly three times (2.7) more, that is around Tsh 1,600,000.

Annual expenditure on food and non-food items are nearly equivalent. The lowest quintile spent slightly more on food items, the highest quintile slightly more on non-food items.

**Table 2: Mean food and non-food expenditures and calculated annual amounts for all households, lowest and highest quintiles (Tsh.)**

	<i>All households</i>			<i>LOWEST Quintile</i>			<i>HIGHEST Quintile</i>		
	<i>Mean</i>	<i>Std.</i>	<i>Calculated</i>	<i>Mean</i>	<i>Std.</i>	<i>Calculated</i>	<i>Mean</i>	<i>Std.</i>	<i>Calculated</i>
			<i>OOPE</i>			<i>OOPE</i>			<i>OOPE</i>
	<i>OOPE</i>	<i>Deviation</i>	<i>in 1 year</i>	<i>OOPE</i>	<i>Deviation</i>	<i>in 1 year</i>	<i>OOPE</i>	<i>Deviation</i>	<i>in 1 year</i>
<b><i>Last WEEK expenditure food items</i></b>									
Staple foods	3,783	5,433	196,700	2,598	4,626	135,103	5,742	8,025	298,576
Vegetables/fruit	591	1,479	30,725	349	929	18,137	844	2,178	43,864
Meat/fish	1,713	2,379	89,051	892	1,492	46,396	2,742	3,291	142,608
Dairy products	387	1,803	20,126	174	753	9,045	722	3,352	37,542
Cooking oil/fat	795	1,037	41,344	436	622	22,684	1,250	1,205	64,979
Bevarages	424	1,544	22,033	260	1,239	13,542	736	1,942	38,256
Sugar	1,458	1,618	75,814	927	1,808	48,219	2,042	1,766	106,158
Other	1,036	3,049	53,882	599	2,884	31,137	1,231	2,137	64,032
<b>Total amount</b>	<b>9,767</b>	<b>11,391</b>	<b>507,878</b>	<b>5,841</b>	<b>8,553</b>	<b>303,753</b>	<b>15,022</b>	<b>15,162</b>	<b>781,155</b>
<b><i>Last MONTH expenditure non-food items</i></b>									
Housing	2,769	22,328	33,230	1,715	19,316	20,581	4,652	30,667	55,820
Electricity, water or gas	313	1,745	3,755	164	1,034	1,973	708	2,622	8,494
Medical cost	3,085	9,941	37,024	2,756	8,333	33,069	3,119	9,239	37,425
Clothes	3,905	11,330	46,854	1,541	5,212	18,488	6,764	17,434	81,164
Household items and supplies	13,971	34,101	167,655	8,807	20,640	105,688	23,545	62,382	282,539
Education	3,734	15,825	44,809	1,754	5,771	21,043	5,649	18,542	67,782
Transportation	3,071	12,695	36,857	1,072	4,000	12,863	4,974	10,080	59,688
Debts	7,932	26,440	95,182	4,834	20,235	58,009	8,658	23,452	103,895
Social/religious functions	2,911	6,431	34,928	2,510	6,841	30,118	3,970	8,747	47,645
Communication expenditures	1,509	5,075	18,106	275	1,454	3,301	5,171	9,599	62,056
Other	959	4,948	11,504	395	2,768	4,741	1,740	7,971	20,878
<b>Total amount</b>	<b>42,897</b>	<b>76,629</b>	<b>514,763</b>	<b>23,894</b>	<b>43,994</b>	<b>286,725</b>	<b>70,938</b>	<b>120,389</b>	<b>851,255</b>

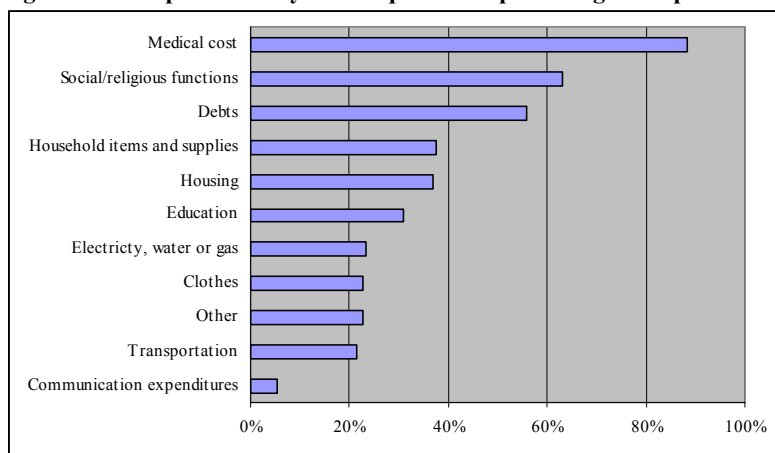
\* All households N= 1,946 Lowest quintile N= 389 Highest quintile N=389

### 2.3.2. Medical expenses

Medical costs do not differ much for households. They all spent on average 37 thousand Tsh. annually per household. The lowest quintile only spent a little less (88%) on medical care than the highest quintile. This expenditure by the lowest quintile as a percentage of the highest quintile is presented in Figure 4 for all non-food items. Apart from medical costs also the expenses on social and religious functions and debts differ less between poor and better-off households as compared to other categories.

The study concludes that economic status is less of a determining factor for medical costs, social/religious functions and debts as compared to other out-of-pocket costs.

**Figure 4: Expenditure by lowest quintile as percentage of expenditure by highest quintile**



## **2.4. Financial risk reduction**

Health insurance is not common. In the last 12 months only 2.7% of the households were covered by a health insurance package for all members and in 4.5% of the households at least one household member was insured. In almost all cases the insurance was part of a government employment scheme. At the macro level, comparing mean out-of-pocket expenditures for medical care with medical insurance costs, which is two to three times less and around Tsh. 10,000 to Tsh. 15,000 per year for a whole household, we conclude that medical insurance is certainly beneficial and an alternative. However, at the micro level individual households do not see the benefits yet.

Therefore, much more advocacy and promotion on medical insurance is required. This may go hand in hand with the P4P program.



### 3. MATERNAL HEALTH

The sample contains 2,353 women of reproductive age (WRA) according to the household roster. This is 42.7% of the total sample size (5,503 women). Out of these, 419 WRA (17.8%) were pregnant - at some time - during the 12 months before the survey, more than a quarter of them (29.3%) being pregnant at the time of the interview.

Fifty five women reported to have encountered serious maternal health problems in the last 12 months. For half of these women (28 WRA) the problems were reported to be related to malaria and they did not complete the special part of the questionnaire on obstetric care. A common problem for the other half of the women was the abnormal position of the child (see Table 3).

**Table 3: Number of WRA with serious maternal health problems by symptoms in the last year before the survey**

WRA who encountered serious maternal health problem during the last 12 months before the survey	55
Vaginal bleeding	-
High fever	5
Severe headach	7
Loss of consciousness	-
Swelling of hands and feet	3
Severe backache	3
Convulsions	3
Difficult labor >12 hours	2
Abnormal position of child	14
Fetal death	6
Due to malaria	28

\* women can have more than one symptom; women with malaria related problems did not complete the special obstetric care section of the questionnaire

#### 3.1. Utilization of maternal health services

The 419 women who were pregnant during the 12 months before the survey received 731 times health care, at the facility (97.4%) or at home (2.6%). Table 4 shows the number and percentage by type of services they received: antenatal care (ANC), services for non-complicated deliveries, postnatal care (PNC), and services for obstetric complications during pregnancy, at delivery or post-natal. The majority of services attended was ANC, followed by 'normal' delivery services.

**Table 4: Number and percentage of maternal health services of women who were pregnant in the last 12 months before the survey by type of service and facility/home based care.**

	<i>Health facility</i>		<i>Home based</i>		<i>Total</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
Obstetric care*	27	4			27	4
Antenatal care	398	56	3	16	401	55
Delivery care	187	26	13	68	200	27
Post natal care	100	14	3	16	103	14
Total	712	100	19	100	731	100

\* OC services for women who indicated having severe obstetric problems during pregnancy, at delivery or post natal

Most maternal services were provided by faith-based health facilities (64.5%), especially district

hospitals and village health posts. The rest was mainly provided by government facilities (34.4%) with a few services by private facilities (1.1%) (Table 5). The percentages reflect the government vs. non-government distribution of health facilities in the sampled region.

**Table 5: Number and percentage of maternal health visits for government, faith-based and private services**

	<i>ANC/Delivery/ PNC</i>	<i>Obstetric Care*</i>	<i>All Maternal services</i>	
	<i>N</i>	<i>N</i>	<i>N</i>	<i>%</i>
<b><i>Government/parastatal</i></b>				
Referral/spec. hospital	4		4	.6
Regional hospital	18		18	2.5
District hospital	57	3	60	8.4
Health centre	20		20	2.8
Dispensary	82	1	83	11.7
Village health post	57	1	58	8.1
CBD worker	2		2	.3
<b><i>Faith based</i></b>				
Referral/spec. hospital	60		60	8.4
District hospital	168	11	179	25.1
Village health post	171	9	180	25.3
Dispensary	40		40	5.6
<b><i>Private</i></b>				
District hospital	2		2	.3
Health centre	2		2	.3
Other	2	2	4	.6
<b>N</b>	<b>685</b>	<b>27</b>	<b>712</b>	<b>100.0</b>

\* OC services for women who indicated having severe obstetric problems during pregnancy, at delivery or post natal

## 3.2. Out-of Pocket expenditures

A payment out-of-pocket is a payment by the individual or the household for a health service at the time the service is received. The payment may be in cash or in-kind (for the concept see also section 1.3.1). The questionnaires asked in detail about all payments made by the household during the 12 months before the survey. The reference period of one year for maternal related services was necessary in order to sample a sufficient number of WRA. As this is a long period we expect a recall bias: not all payments may be reported and amounts can be prone to errors. Especially costs related to detailed information, like laboratory and pharmaceutical costs. However, the level of detail may also have encouraged respondents to recall costs more thoroughly. In any case, some caution is warranted while interpreting the figures.

### 3.2.1. Expenditure for using facility services

All WRA in the sample have been using maternal health services, either paying for it or not. Table 6 shows out-of-pocket expenditures for health services at the facility, for home-based care and for transportation and accommodation. The analysis is carried out for two groups, based on whether the services were paid for or not:

- (1) services used, including services that were free of charge
- (2) services used, excluding services that were free of charge

In the first group not all services that were used were paid for, many of the services were provided free of charge. The mean OOPE represents the average costs for all users. In the second group only paid for services are included. In fact, the second group is a sub-group of the first group. The mean OOPE

represents the average costs for all paying clients. Table 6 shows mean out-of-pocket expenditures<sup>5</sup> for both groups. The number of services is denoted by N in the table, the difference in N between the two groups indicates the number of services free of charge. Standard deviations and minimum and maximum OOPE columns indicate the wide variation in responses.

Out of the 27 obstetric services provided to women who indicated having had severe maternal health problems during pregnancy, delivery or postnatal, 7 services (25.9%; 5 in-patient, 2 out-patient) had to be paid for with a mean OOPE of Tsh. 15,529. Costs ranged from Tsh. 2,000 to Tsh. 40,000.

Most facility-based ante-natal and post-natal services were provided free of charge, though 6% of ANC services and 17% of PNC services still had to be paid for (on average for ANC Tsh. 1,267 and for PNC Tsh. 1,606). This is similar for faith-based and government health facilities (see also Table 7). The picture for normal delivery care in facilities is less favorable. On average, 6 out of 10 services (60.4%) involved out-of-pocket payments, ranging from Tsh. 500 to 30,000 with a mean of Tsh. 6,188. At government facilities clients are better off in this respect, service charges are applied in less than half of all visits with an mean out-of-pocket expenditure of Tsh. 3,534. At faith-based facilities the average payment is Tsh. 7,177 (Table 7).

**Table 6: Mean out-of-pocket expenditures for maternal health services**

	<i>Services used, not all paid for</i>					<i>Services used, all paid for</i>				
	<i>Mean OOPE</i>	<i>sd</i>	<i>Min</i>	<i>Max</i>	<i>N</i>	<i>Mean OOPE</i>	<i>sd</i>	<i>Min</i>	<i>Max</i>	<i>N</i>
<i>OC health facility services*</i>										
In-patient	<b>12,525</b>	14,932	0	40,000	8	<b>20,040</b>	14,210	5,700	40,000	5
Out-patient	<b>447</b>	1,536	0	6,500	19	<b>4,250</b>	3,182	2,000	6,500	2
Total	<b>4,026</b>	9,656	0	40,000	27	<b>15,529</b>	13,988	2,000	40,000	7
<i>ANC/Normal delivery/PNC health facility services</i>										
ANC	<b>76</b>	601	0	7,000	398	<b>1,267</b>	2,157	100	7,000	24
Normal delivery care	<b>3,739</b>	4,570	0	30,000	187	<b>6,188</b>	4,404	500	30,000	113
PNC	<b>273</b>	1,473	0	12,000	100	<b>1,606</b>	3,338	100	12,000	17
<i>Home-based services</i>										
ANC	<b>0</b>	0	0	0	3	<b>0</b>	0	0	0	0
Normal delivery care	<b>615</b>	1,044	0	3,000	13	<b>2,000</b>	816	1,000	3,000	4
PNC	<b>0</b>	0	0	0	3	<b>0</b>	0	0	0	0
<i>Transportation &amp; Accommodation for OC in case of problems*</i>										
Transportation	<b>278</b>	1,258	0	6,500	27	<b>3,750</b>	3,889	1,000	6,500	2
Accommodation attendant	<b>1,815</b>	6,493	0	28,000	27	<b>16,333</b>	13,868	1,000	28,000	3
Transp+Accommodation	<b>2,093</b>	6,540	0	28,000	27	<b>14,125</b>	12,003	2,000	28,000	4
<i>for ANC/Normal delivery care/PNC</i>										
Transportation	<b>462</b>	2,393	0	30,000	685	<b>3,478</b>	5,738	100	30,000	91
Accommodation attendant	<b>192</b>	1,464	0	28,000	685	<b>4,859</b>	5,732	400	28,000	27
Transp+Accommodation	<b>654</b>	2,962	0	30,000	685	<b>4,615</b>	6,636	400	30,000	97

\* OC services for women who indicated having severe obstetric problems during pregnancy, at delivery or post natal

Home-based maternal services are hardly provided and women usually do not pay for them. In total 13 delivery services were given, for 4 of them women had to pay on average Tsh. 2,000. In Gera the team was told that for home deliveries a fine of Tsh. 5,000 needs to be paid to qualify for any treatment after delivery at the health facility.

To receive services for normal deliveries, ANC and PNC at the health facility in most cases women go on foot and there are no transportation costs. In 13% of the visits women pay for transportation (car, motor bike, public transport), on average it costs them Tsh. 3,478. Accommodation costs for

<sup>5</sup> The mean has been chosen rather than the median (the 50% value), because in analysis with few services the median value is considered less representative than the mean and in analysis with many free-of-charge services the median value may be 0.

attendants who accompany the patient was paid for in 4% of the cases, with an average cost of Tsh. 4,859. Most patients return home the same day.

In cases of maternal health problems in 3 out of 27 in-patient visits accommodation costs for attendants were reported. Due to a longer stay these costs are much higher, on average Tsh. 16,333.

**Table 7: Mean out-of-pocket expenditures for ANC, normal delivery and PNC health services by Government and Faith-based facilities**

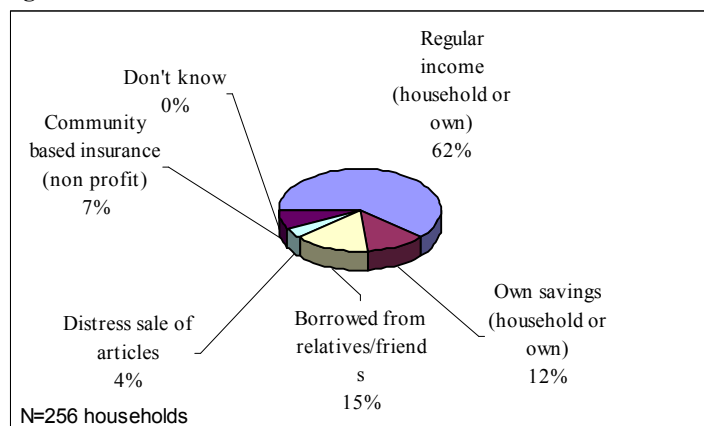
	Services used, not all paid for					Services used, all paid for				
	Mean OOPE	sd	Min	Max	N	Mean OOPE	sd	Min	Max	N
<i>ANC</i>										
Government	82	541	0	5,800	130	1,325	1,874	100	5,800	8
Faith-based	75	633	0	7,000	264	1,238	2,344	100	7,000	16
<i>Normal Delivery Care</i>										
Government	1,627	2,535	0	10,000	63	3,534	2,692	500	10,000	29
Faith-based	4,824	5,023	0	30,000	122	7,177	4,537	1,500	30,000	82
<i>PNC</i>										
Government	204	1,054	0	7,000	47	1,200	2,436	100	7,000	8
Faith-based	334	1,771	0	12,000	53	1,967	4,097	100	12,000	9

For 22 cases of service use the insurance company paid the total amount directly to the service provider, whereas for 13 cases the insurance company paid part of the costs directly to the provider. The rest was paid out-of-pocket.

### 3.2.2. Sources for expenditure

Respondents were asked to indicate how difficult it was for their family to pay for the necessary health services and drugs. More than half (54%) said it was easy to pay for the services (see section 3.4.3) and Figure 5 shows that nearly two third (62%) paid from their own or household regular income. Some had to tap from their savings (12%) and some borrowed money from friends or relatives (15%).

**Figure 5: Sources for OOPE for maternal health services**



### 3.3. Client satisfaction

Information on client satisfaction was collected for three main access issues: quality, availability and affordability of services. The next sections address them.

#### 3.3.1. Quality of services

Perception on the quality of maternal services was operationalised by measuring the general

satisfaction level on services used together with the perception on the competence and friendliness of service providers. Information was collected for each visit.

**Table 8: Percentage distribution on maternal health visits: overall satisfaction, perceived friendliness and technical competence of staff**

	<i>obstetric* services</i>	<i>antanatal services</i>	<i>normal delivery services</i>	<i>postnatal services</i>	<i>all maternal health services</i>
Very satisfied	51.9	80.7	71.1	80.0	77.0
Somewhat satisfied	22.2	9.0	17.1	11.0	11.9
Neutral	11.1	7.0	4.3	5.0	6.2
Somewhat unsatisfied	7.4	1.3	3.7	2.0	2.2
Very unsatisfied	7.4	2.0	3.7	2.0	2.7
Very friendly	44.4	74.9	71.7	72.0	72.5
Somewhat friendly	22.2	15.1	15.0	18.0	15.7
Neutral	11.1	6.3	10.2	7.0	7.6
Somewhat unfriendly	18.5	2.5	1.6	2.0	2.8
Very unfriendly	3.7	1.3	1.6	1.0	1.4
Very competent	63.0	79.6	77.5	74.0	77.7
Somewhat competent	18.5	7.0	9.1	17.0	9.4
Neutral	14.8	12.3	11.8	9.0	11.8
Somewhat incompetent	0.0	1.0	1.1	0.0	0.8
Very incompetent	3.7	3.7	3.7	3.7	3.7
N	27	398	187	100	712

\* OC services for women who indicated having severe obstetric problems during pregnancy, at delivery or post natal

Table 8 shows that overall the survey response indicates that clients are satisfied for the majority of the visits. Most visits are rated ‘very satisfied’ (77.0%) and some are ‘somewhat satisfied’ (11.9%). Broadly, the same applies to ante-natal and post-natal care visits and normal delivery services, although the latter scores lower on ‘somewhat satisfied’. Service visits for obstetric care in case of serious maternal problems is rated less satisfactory with only 51.9% of visits scoring ‘very satisfied’. For this category the number of visits is relative small and result should be interpreted with care.

**Table 9: Percentage distribution on maternal health visits by type of facility: overall satisfaction, perceived friendliness and technical competence of staff**

	<i>Overall</i>		<i>Friendliness</i>		<i>Technical competence</i>		<i>N</i>
	<i>Satisfied</i>	<i>Unsatisfied</i>	<i>Friendly</i>	<i>Unfriendly</i>	<i>Competent</i>	<i>Incompetent</i>	
Government/parastatal	91.4	3.7	89.0	2.4	90.2	0.8	245
Faith based/voluntary	87.6	5.4	88.2	4.6	85.4	1.1	459
Private	75.0	25.0	75.0	25.0	75.0	25.0	4
Referral hospital	91.5	7.3	87.5	3.1	95.1	0.0	82
District hospital	87.6	5.0	90.3	3.0	84.6	1.7	241
Health centre/post	88.9	4.2	85.0	6.3	86.3	1.1	262
Dispensary	89.4	4.9	89.1	4.1	87.8	0.8	123
All health facilities	88.8	4.9	88.4	4.0	87.0	1.1	708

Friendliness of staff and the perceived technical competence of the service provider follow the same pattern as the overall result. Also, for service visits for obstetric care in case of serious maternal problems the staff is rated less friendly and less technically competent. During focus group discussions in the field, respondents complained about the way they were treated by nurses and other staff in the hospital.

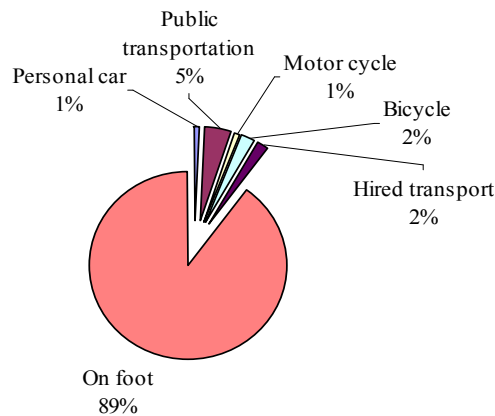
Although there is not much difference between government and faith-based/voluntary health facilities, government facilities score a little higher in overall satisfaction, friendliness and perceived technical competence (Table 9). This finding is unlike conventional belief. Hardly any difference was found between types of health facilities (referral hospital, district hospital, health centre and dispensary).

### 3.3.2. Access to and availability of services

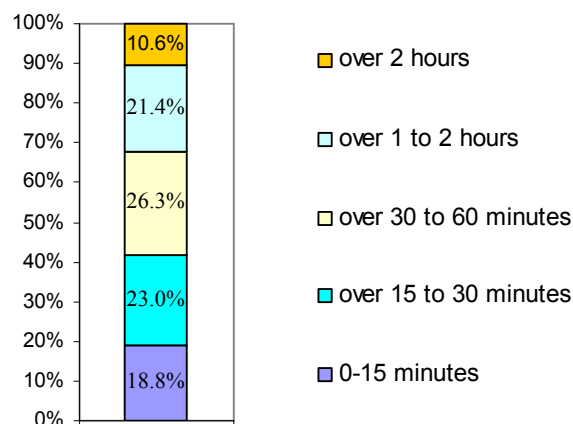
Client satisfaction on access to and availability of maternal health services is operationalised by combining factual information like actual travel distance to the facility, mode of transportation, waiting time at the facility and opening hours, with information on convenience levels.

Most of the visits to health facilities are carried out on foot (89%). Only 5% is by public transportation, the rest by other means (see Figure 6).

**Figure 6: Percentage of services visited for ANC, delivery and PNC by mode of transportation (N=505)**



**Figure 7: Percentage distribution of health facility visits on foot for antenatal, normal delivery and postnatal services visited (N = 453)**

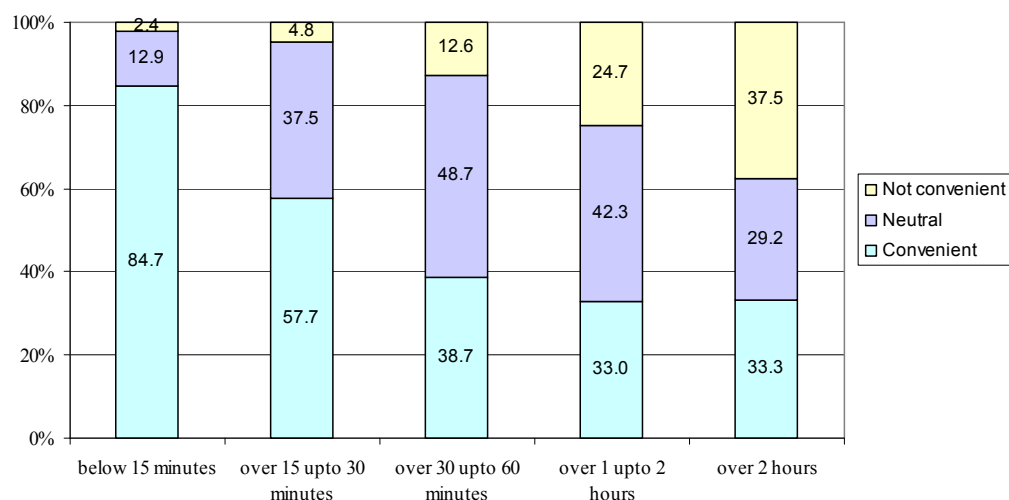


More than one third of the visits by foot (41.8%) is within a travel distance of 30 minutes. Two third

of these visits by foot (68.1%) is within a travel distance of one hour. That means that one third of all journeys by foot for maternal health visits takes over one hour, 1 in 10 visits is taking more than two hours (Figure 7).

How convenient do clients perceive these travel times? Figure 8 presents convenience levels by travel time on foot to the health facility. Expectedly, short travel times are regarded convenient and longer travel times less convenient. For travel times between 1 and 2 hours one quarter is not regarded convenient anymore. For travel times over 2 hours more than a third of the visits is considered inconvenient, but another third is still being expressed as convenient.

**Figure 8: Percentage distribution of health facility visits on foot for antenatal, normal delivery and postnatal services by convenience with travel time (N = 453 visits)**



Overall, for about half of the visits made for maternal reasons to health facilities respondents considered the travel time convenient. This percentage is slightly higher for government supported facilities, and dispensaries and district hospitals (Table 10).

**Table 10: Percentage distribution of health facility visits for maternal health services by convenience with travel time for different types of health facilities**

	<i>Convenient</i>	<i>Not convenient</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	59.2	9.2	31.7	240
Faith based/voluntary	48.7	15.7	35.5	439
Private	50.0	25.0	25.0	4
Referral hospital	50.0	25.6	24.4	82
District hospital	56.4	8.8	34.8	227
Health centre/post	46.8	15.1	38.1	252
Dispensary	58.2	10.7	31.1	122
All health facilities	52.4	13.5	34.1	683

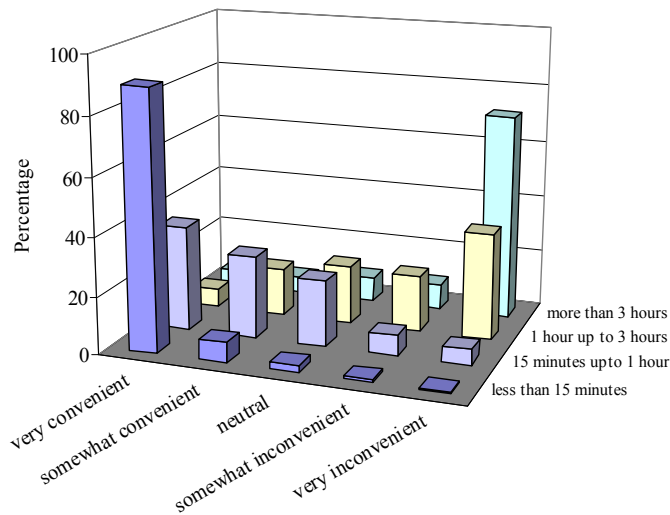
For the majority of maternal health services (85.3%) respondents said they know the opening hours of the health facility. Table 11 shows that opening hours are considered convenient, indifferent from the type of service or ownership of the facility.

**Table 11: Percentage distribution of health facility visits for antenatal, normal delivery and postnatal services by convenience of opening hours**

	<i>Convenient</i>	<i>Not convenient</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	87.5	2.9	9.6	240
Faith based/voluntary	88.2	5.0	6.8	439
Private	75.0	25.0	0.0	4
Referral hospital	86.6	7.3	6.1	82
District hospital	92.1	3.5	4.4	227
Health centre/post	86.1	5.2	8.7	252
Dispensary	84.4	2.5	13.1	122
All health facilities	87.8	4.4	7.8	683

The survey asked for all maternal visits (N=712) how long the mother had to wait before being attended to by the health provider. For nearly half of the visits (46.2%) the waiting time was less than 15 minutes. For one third (33.7%) was 15 minutes up to one hour. The rest of the maternal health visits had waiting times of over one hour. For visits where respondents had to wait for 1-3 hours (15.2%), Figure 9 shows that more than one third of them (37.0%, 108 visits) considered this very inconvenient. For visits where respondents had to wait more than 3 hours (4.9%, 35 visits), the majority (71.4%, 25 visits) considered this very inconvenient.

**Figure 9: Percentage of maternal health services considered convenient in terms of waiting time**



### 3.3.3. Affordability of services

Fees charged for maternal health services were satisfactory for the majority of services (89.1%). For 37 visits (6.1%), out of 608 visits for which a response was captured, the respondent was not satisfied with the fee charged. Fees for services at health centres/posts (10.9%) were more often regarded unsatisfactory (Table 12).



**Table 12: Percentage of maternal health services for pregnant women in last 12 months by satisfaction with service fees charged and type of health provider**

	<i>Satisfied</i>	<i>Not satisfied</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	92.5	3.5	3.9	228
Faith based/voluntary	87.5	7.7	4.8	377
Private	33.3	0.0	66.7	3
Referral hospital	84.5	5.6	9.9	71
District hospital	94.8	2.2	3.0	231
Health centre/post	83.6	10.9	5.5	201
Dispensary	90.5	5.7	3.8	105
All health facilities	89.1	6.1	4.8	608

The level of satisfaction with fees charged is much correlated with whether someone has to pay for services or not. Table 13 shows that when nothing needs to be paid for ANC/normal delivery/PNC services, almost all clients are satisfied. When clients have to pay for these services three quarters are still satisfied (74.4%), a small proportion are not (15.9%). It turns out that one third (32.4%) of those who are not aware of the service fees charged is not satisfied, whereas this percentage is 3 times lower (11.6%) for those who are aware.

We conclude that making clients aware of service fees for ANC/normal delivery/PNC services makes them, clients, more satisfied.

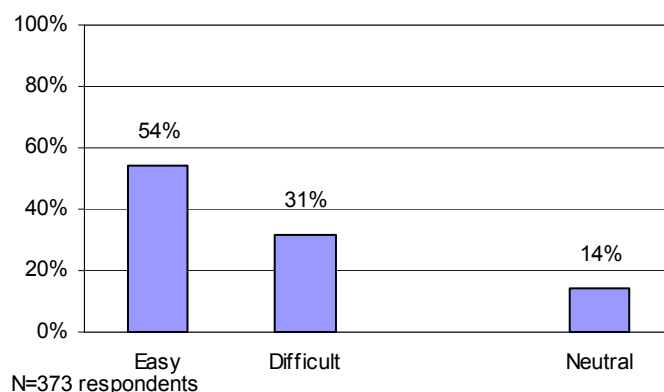
**Table 13: Percentage of ANC/normal delivery/PNC services for pregnant women in last 12 months by awareness on and satisfaction with service fees; paid and non-paid services**

	<i>Satisfied</i>	<i>Not satisfied</i>	<i>Neutral</i>	<i>N</i>
<i>payment for used service</i>				
Fully aware (%)	81.0	11.6	7.4	121
Somewhat aware (%)	55.6	11.1	33.3	9
Not aware(%)	55.9	32.4	11.8	34
Total (%)	74.4	15.9	9.8	164
<i>no payment for used service</i>				
Fully aware (%)	96.7	0.9	2.4	329
Somewhat aware (%)	100.0	0.0	0.0	8
Not aware(%)	90.5	4.8	4.8	84
Total (%)	95.5	1.7	2.9	421

Respondents were asked to indicate how difficult it was for their family to pay for the necessary maternal health services and drugs. More than half said it was easy to pay for the services (54%). One third said that they found it difficult to pay for services/drugs (Figure 10).

This difficulty in payment is apparent for the lowest income group. Table 14 shows that households in the lowest income group spent almost 1,5 times more on maternal health services during the last 12 months than the households in highest income group. On transportation and accommodation the lowest income group saved some money and expended nearly half of the amount of the highest income group. Overall, this saving on transport and accommodation averaged out the difference between the income groups, although still the total costs are slightly higher for the lowest income group.

**Figure 10: Percentage of households indicating level of difficulty in paying for maternal health services**



All OOPE means were tested for statistical difference at  $p > 0.05$  level. Statistically there is no difference between any of the OOPE means due to the large variance in combination with the relative few numbers of households. Therefore, we cannot definitely say that the highest wealth group pays the least for maternal health services.

**Table 14: Mean OOPE of households for all maternal health services in the last 12 months by wealth group**

	<i>Lowest</i>			<i>Middle</i>			<i>Highest</i>			<i>Total</i>		
	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>
<b><i>Households using services/not all paying</i></b>												
All health service costs	<b>3,560</b>	9,655	115	<b>3,277</b>	7,833	152	<b>2,402</b>	3,650	128	<b>3,076</b>	7,417	395
All transp. & acc. costs	<b>817</b>	2,147	115	<b>1,270</b>	5,871	152	<b>1,402</b>	4,954	128	<b>1,181</b>	4,745	395
Total costs	<b>4,377</b>	9,767	115	<b>4,547</b>	12,601	152	<b>3,804</b>	7,134	128	<b>4,257</b>	10,245	395
<b><i>Households using services/all paying</i></b>												
All health service costs	<b>6,203</b>	12,118	66	<b>6,641</b>	10,127	75	<b>4,522</b>	3,940	68	<b>5,813</b>	9,392	209
All transp. & acc. costs	<b>1,424</b>	2,685	66	<b>2,575</b>	8,181	75	<b>2,638</b>	6,573	68	<b>2,232</b>	6,347	209
Total costs	<b>7,627</b>	11,922	66	<b>9,216</b>	16,745	75	<b>7,160</b>	8,491	68	<b>8,045</b>	12,969	209

## 4. MALARIA

### 4.1. Utilization of health services, adults and children

Interviews on the use of malaria services and drugs were conducted among children (0-14 years) and adults (15+ years). To obtain enough cases in the sample, based on estimated prevalence rates, the reference period for children was 2 weeks and for adults 3 months.

Caretakers of the child were interviewed, while adults responded themselves. Out of the 1270 children 408 children (32.1%) were reported having been ill with fever at any time during the 2 weeks before the survey. The fever could be due to malaria or other causes. This could not be confirmed.

The majority of children (93.4%) went for advice, treatment or drugs for the fever. This included visiting a pharmacy or shop. For 6.6% of the children with fever no medical assistance was obtained, because almost all of the caretakers reported that not enough money was available to seek assistance.

The survey included 774 adults who reported having been ill with fever in the last three months before the survey. Their health seeking behaviour was investigated. One in six adults (16.1%) did not seek any advice, treatment or purchased drugs. Over half went to a health provider (55.1%) and more than a quarter (28.7%) treated themselves with anti-malaria drugs, herbs, other medicines or vitamins. For those who went to a health provider also a quarter (27.0%) treated themselves, in addition (see Figure 11).

**Figure 11: Health seeking behaviour of adults 15+ having had fever suspected of malaria in the last three months and seeking health care (N=774)**

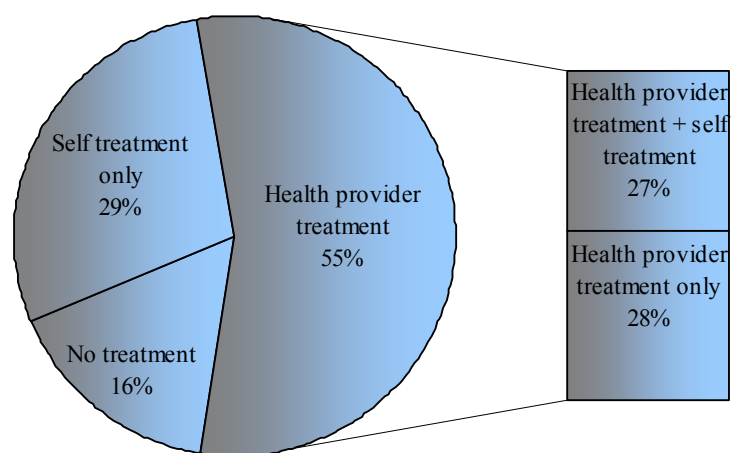


Table 15 shows that most health services were provided by faith-based health facilities. This was slightly more for adult visits as compared to children's visits (64.2% and 54.2% respectively). Most visits to faith-based facilities were made to district hospitals and village health posts. Faith-based village health posts were about two times more visited by adults (31.9%) as compared to children (17.5%).

The rest of the services was provided by government facilities with a few services by private facilities. Service provision for malaria treatment at home (home-based care) hardly exists. The government facility that was most used were the dispensaries, especially children (25.8%) used these service

facilities. Overall, the percentages reflect the government vs. non-government distribution of health facilities in the sampled region.

**Table 15: Number and percentage of health services provided for children with fever in last 2 weeks and adults with fever in last 3 months by type of service provider**

	<i>Children's health provider visits</i>		<i>Adult's health provider visits</i>	
	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>
<b><i>Government/parastatal</i></b>				
Referral/spec. hospital	1.4	5	0.7	3
Regional hospital	4.3	15	5.2	22
District hospital	5.7	20	5.9	25
Health centre	4.6	16	5.9	25
Dispensary	25.8	90	14.5	62
Village health post	1.4	5	1.9	8
<b>Total</b>	<b>43.3</b>	<b>151</b>	<b>34.0</b>	<b>145</b>
<b><i>Faith based</i></b>				
Referral/spec. hospital	6.3	22	4.2	18
District hospital	25.8	90	25.5	109
Village health post	17.5	61	31.9	136
Dispensary	4.6	16	2.6	11
<b>Total</b>	<b>54.2</b>	<b>189</b>	<b>64.2</b>	<b>274</b>
<b><i>Private</i></b>				
Health centre	0.9	3	0.7	3
Dispensary	0.9	3	1.2	5
<b>Total</b>	<b>1.7</b>	<b>6</b>	<b>1.9</b>	<b>8</b>
Home visit health practitioner	0.9	3	0.0	0
<b>N</b>	<b>100.0</b>	<b>349</b>	<b>100.0</b>	<b>427</b>

## 4.2. Out-of Pocket expenditures

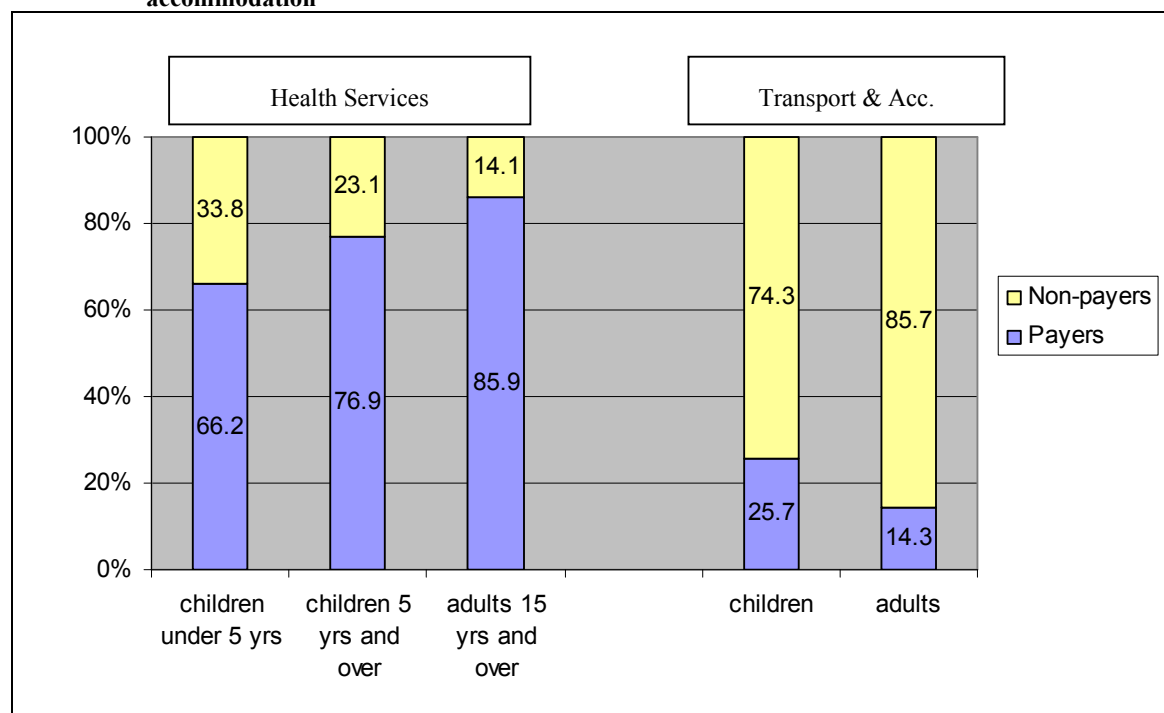
An out-of-pocket expenditure is a payment by the individual or the household for a health service at the time the service is received. The payment may be in cash or in-kind (for the concept see also section 1.3.1). The questionnaires asked in detail about all payments made for treatment of malaria or fever suspect of malaria. Average costs per service was measured over a 3-month time period for adults and over a 2-weeks time period for children. If we assume that one episode of treatment is covered during the reference period, mean out-of-pocket expenditures may be compared between children and adults. However, the assumption may not be true and therefore the difference in the length of the reference periods between children and adults warrants caution in interpreting results.

### 4.2.1. Expenditures for using facility services

Not all clients have had out-of-pocket expenditures for health services at the facility or for their transportation or accommodation of accompanying persons, though most of the services that are used by adults and children are paid for. Figure 12 illustrates this. Adults are almost all paying for services (85.9%), three quarter of the services for children over 5 years of age are paid for (76.9%) and two thirds of such services for children under 5 years are out-of-pocket payments (66.2%). Contrary to payments for services, most clients and their attendants do not have transportation or accommodation expenses. For one quarter of all children's services (25.7%) caretakers or households spend money on

transportation or accommodation.

**Figure 12: Percentage of payers and non-payers for malaria related health services and transport and accommodation**



Because of the fact that a sub group of clients have out-of-pocket expenditures, the analysis is carried out for two groups. In the first group not all services that were used were paid for, some of the services were provided free of charge. The mean OOPE represents the average costs for all users. In the second group only services that were paid for are included, while free services are excluded. In fact, the second group is a sub-group of the first group. The mean OOPE represents the average costs for all paying clients. Table 16 shows mean out-of-pocket expenditures<sup>6</sup> for both groups. Group 1 is shown in the first five columns, group 2 in the last five columns. The number of services is denoted by N in the table.

Standard deviations and minimum and maximum OOPE columns indicate the wide variation in responses.

Observing the costs of malaria related out-patient services for adults, mean OOPE is about Tsh. 8,000 (group 1) to Tsh. 10,000 (group 2) per visit made in the three months before the survey. This amount was not paid for in all visits. As mentioned, some visits were for free, for some up to a maximum of Tsh. 115,000 was paid and the rest of payments varied between these two extreme ends. Only five adult in-patients were recorded, while the rest were all out-patients.

For one in seven service visits by adults (14.3%) expenses for transportation of themselves and transportation and accommodation of accompanying persons were reported. On average nearly Tsh. 4,000 was paid per visit with a maximum of Tsh. 22,000.

<sup>6</sup> The mean has been chosen rather than the median (the 50% value), because (1) in analysis with few services the median value is considered less representative than the mean and (2) in analysis with many free-of-charge services the median value may be 0.

**Table 16: Mean out-of-pocket expenditure for malaria related in-patient and out-patient services for children under 5, children over 5 and adults and transportation and accommodation**

	<i>Services used, not all paid for</i>					<i>Services used, all paid for</i>				
	<i>Mean OOPE</i>	<i>sd</i>	<i>Min</i>	<i>Max</i>	<i>N</i>	<i>Mean OOPE</i>	<i>sd</i>	<i>Min</i>	<i>Max</i>	<i>N</i>
<i>Child malaria services</i>										
<i>Children under 5 yrs</i>										
In-patient	<b>8,292</b>	10,186	0	60,000	59	<b>10,192</b>	10,405	600	60,000	48
Out-patient	<b>2,248</b>	2,866	0	10,500	151	<b>3,731</b>	2,846	200	10,500	91
Total	<b>3,946</b>	6,489	0	60,000	210	<b>5,962</b>	7,188	200	60,000	139
<i>Children 5 - 14 yrs</i>										
In-patient	<b>12,684</b>	9,883	0	35,800	31	<b>14,563</b>	9,180	1,700	35,800	27
Out-patient	<b>3,260</b>	5,161	0	22,000	60	<b>4,549</b>	5,604	200	22,000	43
Total	<b>6,470</b>	8,378	0	35,800	91	<b>8,411</b>	8,659	200	35,800	70
<i>Transportation &amp; Accomodation</i>										
Transportation	<b>415</b>	1,303	0	13,000	346	<b>2,318</b>	2,263	200	13,000	62
Accomodation attendant	<b>999</b>	3,277	0	20,000	346	<b>7,684</b>	5,628	400	20,000	45
Total	<b>1,415</b>	3,676	0	22,800	346	<b>5,500</b>	5,499	200	22,800	89
<i>Adult malaria services</i>										
In-patient	<b>13,420</b>	5,444	5,000	20,000	5	<b>13,420</b>	5,444	5,000	20,000	5
Out-patient	<b>8,149</b>	14,080	0	115,000	422	<b>9,500</b>	14,776	500	115,000	362
Total	<b>8,211</b>	14,019	0	115,000	427	<b>9,553</b>	14,693	500	115,000	367
<i>Transportation/Accomodation</i>										
Transportation	<b>477</b>	1,775	0	15,000	427	<b>3,395</b>	3,559	100	15,000	60
Accomodation attendant	<b>93</b>	701	0	10,000	426	<b>2,843</b>	2,762	500	10,000	14
Total	<b>572</b>	2,103	0	22,000	426	<b>3,992</b>	4,178	100	22,000	61

Contrary to the few adults who stayed overnight, a quarter to a third of the children 0-14 yrs (29.9%) stayed overnight in the health facility for treatment. For almost all overnight visits there were costs involved, with mean OOPE varying from about Tsh. 10,000 (in-patient children under 5 years) to Tsh. 15,000 (in-patient children 5-14 years). The maximum paid was Tsh. 60,000.

Out-patient costs per children's visit are about one third lower than in-patient costs. Mean OOPE (in group 2) ranges from about Tsh. 3,750 (out-patient children under 5 years) to Tsh. 4,500 (out-patient children 5-14 years) with a maximum of Tsh. 22,000.

For one in four service visits for children (25.7%) expenses for transportation of themselves and transportation and accommodation of accompanying persons were reported. On average Tsh. 5,500 was paid per visit with a maximum of Tsh. 22,800. Compared to adults, on average the additional costs of transportation and accommodation is about Tsh. 1,500 higher for children with malaria. This is mainly due to the costs of accommodation for accompanying caretakers of the child.

In Tanzania, children under five years of age are supposed to be exempted from payment for health services. From above analysis it becomes clear that this is not the general practice in the health facilities that are part of the study. Although the costs are less than for children over 5 years of age the expenditure on children under five is considerable. Even in Government health facilities services for children are not always free of charge.

Table 17 shows mean OOPE for malaria related services for government health facilities and faith-based health facilities. In more than half of the visits of under five children (57.5%) to government facilities the household paid on average about Tsh. 3,500 with a maximum of Tsh. 15,000. Going with an under five child to a faith-based facility is even more expensive. There, nearly three quarter of the visits (71.1%) was paid for with a mean OOPE of about Tsh. 7,500 (max. Tsh. 60,000).

Payments for health facility visits for malaria treatment for children 5-14 years and adults over 15 years of age do not show much difference, although the variation in OOPE is much higher for adult treatment. On average for malaria related services in faith based health facilities the client pays about 1.4 to 1.5 times more than in government health facilities (see Table 17).

**Table 17: Mean out-of-pocket expenditure for malaria related services for children under 5, children over 5 and adults by Government or Faith-based health service providers**

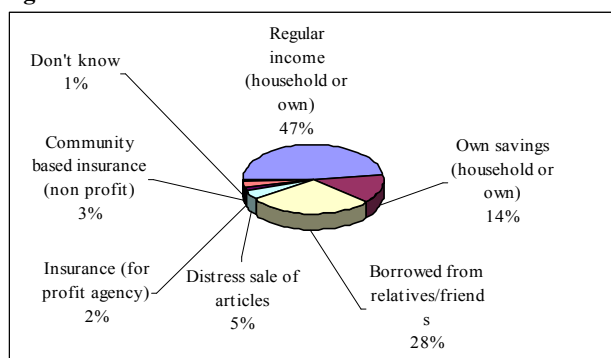
	Services used, not all paid for					Services used, all paid for				
	Mean OOPE	sd	Min	Max	N	Mean OOPE	sd	Min	Max	N
<i>Children under 5 yrs</i>										
Government	2,044	3,275	0	15,000	87	3,556	3,653	200	15,000	50
Faith based	5,300	7,903	0	60,000	118	7,445	8,478	800	60,000	84
<i>Children 5-14 yrs</i>										
Government	5,053	7,532	0	34,000	43	6,585	8,004	200	34,000	33
Faith based	7,739	9,024	0	35,800	46	10,171	9,073	1,000	35,800	35
<i>Adults 15 yrs and above</i>										
Government	6,266	14,039	0	113,000	145	7,448	15,022	500	113,000	122
Faith based	9,149	13,990	0	115,000	274	10,489	14,505	500	115,000	239

### 4.2.2. Sources for expenditure

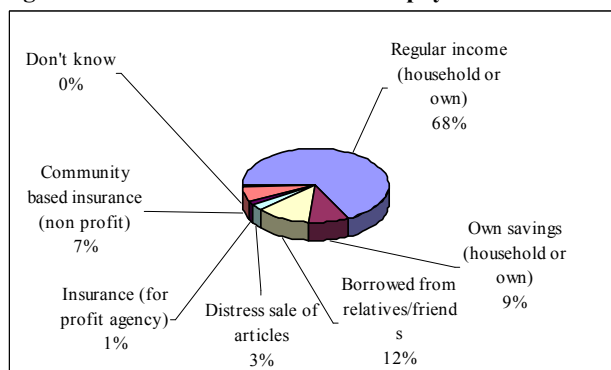
Respondents were asked to indicate how difficult it was for their family to pay for the necessary health services and drugs. More than half (60%) of the adults who were treated for malaria-related illness said it was difficult to pay for the services (see also section 4.4.3). Figure 13 shows that half of the respondents (47%) paid from their own or household regular income, whereas over a quarter borrowed money from friends or relatives (28%).

These figures differ for children’s malaria services and drugs. Probably due to more free services and lower costs per service, especially for under 5 children, less respondents reported to have difficulty with financing. However, still for nearly half of them (45%) a problem in payment remained (see also section 4.4.3). In over two third of the cases (68%) the payment was out of their own pocket. The rest mainly came from relatives or friends and from savings (Figure 14).

**Figure 13: Source for OOPE for adult malaria services (n=345 households)**



**Figure 14: Source of households for payment of child malaria services (n=281 households)**



### 4.3. Client satisfaction

Information on client satisfaction was collected on quality, availability and affordability of malaria related services.

#### 4.3.1. Quality of services

The perceived quality of malaria related services was measured by asking how satisfied clients were with the service in general, together with their impression on the friendliness and competence of the service providers. Information was collected per visit. Table 18, 19 and 20 show the results by type of provider.

Four of the five services we rated satisfactory with no difference between services for adults or children. There is a small difference between government and faith-based providers, more pronounced for adult services. The percentage for health centres/posts that deliver child services is lower than the average (see Table 18).

**Table 18: Perceived level of satisfaction with malaria services for children and adults**

	<i>Malaria service children</i>				<i>Malaria service adults</i>			
	<i>Satisfied</i>	<i>Unsatisfied</i>	<i>Neutral</i>	<i>N</i>	<i>Satisfied</i>	<i>Unsatisfied</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	83.4	4.0	12.6	151	86.9	4.1	9.0	145
Faith based/voluntary	77.1	11.2	11.7	188	77.0	7.7	15.3	274
Private	100.0	0.0	0.0	6	100.0	0.0	0.0	8
Referral hospital	85.7	4.8	9.5	42	81.4	11.6	7.0	43
District hospital	82.7	10.9	6.4	110	80.6	8.2	11.2	134
Health centre/post	72.9	8.2	18.8	85	78.5	5.2	16.3	172
Dispensary (incl. pharmacy/shop)	81.5	5.6	13.0	108	85.9	2.6	11.5	78
All health facilities	80.3	7.8	11.8	346	80.8	6.3	12.9	427

In terms of friendliness adults rate the service provider for themselves more friendly (92.0%) than caretakers do for their children (80.6%). Also here, faith based-organisations score lower on friendliness for children's services, together with district hospitals (see Table 19) in contradiction to popular belief.

**Table 19: Perceived level of friendliness of malaria services for children and adults**

	<i>Malaria service children</i>				<i>Malaria service adults</i>			
	<i>Friendly</i>	<i>Unfriendly</i>	<i>Neutral</i>	<i>N</i>	<i>Friendly</i>	<i>Unfriendly</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	86.8	3.3	9.9	151	90.3	0.7	9.0	145
Faith based/voluntary	75.5	9.6	14.9	188	93.1	1.8	5.1	274
Private	83.3	0.0	16.7	6	87.5	0.0	12.5	8
Referral hospital	88.1	7.1	4.8	42	95.3	2.3	2.3	43
District hospital	69.1	11.8	19.1	110	94.0	2.2	3.7	134
Health centre/post	81.2	5.9	12.9	85	90.7	1.2	8.1	172
Dispensary (incl. pharmacy/shop)	88.9	1.9	9.3	108	89.7	0.0	10.3	78
All health facilities	80.6	6.6	12.7	346	92.0	1.4	6.6	427

Absolute technical competence of staff is perhaps difficult to judge by clients. When asked about the competence of the service provider their perception is likely a reflection of earlier experience with similar or other service visits to the same location or elsewhere.

An interesting result is the marked difference in perception between malaria related services of adults and children. Whereas for most visits the caretaker of the child (90.7%) considers the service provider competent, yet the adult finds the service provider only competent in two out of five visits (41.0%). For adults, referral hospitals score lowest (30.2%) (Table 20). The difference may be explained by



gender. Caretakers are mostly mothers of children and likely judge the technical competence of the provider positively when the child has been cured. Respondents for the adult questionnaire are men and women giving perhaps a less biased answer.

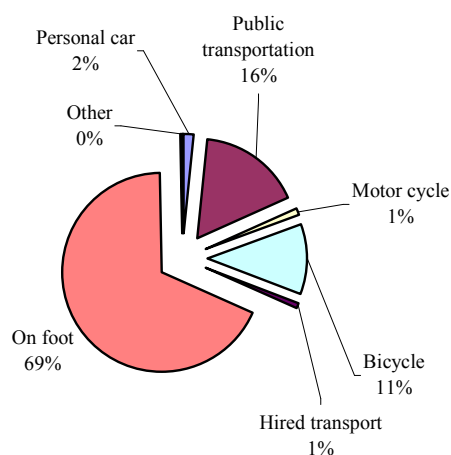
**Table 20: Perceived level of technical competence of health facility staff for child and adult malaria services**

	<i>Malaria service children</i>				<i>Malaria service adults</i>			
	<i>Competent</i>	<i>Incompetent</i>	<i>Neutral</i>	<i>N</i>	<i>Competent</i>	<i>Incompetent</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	90.1	2.0	7.9	151	42.8	0.0	57.2	145
Faith based/voluntary	91.5	1.6	6.9	188	40.1	0.0	59.9	274
Private	83.3	0.0	16.7	6	37.5	0.0	62.5	8
Referral hospital	95.2	2.4	2.4	42	30.2	0.0	69.8	43
District hospital	91.8	3.6	4.5	110	41.8	0.0	58.2	134
Health centre/post	88.2	0.0	11.8	85	41.9	0.0	58.1	172
Dispensary (incl. pharmacy/shop)	89.8	0.9	9.3	108	43.6	0.0	56.4	78
All health facilities	90.7	1.7	7.5	345	41.0	0.0	59.0	427

### 4.3.2. Access to and availability of services

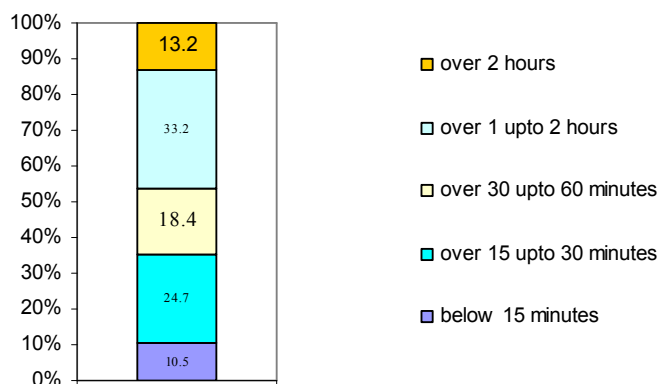
Client satisfaction on access to and availability of malaria health services is operationalised by combining factual information like actual travel distance to the facility, mode of transportation, waiting time at the facility and opening hours, with information on convenience levels. Due to an error in the data on travel time in the children’s questionnaire only results for adult health service visits are shown.

**Figure 15: Percentage of services visited for adult malaria services by mode of transportation (N=279)**

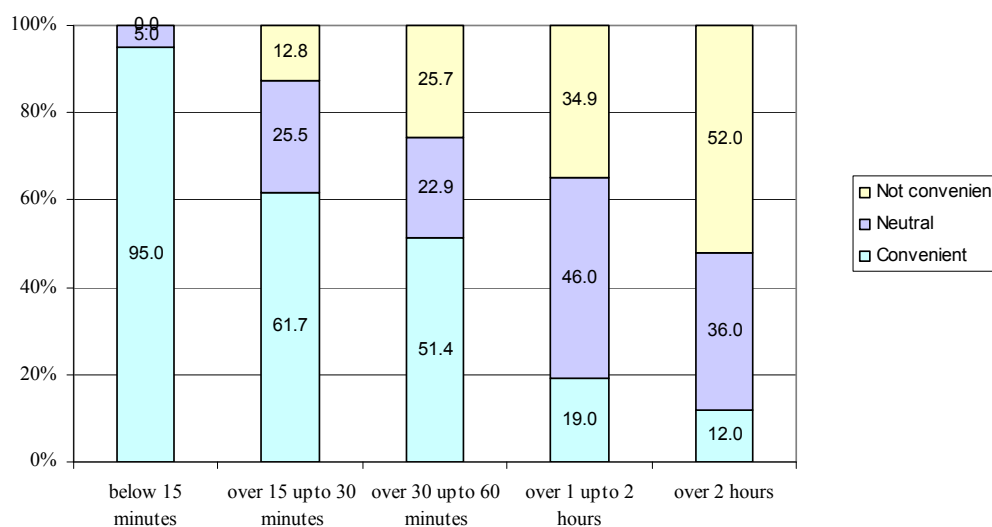


Most adults reach the health facility on foot (69%), followed by public transportation and bicycle (Figure 15). For over half of the health visits that are made on foot the journey takes an hour or less, over one third reaches the facility even within 30 minutes (Figure 16). Walking for more than an hour to reach a facility is increasingly expressed as becoming inconvenient. Figure 17 shows that one third of the visits on foot that take between 1 and 2 hours is considered inconvenient. This expression of dissatisfaction with the travel time is half for visits that take more than 2 hours walking.

**Figure 16: Percentage distribution of health facility visits on foot for adult malaria services visited (N = 190 visits)**



**Figure 17: Percentage distribution of health facility visits on foot for malaria health services for adults by convenience with travel time (N = 190 visits)**



In general, for one quarter of the visits for malaria services to health facilities adult clients find the travel time inconvenient (26.0%). Table 21 shows that this is more for faith-based health facilities (31.0%) as compared to government health facilities (17.2%). Referral hospitals are usually furthest away and expectedly are considered least convenient in terms of travel time (44.2%).

**Table 21: Percentage distribution of health facility visits for malaria services for adults by convenience with distance to health facility**

	<i>Convenient</i>	<i>Not convenient</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	57.2	17.2	25.5	145
Faith based/voluntary	41.6	31.0	27.4	274
Private	62.5	12.5	25.0	8
Referral hospital	32.6	44.2	23.3	43
District hospital	52.2	24.6	23.1	134
Health centre/post	41.9	28.5	29.7	172
Dispensary	59.0	12.8	28.2	78
All health facilities	47.3	26.0	26.7	427

Caretakers of children seem to be more aware of the opening hours for malaria services (91.9%) than adult clients for their services (61.3%). Apart from awareness, the survey also asked respondents about their opinion on the opening times. For four in five visits the opening hours for children services (81.4%) and adult services (78.2%) are considered convenient. Differences between government and faith based facilities, and also between the different types of health facilities are not much marked (See Table 22).

**Table 22: Percentage distribution of health facility visits for malaria services for children and adults by convenience with opening hours**

	<i>Malaria service children</i>				<i>Malaria service adults</i>			
	<i>Convenient</i>	<i>Not convenient</i>	<i>Neutral</i>	<i>N</i>	<i>Convenient</i>	<i>Not convenient</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	82.1	2.6	15.2	151	82.8	8.3	9.0	145
Faith based/voluntary	81.4	7.4	11.2	188	75.2	8.8	16.1	274
Private	66.7	0.0	33.3	6	100.0	0.0	0.0	8
Referral hospital	88.1	2.4	9.5	42	76.7	11.6	11.6	43
District hospital	89.1	4.5	6.4	110	72.4	9.0	18.7	134
Health centre/post	72.9	8.2	18.8	85	80.2	7.0	12.8	172
Dispensary (incl. pharmacy/shop)	77.8	4.6	17.6	108	84.6	9.0	6.4	78
All health facilities	81.4	5.2	13.3	345	78.2	8.4	13.3	427

With reference to all visits by adults and children the survey asked how long the client had to wait before being attended to by the health provider. Table 23 shows that the waiting time for adults is in two third of the visits (64.6%) less than 15 minutes, whereas for children this is the case for only one third of the visits (33.5%). Most of the children had to wait between 15 minutes to one hour (43% of the visits). The rest of the visits by children and adults had waiting times of over one hour.

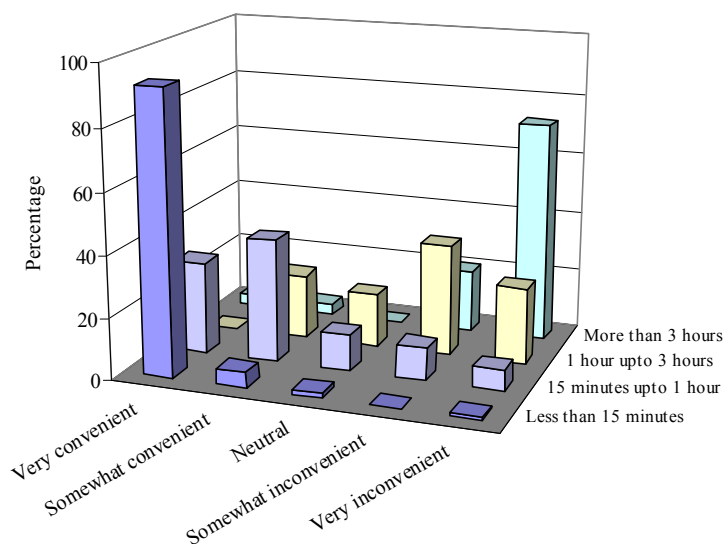
**Table 23: Percentage of malaria services for adults and children by waiting time**

	<i>Adult services</i>	<i>Children services</i>
Less than 15 minutes	64.6	33.5
15 minutes upto 1 hour	16.2	43.1
1 hour upto 3 hours	10.8	15.0
More than 3 hours	8.4	8.4
N	427	346

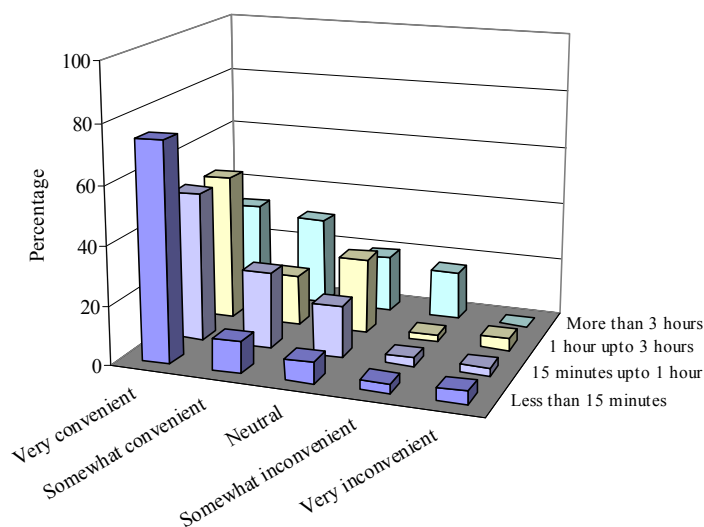
Waiting times of more than one hour for child malaria services were considered inconvenient by caretakers for almost all visits (Figure 18). On the contrary, adult respondents did not complain about

these longer waiting times for their malaria related services (Figure 19).

**Figure 18: Percentage of malaria services for children considered convenient in terms of waiting time**



**Figure 19: Percentage of malaria services for adults considered convenient in terms of waiting time**



### 4.3.3. Affordability of services

Caretakers of children were asked how satisfied they were with the fees charged for the services provided to their children. Table 24 shows that three quarter was satisfied with the service fees. Although all services for children under 5 should have been provided free of charge, at least at government facilities, satisfaction levels with service fees between children under 5 and children 5 and above do not differ much. An explanation could be that clients do not expect services free of charge, neither at government facilities nor elsewhere.

Health centres score lowest in terms of satisfaction with service fees charged. For around one quarter of the malaria services for children provided by health centres, caretakers said they were not satisfied

with the fee (Table 24).

**Table 24: Percentage of malaria health services for children by satisfaction level of caretaker with service fees charged and type of health provider**

	<i>Services for children under 5 yrs.</i>				<i>Services for children 5 yrs. and over</i>			
	<i>Satisfied</i>	<i>Unsatisfied</i>	<i>Neutral</i>	<i>N</i>	<i>Satisfied</i>	<i>Unsatisfied</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	87.7	6.2	6.2	81	85.0	12.5	2.5	40
Faith based/voluntary	69.3	18.4	12.3	114	62.2	26.7	11.1	45
Private	50.0	25.0	25.0	4	100.0	0.0	0.0	2
Referral hospital	80.8	15.4	3.8	26	80.0	13.3	6.7	15
District hospital	76.5	14.7	8.8	68	68.0	24.0	8.0	25
Health centre/post	63.3	20.4	16.3	49	56.3	31.3	12.5	16
Dispensary (incl.	85.7	5.4	8.9	56	83.9	12.9	3.2	31
All health facilities	76.4	13.6	10.1	199	73.6	19.5	6.9	87

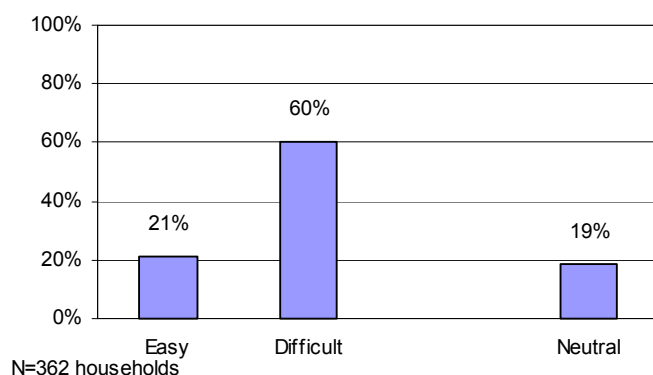
Table 25 shows the percentage of services for which adults have indicated their level of satisfaction with the fee charged. Overall, adult clients are satisfied with the service fees for malaria related services. Because no service is rated unsatisfactory, neither somewhat or very unsatisfactory, or neutral, the table shows the distinction between very satisfied and somewhat satisfied. Faith based organisations score higher on very satisfied.

**Table 25: Satisfaction level of adult service users on fees charged for malaria services**

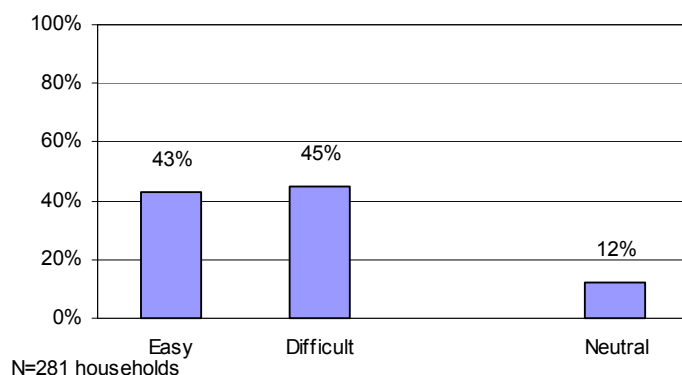
	<i>Very satisfied</i>	<i>Somewhat satisfied</i>	<i>Unsatisfied</i>	<i>Neutral</i>	<i>N</i>
Government/parastatal	15.9	84.1	0.0	0.0	145
Faith based/voluntary	35.8	64.2	0.0	0.0	274
Private	0.0	100.0	0.0	0.0	8
Referral hospital	25.6	74.4	0.0	0.0	43
District hospital	37.3	62.7	0.0	0.0	134
Health centre/post	32.6	67.4	0.0	0.0	172
Dispensary (incl. pharmacy/shop)	5.1	94.9	0.0	0.0	78
All health facilities	28.3	71.7	0.0	0.0	427

Despite the fact that respondents have no problem with the fee for malaria related services for adults, households have problems with financing them. Sixty percent of the respondents indicated having difficulty in paying for these services (Figure 20), that means 3 out of 5 services are difficult to finance out-of-pocket. Figure 21 shows that for children’s services the picture is more mixed: out of 5 services 2 can be easily paid for and 2 are difficult to finance.

**Figure 20: Percentage of households indicating level of difficulty in paying for adult malaria services**



**Figure 21: Percentage of households indicating level of difficulty in paying for child malaria services**



Observing mean out-of-pocket expenditures for adult malaria related services by wealth group in Table 26, we see that the highest group has higher health service costs as compared to the lowest groups. One of the explanations could be that the better off buy medical services and anti malaria drugs that are of higher costs. However, no statistical difference ( $p < 0.05$ ) between the mean OOPE's of the three wealth groups in the table was found.

**Table 26: Mean OOPE of households for malaria services for adult's episodes in the last 3 months by wealth group of household and total**

	<i>Lowest</i>			<i>Middle</i>			<i>Highest</i>			<i>Total</i>		
	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>
<b><i>Households using services/not all paying</i></b>												
All health service costs	7,274	11,385	144	9,238	15,472	122	10,080	17,444	130	8,800	14,869	396
All transp. & acc. costs	672	2,354	144	418	1,674	122	737	2,482	130	615	2,212	396
Total costs	7,946	12,019	144	9,656	15,703	122	10,817	18,058	130	9,415	15,355	396
<b><i>Households using services/all paying</i></b>												
All health service costs	7,817	11,623	134	10,837	16,239	104	12,363	18,584	106	10,131	15,527	344
All transp. & acc. costs	722	2,434	134	490	1,804	104	904	2,723	106	708	2,360	344
Total costs	8,539	12,256	134	11,327	16,449	104	13,266	19,179	106	10,839	16,002	344

Contrary to the observation on OOPE for adult malaria services, mean OOPE for children malaria services decreases with increasing wealth level. In other words, on average the poorest pay more for children's malaria services than the better off; excluding services that were offered for free, on average the lowest wealth group spent more than one and a half times (1.6) the amount paid by the highest group (all health service costs in Table 27). If we include free services the mean expenditure level of the lowest group is nearly two times (1.8) that of the highest group.

The mean costs of transportation and accommodation per visit for a child is also higher for the lowest group. For the middle income group it is lower than the higher and lower groups, which is difficult to explain by the data.

**Table 27: Mean OOPE of households for malaria services for children’s episodes in the last 2 weeks by wealth group of household and total**

	<i>Lowest</i>			<i>Middle</i>			<i>Highest</i>			<i>Total</i>		
	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>	<i>Mean OOPE</i>	<i>Std. Deviation</i>	<i>N</i>
<b><i>Households using services/not all paying</i></b>												
All health service costs*	<b>7,278</b>	13,607	116	<b>5,939</b>	9,616	89	<b>3,954</b>	6,295	99	<b>5,803</b>	10,578	304
All transp. & acc. costs	<b>2,235</b>	5,989	116	<b>875</b>	2,150	89	<b>1,538</b>	3,689	99	<b>1,610</b>	4,435	304
Total costs*	<b>9,513</b>	16,863	116	<b>6,814</b>	11,217	89	<b>5,492</b>	8,022	99	<b>7,413</b>	12,972	304
<b><i>Households using services/all paying</i></b>												
All health service costs*	<b>8,794</b>	14,514	96	<b>8,665</b>	10,564	61	<b>5,592</b>	6,855	70	<b>7,772</b>	11,604	227
All transp. & acc. Costs*	<b>2,701</b>	6,492	96	<b>1,277</b>	2,501	61	<b>2,176</b>	4,234	70	<b>2,156</b>	5,018	227
Total costs*	<b>11,495</b>	17,922	96	<b>9,942</b>	12,366	61	<b>7,768</b>	8,571	70	<b>9,928</b>	14,161	227

\* significant difference between mean OOPE of lowest and highest group (p<0.05)

Table 26 and 27 also show that mean transportation and accommodation costs for adult malaria service visits is less than one tenth (7%) of the mean health service costs, whereas for child malaria service visits this is much higher in absolute and in relative terms (28%).

All differences in mean OOPE between the highest and lowest group in Table 27 were tested at a 5% level. For the categories that are indicated with an asterisk in the table the mean OOPEs are statistically different.

In terms of affordability we conclude from above analysis that the results do not support the proper functioning of the exemption and waiver system neither for children nor for those most in need.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The present reports reflect the results of the baseline study in 2007 that was conducted within the framework of P4P financing scheme and the introduction of flat rates in faith based health facilities supported by Cordaid in Tanzania. Two main research questions were addressed: (1) to what extent are health services from the various service providers in the area being utilized and how much has been paid for these services by households out-of-pocket, and (2) to what extent are people satisfied with the health services that are being provided in terms of perceptions on quality, access and affordability? The study focussed on malaria and maternal health as marker conditions. The analysis covered 1946 households in Bukoba, Missenyi and Muleba districts in North West Tanzania.

In this section general conclusions are drawn on the methods applied, and on utilization rates, client satisfaction and out-of-pocket expenditures for both malaria and maternal health services and goods. For findings specific to malaria or maternal health services the reader is referred to the executive summary and the report itself.

In terms of limitations of the study, although we have the impression that the sample is representative, we cannot support this with calculated selection probabilities. Furthermore, large variations in responses on out-of-pocket expenditures and a recall bias warrant caution in interpreting differences in mean values.

In terms of utilization of health services, seeking health care in case of illness is common. All women, and nearly all children and adults sought medical advice for their maternal or malaria health problem respectively. Among adults self treatment for malaria is as common as going to a medical provider. Overall, the utilization rates reflect the government vs. non-government distribution of health facilities in the sampled region. More clients went to faith-based district hospitals and village health posts and government dispensaries. Few services were provided by private facilities. Home-based care was hardly reported.

In terms of perceived quality of services, in general people are satisfied with the services provided. (Emergency) obstetric care, care in health posts and district hospitals are rated lowest. Overall, faith-based-health facilities score slightly lower on overall satisfaction, friendliness and technical competence of the provider. However, differences are too small to be statistically significant.

In terms of access and availability of services, in general a walking distance of over one hour to reach a health facility is increasingly felt inconvenient. There is general satisfaction with opening hours for services. Children and their caretakers have longer waiting times than adults for malaria related services and caretakers find waiting times over an hour not satisfactory. For one in five maternal services women wait for more than an hour to be attended to.

In terms of affordability of services, in general clients are satisfied with the fees charged, even for those services that are supposed to be provided for free. Clients who are aware of fees charged for services are more satisfied with them. Despite the general satisfaction with service fees, a third to half of the clients have difficulty financing them, especially when their regular income is not sufficient for these additional payments.

After the start of the health reforms in the 90's cost sharing and user fees were introduced into the Tanzanian health system. The government exempts MCH services (including immunizations) and services for children under five from payment. Although NGOs and faith-based organisations usually apply user fees they also employ waiver systems and pre-payment schemes.

However, the present study concludes that exemption and waiver systems in practice are not functioning effectively. At government facilities in more than half of the visits for malaria health care



for children under five out-of-pocket expenditures are required (mean Tsh. 3,500, max Tsh 15,000), at faith-based facilities this is in nearly three quarter of the visits (mean Tsh. 7,500, max Tsh. 60,000). In-patient care for children under five is on average Tsh. 10,000. In addition, medical assistance or goods for normal deliveries at the facility is paid in six out of ten visits (government facility: mean Tsh. 3,500; faith based facility: mean Tsh. 7,000). Expectedly, obstetric care in case of emergency or serious maternal problems costs more (mean Tsh. 15,500), three quarter of these health visits are free though.

Although most clients reach the health facility on foot without having transportation costs, the costs of accommodating accompanying persons is sometimes considerable. Especially, for children seeking care for malaria payments on transport and accommodation inflates the cost of health service by a more than 25%.

For maternal and child malaria service visits the poorest group faces on average one and a half to nearly two times higher level of out-of-pocket spending than the highest wealth group. A likely explanation is that the lowest group is more at risk of illness and more often seeks care. They also may be less able to negotiate free or lower rated services. However, this needs further investigation.

Observing all medical expenses of a household though, economic status is less a determining factor when compared with non-medical out-of-pocket payments. Whereas for most non-food items the expenditure levels are according to wealth status, expenses on medical services and goods do not vary much between the poor and more wealthy households. They all spent on average 37,000 Tsh. annually per household.

Comparing this medical care out-of-pocket expenditure with medical insurance costs, for which the annual premium is about three times less for a whole household, medical insurance is certainly beneficial and an alternative for out-of-pocket expenditures. As individual households do not see the benefits yet, much more advocacy and promotion on medical insurance is required. This may go hand in hand with Cordaid's Pay for Performance (P4P) program.

Based on these conclusions we recommend the following:

- Improve exemption systems, waivers and safety nets to more effectively cover the poor and most vulnerable groups.
- Developing demand side financing approaches that would help protect households from impoverishment due to illness - including targeted subsidies and insurance, together with a regulatory framework to ensure that emerging insurance initiatives effectively contribute to this objective.
- Ensure that the public is well informed about existing policies and how to seek recourse when such policies are not applied. The poor should not be discouraged from seeking needed care because of insufficient information on user fees, or because health workers do not apply policies correctly.
- Lastly, the effect of the introduction of a flat fee system in health facilities on client satisfaction and out-of-pocket expenditures may be compounded by other health system factors like changes in remuneration of health staff, seasonal influences, and longer term socio-economic changes. A follow-up survey should be preceded by investigating these contextual variables.

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## Appendices

### Appendix 1: Sampled Health Facilities and Villages by catchment area

<i>HEALTH FACILITY</i>	<i>Cordaid supported facilities</i>	<i>Ward</i>	<i>Villages in catchment area</i>	<i>Villages in sample</i>
<b>Mssenyj District</b>				
Mugana District Hospital	x	Bwanjai ward	Kantare Nyabiokwe Rwamashonga Bwakera Bukabuye Bwangeruti	x  x x   
Gera Health Center		Gera Ward	Kantale Kashambya kashaka Kashekya	   x
<b>Muleba District</b>				
Kagondo District Hospital*	x	Muhutwe ward	Bisore Nyakashenye Mayondwe Bugasha	x x  
Rubya Hospital*	x	Kashasha ward	Ikomdo Buyaga Buhangaza Rubao Ijumbi Nshambya Ruhija Rubya Ibale Ihangiro Rwagati Kamishango Kakoma Bikokwa	    x   x x  x   
Kaigara Health Centre		Muleba ward	Bureza Butembo Katanga Makarwe Muleba Kasheno Magate Tukutuku Kiholele Makibwa Nyabule	       x   
Izigo Health Centre		Izigo ward	Izigo Bushumba Kabare Kimbugu Katoke	    x

<b>HEALTH FACILITY</b>	<b>Cordaid supported facilities</b>	<b>Ward</b>	<b>Villages in catchment area</b>	<b>Villages in sample</b>
<b>Kamachumu Health Centre</b>		<b>Kamachumu ward</b>	Kamachuma	x
			Kafunjo	x
			Rwanda	x
			Rutenge	
			Bunyawambele	x
			Ilogero	x
			Bulembo	
<b>Bukoba District</b>				
<b>Kashozi Health Centre*</b>	x	<b>Nyakato ward</b>	Igombe	x
			Kashozi	x
			Ibosa	
			Burugo	
			Kilima	
<b>Mwemage Hospital*</b>	x	<b>Ibwera ward</b>	Kalonge	x
			Ibwera	x
			Kibona	
			Itongo	
<b>Katoma Health Center Ntoma Dispensary</b>		<b>Katoma ward</b>	Irogelo	x
			Kashenge	x
			Lukindo	x
<b>Maruku Dispensary</b>		<b>Maruku ward</b>	Bwizanduru	x
			Kyansozi	
			Maruku	
			Butahiruka	
		<b>Kanyengereko Ward</b>	Bulinda	x
			Buguruka	x
			Butayaibega	x
<b>Nyakibimbili Health Centre</b>		<b>Nyakibimbili ward</b>	Kitahya	x
			Bundaza	x
			Bugengere	x
			Nyakibimbili	x

## Appendix 2: Screening Questionnaire

DISTRICT .....  
 WARD .....  
 VILLAGE .....  
 SUB-VILLAGE .....  
 HEAD OF H/H .....  
 NAME OF INTERVIEWE .....  
 .....

CODE	

No.	Question	Code category
1	In your household, is there a woman aged 15-49 years who, in the last 12 months has been either pregnant, has delivered or sought treatment within 2 weeks after delivery?	Yes 1 No 2
2	In your household, is there anyone aged 15 years and above who, in the last 3 months has been ill due to Malaria?	Yes 1 No 2
3	Has there been any child aged 0-14 years in the household, who in the last 2 weeks, was ill due to Malaria?	Yes 1 No 2
4	Among the above questions, if the answer was Yes, where did the client(s) go for services/advice (Note for Interviewer: If Health Facility is one of the options, ask Q5 below)	Health facility 1 Traditional healer 2 TBA 3 Self treatment 4 Others (specify) 5
5	Mention name of health facility	
6	Has anyone in the household been admitted to a health facility in the last 3 months, due to Malaria or Maternal health causes?	Yes 1 No 2
7	Has anyone in the household died in the last 3 months due to Malaria or maternal health causes?	Yes 1 No 2

### **Appendix 3: Questionnaires**

All questionnaires are available in Excel format.