THE EFFECT OF USER CHARGE POLICY AND OTHER NON PRICE FACTORS ON THE UTILIZATION OF HEALTH SERVICES IN DAR-ES-SALAAM REGION, 1994.

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ABSTRACT

A cross-sectional study was conducted in Dar-es-Salaam with the objectives of investigating the influence of the introduction of user charges and the effectiveness of the exemption mechanism introduced in public health facilities on utilization of health services.

Outpatient utilization records were analyzed in 3 public and 3 private hospitals and 242 outpatient interviews were done. Focus group discussions were conducted to get public health workers opinions on the cost-sharing exercise and exemption process. 362 households within the vicinities of the public hospitals were surveyed.

The study found that utilization of public facilities declined by 53% between the second and third quarters of 1994 following the introduction of user charges in mid July 1994. The sharp drop could be attributed to demand shifting to lower levels of the public referral system, or to the private sector.

Income and cost of care were found to be important factors in influencing choice of health facility. Majority of private users (73%) were paid for by their employer, while most public users (70%) paid for themselves. Findings further indicated that 30 % of public users interviewed indicated inability to pay while the proportion exempted was small

(3%). This could be due to the lengthy exemption procedure and its inconveniences.

The number of years of formal education and the nature of employment were found to have a substantial influence on choice of health facility. Public users were less educated and were self employed or unemployed. Closeness to ones' home and quality of care were the major reasons given for choosing a public or private facility respectively. Age, sex, marital status and household size were not significant factors influencing choice of health facility.

It is recommended that the DCC reviews its user charge policy and exemption guidelines, and the local community involved to ensure that the indigent are not denied access to health care.

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LIST OF ABBREVIATIONS USED

BI	-	Bamako Initiative.
DANIDA	-	Danish International Development Agency.
DCC	-	Dar-es-Salaam City Council.
DMO	-	District Medical Officer.
EDP	-	Essential Drugs Program.
EEC	-	European Economic Commission.
FGD	-	Focus Group Discussion.
GNP	-	Gross National Product.
JICA	-	Japanese International Cooperation Agency.
MOH	-	Ministry of Health.
MCH	-	Maternal and Child Health.
NGO	-	Non Governmental Organization.
NORAD	-	Norwegian Agency for Development.
ODA	-	Overseas Development Agency.
PHC	-	Primary Health Care.
UHP	-	Urban Health Project.
UNDP	-	United Nations Development Program.
URT	-	United Republic of Tanzania.
USAID	-	United States Agency for International Development.
UNICEF	-	United Nations Children's Fund.
WHO	-	World Health Organization.

DEDICATION

I would like to dedicate this work to my father, the late Hon. Hasnu Makame. The encouragement and support that he gave me during his lifetime has made this work possible.

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DECLARATION

I, Asia Kassim Hussein, solemnly declare that the whole or part of this dissertation has never been submitted for a degree in any other University. It is a result of my own sole effort and field work in partial fulfillment of the requirements for the degree of Masters of Medicine in Community Health.

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CHAPTER 1

1. INTRODUCTION AND REVIEW OF LITERATURE

1.1. INTRODUCTION

The United Republic of Tanzania (URT) comprises of the Mainland and the 2 islands of Zanzibar and Pemba. It covers a total square area of 945,000 Km and it is situated on the Eastern Coast of Africa. Administratively it is divided into 25 regions which are further subdivided into 106 districts. Tanzania had a total population of 23.2 million in 1988 with an annual growth rate of 2.8% (Bureau of Statistics 1990). The population had almost doubled in 2 decades from 11.2 million in 1967 to 23.2 million in 1988 (Bureau of Statistics 1990). Currently the population is estimated to be 27 million. The urban population has increased from 10% at the time of independence in 1961 to 30% at present. The average annual growth rate of the urban population (1980 - 1988) was 11.6% (Bureau of Statistics 1990).

The country has a mixed economy with agricultural playing the dominant role. The primary export commodities are coffee, sisal, cotton and diamonds. Tanzania has been ranked second poorest country in the world by the World Bank. It has a GNP of US$ 100 and an inflation rate of 30% (World Bank Report 1993). Tanzania's poor economic performance in the '80s; which can be attributed to a number of factors, that

is, drought, war with Uganda, break-up of the East African Community and increased price of oil and other imports, the steady decline of the Tanzanian Shilling against the US Dollar, inflation and reduction in domestic production, has had a great impact on social sector spending and on the living standards of its population. In 1985/86, 18 TShs were equivalent to 1 US$, the rate was 191 TShs to the dollar in 1989/90 and it is currently 565 TShs to the dollar (the average rate of decline is 30% per year).

The recurrent cost needs of the large health infrastructure which had been established following independence became increasingly difficult to be met due to the declining public expenditure on health, and as a consequence qualitative and quantitative deterioration of public health services occurred (Ilomo 1989; Mujinja 1990; Abel-Smith 1992; Mujinja and Mabala 1992). Some of the symptoms of underfinancing include increasing reliance on foreign assistance for pharmaceuticals, lack of repair and replacement of medical equipment and supplies, inadequate staffing, poor worker renumeration and morale, poor management and supervision (Mujinja 1990; MOH/Abel- Smith et al 1992). As a consequence, there has been a decline in the utilization of public health facilities as demonstrated by a reduction in the number of contacts per inhabitant per year

in rural health centers and dispensaries in Tanzania, from 6 in 1988 to 4 in 1992 (Mbeba 1994). Private and parastatal employers responded by establishing clinics at their places of work for treatment of their employees and some have designated special private hospitals and clinics where their employees can receive better care (Abel- Smith and Rawal 1994).

The Second Economic Recovery Program (1989 - 92) emphasized on both economic and social sector reforms. It had a special program known as the Priority Social Action Program. It planned on improving the availability of essential drugs and medical supplies; improving the health distribution systems, repair of health infrastructure and provision of transport (Mukyanuzi 1994). However, as early as 1984 the government had realized that there was a need for an alternative to health sector financing and planned to introduce a registration fee of Tshs.20 for each hospital visit. This plan faced a political resistance from the parliament and was abandoned. Political resistance has been documented as a major obstacle to the introduction of user charges in other developing countries (de Ferranti 1985; Korte et al 1992; Van der Geest 1992).

Major reforms were initiated in the health sector during the 1990's. Although, the government was still strongly

committed to the egalitarian role of equitable access to health services it had become aware of the need of change in the financing of the public health system. While claiming to hold its goal of equitable consumption of health services, the government encouraged a public/private mix in health care provision by removal of the ban on private practice in 1992. As a consequence of lifting the ban, rapid expansion of private health sector facilities occurred (Mujinja 1991).

In 1993 the role of the government in health care provision was redefined. The government's role is now limited to policy formulation, health legislation, public health interventions and the provision of essential curative health care. Cost-sharing through user charges in government health facilities aiming at partial cost recovery was consequently introduced in 1994 so as to improve public health sector finances and to allay the further deterioration of quality of services offered. Guidelines were issued on how to implement this new policy and the poor, the vulnerable and those suffering from chronic ailments were to be exempted from paying.

1.1.1. Overview of the Tanzania Health System

A. Health Status Indicators

Health status indicators have improved considerably in the last 30 years, but are still typical of other poor countries [see appendix table 1]. Life expectancy at birth is 54 years, the Infant Mortality Rate is 104 per 1000 live births and the Under Five Mortality Rate is 176 per 1000 under fives (Bureau of Statistics 1990). The Maternal Mortality Rate ranges from 200 - 400 per 100,000 live births in different regions (MOH 1990).

The major causes of morbidity and mortality are also typically those of poor countries that is, diseases associated with poverty -mainly communicable diseases, parasitic infestations and nutritional deficiencies. Country disease summary from monitoring stations lists malaria (31.52%) as the most common cause of morbidity followed by upper respiratory tract infections and diarrhoeal diseases which contributed 11.61% and 7.32% respectively (Bureau of Statistics 1992). These three diseases account for approximately half of the total causes of morbidity. Next are pneumonia, intestinal worms and eye diseases [see table 1.1].

TABLE 1.1: COUNTRY DISEASE SUMMARY FROM DISTRICT REPORTS IN 1990.

NAME OF THE DISEASE	PERCENTAGE
Diarrhoeal diseases	7.32
Malaria	31.52
Measles	0.16
Acute Poliomyelitis	0.00
Whooping cough	0.02
Neonatal Tetanus	0.01
Adult Tetanus	0.01
Intestinal worms	4.20
Skin diseases	3.19
Nutritional disorders	0.69
Anaemia	1.34
Normal pregnancy, minor complication	1.21
Complication of pregnancy at child-birth and pueparium	0.29
Gonorrhoea	1.62
Upper respiratory infection	11.61
Pneumonias	4.99
Accidents (including burns, fractures)	2.24
Schistosomiasis	0.55
Eye diseases	4.03
Ear diseases	1.15
Mental disorder	0.25
All other diagnosed diseases	14.38
Symptoms and ill defined conditions	9.22
TOTAL:	**100.00**

Source:- Ministry of Health (1990).

B. Organization of the Health Sector

Following independence in 1961, Tanzania inherited the British colonial economic and public sector structure. The health system consisted of a few hospitals and private practitioners concentrated in urban areas. The health needs of the rural population were met by religious missions and traditional healers.

In the 1970's Tanzania adopted a National Health Policy with an overall objective of providing free and comprehensive health services to all Tanzanians. Emphasis was placed on the development of rural, preventive services in preference to urban and curative services.

Tanzania also adopted the World Health Organization's, Alma-Ata Declaration of Health for All by the Year 2000 (WHO 1978) and this gave further impetus to the already on going massive expansion of the public health sector which occurred mainly in the peripheral areas. The number of first line workers - i.e. Medical Assistants, Rural Medical Aides had increased ten fold and the number of doctors had increased thrice (Mujinja 1990). By 1980, 93% of the population lived within 10 kms of a public health facility and 72% lived within 5 kms of such a facility.

Like in other developing countries, Tanzania has a multitude of health care providers (Ellis 1987; Gilson 1987). The bulk of the services are provided by the public health

sector (56%) which used to provide'free' health care until recently. These provide both curative and promotive health care. Non-governmental organizations like missions and other religious affiliations, private and parastatal companies and traditional health providers, provide the remaining 44% and are mainly curative. Tanzania mainland has a total of 175 hospital, 276 health center and 3014 dispensaries (MOH 1994). The government owns 44% of the hospitals, 96% of the health centers and 73% of the dispensaries. Most of the private health facilities are owned by voluntary agencies 48.57%, 2.89%, 16.09% of the total hospitals, health centers and dispensaries (see appendix table G1). The dispensaries are the first points of patient contact with the health system. Hospitals at the referral level include four consultant hospitals and two special hospitals, Kibon'goto for tuberculosis in Moshi and Mirembe Psychiatric Hospital in Dodoma.

Table 1.2 shows that there has been a steady increase in the number of outpatients and inpatients using all types of health facilities between 1980 and 1994. The number of outpatient attendances in hospitals, health centers and dispensaries had increased by 44.6%, 36.5% and 66.4% respectively during that period and inpatient utilization by type of facility had also increased by 38.9% in hospitals,

Table 1.2:

HEALTH FACILITIES: NUMBER OF BEDS,NUMBER OF OUTPATIENTS AND INPATIENTS ATTENDED IN '000 (1980-1994)

TYPE	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
HOSPITALS (1)	149	149	149	149	152	152	152	152	152	155	173	174	174	175	175
Hospital Beds (2)	21291	21352	22350	22350	22800	22800	22800	22800	22800	23400	23400	24130	24130	24130	24130
RURAL HEALTH CENTRES	239	239	239	239	239	260	260	260	278	279	276	276	276	276	276
Beds in R.H.Centres	4676	4676	4689	4689	4689	5122	5122	5122	6168	6168	5592				5992
DISPENSARIES (3)	2600	2644	2644	2644	2644	2831	2831	2831	2840	2851	2851	2851	2858	3014	3014
Beds in Dispensaries	9329	9386	9365	9365	9365	11320	11320	11320	10000	11340	11340				
OUTPATIENTS ('000)															
HOSPITALS	33768	35254	38779	42304	45829	49357	52121	55040	57580	60790	64006	66818	69753	72688	75623
RURAL HEALTH CENTRES	12973	13115	14427	15739	17051	18376	19938	21633	23700	25600	27500	29405	31442	33479	35516
DISPENSARIES	60628	62645	63909	65173	66437	706	69873	72109	75100	78160	81208	83691	86229	88777	91325
INPATIENTS ('000)															
HOSPITALS	922	925	927	929	931	36	962	989	1020	1340	1660	1825	2007	2189	2371
RURAL HEALTH CENTRES	275	279	285	289	295	10	327	346	350	398	437	463	490	517	504
DISPENSARIES	178	180	183	186	189	193	199	208	250	226	226	303	323	343	363

1. Including special hospitals
2. Excluding beds in special hospital
3. Excluding parastatal and private dispensaries
* Some governments dispensaries discontinued bedding services
1992 - 1994 estimates

Sources: Bureau of Statistics (1990) data for 1980 -1990
MOH (1994) data for 1991 - 1994

50.6% in health centers and 49.0% in dispensaries by 1994. These numbers when examined just as they are can be misleading however as they represent the total number of attendances in all health facilities, public and private. When for example, the number of outpatient contacts at public dispensaries and health centers per inhabitant per year is calculated, it is seen that this rose to just above 5 in 1984 to 6 in 1987/88 and then dropped to about 4 in 1992 [see table 1.3].

TABLE 1.3: TOTAL NUMBER OF CONTACTS AT PUBLIC PERIPHERAL HEALTH FACILITIES PER INHABITANT PER YEAR 1984-1992.

YEAR	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total contacts (thousands)	70.2	77.4	89.8	98.6	98.8	96.5	90.7	98.3	88.8
Inhabitants (millions)	13.8	14.2	15.9	16.3	16.5	17.8	18.9	19.1	20.4
Contacts per inhabitant per year	5.08	5.45	5.64	6.05	5.85	5.52	4.79	4.50	4.30

Source:- Health Information System, MOH (1993).

1.1.2. Health sector financing in Tanzania

The Public Health Sector

The Central Government is the main contributor of funds to the Public Health Sector. These funds are channeled through the Ministry of Health (MOH) and are mainly used for running the referral and regional Hospitals, preventive services, training and for administrative purposes. The Prime Minister's Office (PMO) sends funds directly to the districts for the district hospitals, health centers and dispensaries. The local government also plays a minor role in the financing of the public health sector.

The health sector's share of the total government recurrent budget spending has been almost constant at 8% from 1989/90 to 1992/93 and it rose to 9.8% in 1993/94 (World Bank 1993) as can be seen from table 1.4. Although the health sector's share of the total recurrent budget is almost double that of the 1970's, there has been no improvement in real terms, in actual fact the real per capita government expenditure on health declined by 460% between 1978/79 and 1988/89 (Levine et al 1994). Inequity exists in resource allocation between the different sectors in the MOH (Levine et al 1994). In the 1993/94 total budget, 79% of the funds were allocated to curative services, 50% of which was channelled to hospitals at the district and national levels.

Only 14% was allocated to preventive services. The share allocated to curative services in the 1993/94 recurrent budget was 88% and a meager 4% was allocated to preventive services (Levine et al 1994).

The per capita government expenditure on health per annum was US$ 3.46 in the 1993/94 MOH budget, the household or community contribution to the per capita health expenditure has not been established. At best it can be assumed that the households contribution to the per capita health expenditure matches or even exceeds the government's share. Following the introduction of user charges in government facilities the households' private contribution to health expenditure will increase substantially.

With the decline of the national economy, donor contribution to the financing of the public health sector has increased considerably. The proportion of foreign component to the local component in the MOH development budget is very high as can be seen in table 1.5. Donor funding accounts for almost 70% of the development budget and this is spent mainly on rural health services (USAID/Tanzania 1980).

TABLE 1.4: SUMMARY OF HEALTH SECTOR AND TOTAL GOVERNMENT SPENDING 1993/1994 (T.Sh. Mill or percentage).

	1989/90 (Actual)	1990/91 (Actual)	1991/92 (Actual)	1992/93 (Actual)	1993/94 (Actual)
Total Government spending	113,964	161,224	199,670	250,942	292,827
Total Government spending as net debt repayment	78,277	111,407	140,505	182,776	209,484
Gross Domestic Product	456,148	601,449	752,512	813,420	939,501
Total social sector spending	26,823	36,405	47,190	56,440	74,639
Health	9,010	13,154	16,409	20,380	28,795
% of total Government spending	7.9%	8.2%	8.2%	8.1%	9.8%
% Government spending net debt repayment	11.5%	11.8%	11,7%	11.2%	13.7%
% of GDP	2.0%	2.2%	2.2%	2.5%	3.1%
% of total social sector spending	33.6%	36.1%	34.8%	36.1%	38.6%

Source:- World Bank (1993).

TABLE 1.5: PROPORTION OF FOREIGN COMPONENT TO THE LOCAL COMPONENT OF THE MINISTRY OF HEALTH DEVELOPMENT BUDGET 1987/1988 TO 1989/1990

FINANCIAL YEAR	TOTAL DEVELOPMENT BUDGET IN 000	LOCAL (000)	FOREIGN (000)	F/L
1987/88	208,995	76,008	132,947	1.7
1988/89	1,134,900	185,900	849,000	4.6
1989/90	447,810	187,810	260,000	1.4

Source:- MOH (1990).

Amongst health programs that are donor supported are: the Essential Drugs Program (EDP), AIDS Control, Malaria Control, Family Planning and Universal Child Immunization. The major bilateral donors include USA, Denmark, Switzerland and Scandinavian countries. Multilateral donors include UNICEF, USAID, UNDP, DANIDA, EEC, NORAD, WHO, UNFPA, ODA, and JICA.

The Private Health Sector

The source of funds for hospitals run by NGO's and private individuals is mainly through user charges. Health facilities under the management of religious groups/missions that have also been designated as district hospitals, get additional funds from the MOH and also from their parent organizations overseas (Mujinja 1990). Contributions from private individuals and Non-Governmental Organizations (NGO's) are the other sources of funds for the private health sector (Mujinja 1990).

Health insurance is almost non-existent in Tanzania. Out of a population of 27 million only 2500 people are covered with health insurance policies from the National Insurance Cooperation (Abel-Smith and Rawal, 1994). The insurance covered is actually called life insurance and is not typical of health insurance policies provided in other countries.

Private employers and some parastatal organizations have created organizations for example, the Tanzania Occupational Health Services (TOHS) or have identified some private health facilities to provide health care for their workers and sometimes worker's dependents (Abel-Smith and Rawal 1994).

1.2. PROBLEM STATEMENT

The public health sector in Tanzania has been experiencing chronic underfinancing since the early 1980's. A gap exists between the desired and actual allocation of resources to the health sector; for example, budgetary estimates for the Ministry of Health in 1990/91 were Tshs. 37 billion, while the money actually allocated was Tshs. 6 billion. The share of the GNP allocated to the health sector dropped from 9% in 1973/74 to about 4% in 1987, and although it had increased in 1993/94 to 6.1% it has actually declined in real terms (Ilomo 1989; URT 1993). The annual per capita expenditure on health has steadily declined from USD 7.1 in 1975 to 4.7 in 1988 to 3.46 in 1993/1994 (URT 1993). This is below the estimated required amount of USD 12-13 per capita per year, for a basic package of public health and curative services in low income African countries (Shaw and Elmendorf 1993).

The government's objectives for the cost sharing initiative in the public health sector are 3 in number:-

1. To generate additional revenues to cover costs of providing health services;
2. To enhance equity;
3. To improve efficiency in production of health services.

Thus, the government had proposed the introduction of user

charges in its health facilities in order to ensure financial sustainability and to improve the range and quality of services offered. Precedent exists as user charges have been used as a means of resource generation in private health facilities in the country (Mujinja 1992; Abel-Smith and Rawal 1992).

A number of studies done in the country have come to the conclusion that people are willing to pay for their health care provided that the charges are reasonable and the quality of service is good (Mujinja and Mabala 1992; MOH/Abel Smith 1992). Available literature however, shows evidence of declining utilization especially amongst the poor and that there is considerable sacrifice made by households when user charges are introduced (Stanton and Clemens 1989; Waddington and Enyimayew 1989; Gertler et al 1989; Korte et al 1992; McInnes 1993). The Tanzania Government has shown concern that the poor and those suffering from chronic ailments are not denied access to health care by designing a system to promote equity (URT 1993). The user charge effect in Tanzania has actually not been well documented so far.

The introduction of user charges in Tanzania public health facilities may have a regressive health effect if the exemption mechanism put in place does not function properly. There is therefore need to study whether there are any

changes in the utilization pattern of health facilities and whether the poor will be affected following the introduction of user charges in public health facilities.

1.3. **RATIONALE OF THE STUDY**

Social sector spending in Tanzania has declined due to economic constraints facing the government. Reform in the health sector was therefore necessary in order for the government to continue to deliver good health care. Cost sharing through user charges has been introduced as an alternative financing mechanism in the public health sector. The funds generated are expected to be used at the point of collection to ensure that the range of services and quality of care improves. The government continues to commit itself to equity in health care delivery and has instituted an exemption mechanism for those who cannot afford to pay and those suffering from chronic ailments.

This study will analyze the utilization of health facilities in Dar-es-Salaam and whether price plays a role in a client's decision to seek health care. It will also look into the impact of fees on the poor and whether the exemption mechanism adopted by the Dar-es-Salaam City Council hospitals is effective and sensitive in isolating the indigent. The user charges in Dar-es-Salaam district hospitals started on

18th July 1994 and its effects on demand has never been documented.

Findings and recommendations of this study will be useful in assisting policy making decisions in Dar-es-Salaam City Council and probably at the national level in ensuring that the cost sharing exercise is successfully implemented and sustained.

1.4. DEFINITION OF TERMS USED

Ability to pay:- the level at which one is able to part with a certain amount of money to obtain a given level of health services at a given time.

Adult:- a person who is eighteen years old and above.

Cost sharing:- is a system of paying for health services where the consumer is required to pay part of the cost of health services delivered and the rest of the cost is met by a third party (government, insurance e.t.c.).

Exemption group:- people who are exempted /waived from paying the full amount of the charge of the health services delivered in public health facilities. This group includes those who are identified as poor (unable to pay), those suffering from chronic diseases, children under five years of age and pregnant women attending for antenatal services.

Exemption mechanisms:- government policies or guidelines that reduce or completely exempt people from the full cost of user fees, thus protecting these individuals from the full burden of fees charged at government health facilities.

GNP:- the total value of goods and services produced in a country by nationals in one calendar year.

Household:- a person or a group of people who usually live and eat together and are not necessarily a family during the time of interview.

Low income households:- those households consisting of at least 5 members and which reported to spend TShs.5000 or less on food per week.

Per capita national income:- the total national income of the country divided by the total population.

Private Health Facilities:- hospitals, health centers and dispensaries owned, financed and managed by the private individuals or private organizations. These include all the three private hospitals which were included in this study for the health consumer survey. For the household survey, private health facilities include all private dispensaries and hospitals, traditional healers, pharmacies and local general stores that also sell medicines.

Public Health Facilities:- hospitals, dispensaries and health centers owned, financed and managed by the government or her departments. These include all the three district hospitals for the health consumer survey. For the household survey, public health facilities include all government dispensaries, health centers, district hospitals and referral hospitals.

Total cost of care:- this is the sum of all the direct costs incurred by the individual to obtain medical care. This includes transport, consultation, medicines and investigation costs.

User charge:- in the Tanzanian public hospitals, this is the price charged to the consumer to obtain a certain level of health care which is not necessarily equivalent to the marginal cost of the health services delivered to him/her.

Willingness to pay:- the level at which one is willing to pay for a given level of health services at a given time.

1.5. REVIEW OF LITERATURE

1.5.1. Trends in Health Sector Financing in Developing Countries.

"The financing of health services is now a subject of major concern to governments all over the world" (Abel-Smith 1985). The triad of poor economic performance, increasing foreign debt and rapidly growing populations, has resulted in governments allocating less funds to basic services like health care and education (Abel-Smith 1985; Ogbu and Gallagher 1992; WHO 1993). The International Monetary Fund and the World Bank have called for devaluations of local currencies and cutbacks in public expenditure in their structural adjustment programs as pre-requisites to securing further loans (Abel-Smith 1985; Waddington and Enyimayew 1989). Reduction in government health sector expenditures has important implications in most African countries where the government has traditionally been the dominant agent in health delivery (Ogbu and Gallagher 1992). Concern that this will result in the quantitative and qualitative deterioration of the public health systems in the affected countries and as a result poor health of the local community has been raised (Stanton and Clemens 1989; Ogbu and Gallagher 1992).

Different methods of generating the needed revenue for funding public health services have been advocated and some

are currently being tried. Some countries have adopted more than one method. These include Community Financing in countries which have adopted the Bamako Initiative e.g. Ghana, Nigeria, Cameroon, Liberia, Uganda and Kenya; Insurance Schemes as in Ghana and Nigeria; and User Charges in Egypt, Ghana, Kenya, Rwanda, Lesotho, Swaziland and Zimbabwe (Ellis 1987; Gilson 1987; Abel-Smith 1991; McInnes 1993). Other methods that have been proposed are more efficient allocation of scarce resources within the health sector itself and increasing donor support (World Bank 1993; Mujinja 1991; Ogbu and Gallagher 1992; Shaw and Elmendorf 1993).

1.5.2. **Decision making and determinants of demand for health care.**

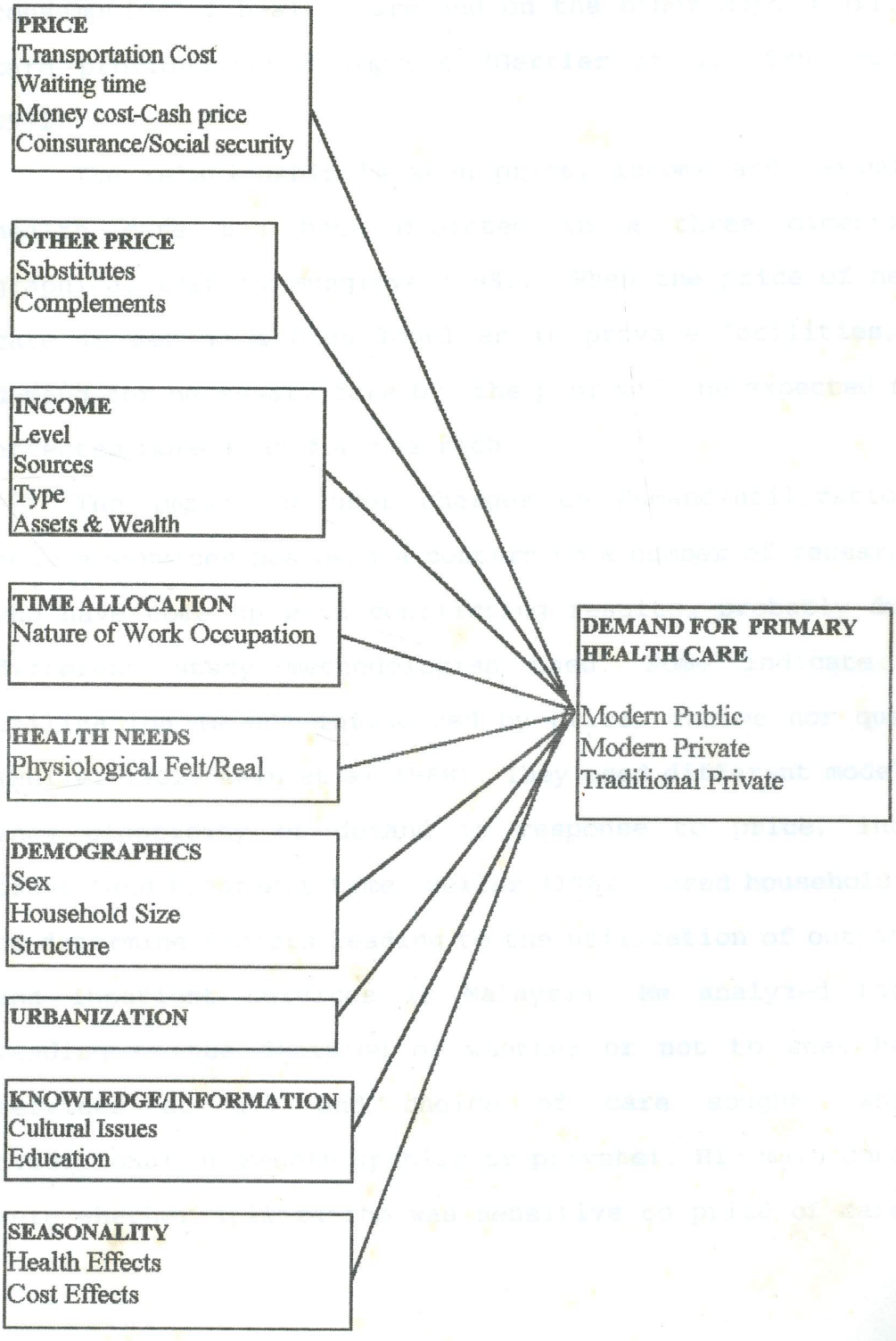
Following an illness episode, perception about the illness has been seen to be one of the two major factors in determining how a household will respond to that illness need. The other major factor is the cost of health care (Mwabu 1986). Decision making in health care utilization is a multi- stage decision. Mwabu (1986), has discussed this decision making process in 3 stages. Once a patient or a household becomes aware of the illness, a decision has to be made on whether or not to seek health care. If the decision

to seek health care is made, another decision on the type of health facility (choice between various provider alternatives, including self care) and which one to go to has also to be done. The final stage in this decision making process comes when a household/patient has to decide on whether or not there is need to seek further treatment if cure is not effected. The second and the third stages can be repeated several times. Once a decision to seek health care is made other factors come to play. A lot of research has been done on the various factors which influence demand for health care. These factors have been presented in a model form by Akin et al (1986). [see figure 1.1].

Researchers have shown that these factors include demographic factors such as age, gender, income, education and employment status; type and severity of illness, cultural factors, price of care, distance and cost in time in reaching a medical facility, time spent in waiting at the health facility to get care and quality of care offered (Heller 1982; Akin et al 1986; Musgrove 1986; Stanton and Clemens 1989; Ellis and Stephenson 1992; Shephard et al 1992).

The World Bank a leading proponent of user charges argues that demand for curative health care tends to be price inelastic i.e. increase in user fees will result in a less than proportionate drop in demand (de Ferranti 1985).

Fig 1.1: DETERMINANTS OF DEMAND FOR HEALTH SERVICES IN THE THIRD WORLD



Source:- Akin et al (1986)

User charges will make consumers to avoid unnecessary consumption of health care and on the other hand quality of care provided would improve (Gertler et al 1988, Mujinja 1992).

The relationship between price, income and demand for health care has been depicted in a three dimensional graphical form by Musgrove (1986). When the price of health care is set at a high level as in private facilities, the demand for necessary care by the poor will be expected to be affected more than for the rich.

The impact of user charges on demand/utilization of health services has been a concern to a number of researchers who have come up with conflicting results, probably due to different study methodologies used. Some indicate that utilization is not influenced by price, income nor quality (Heller 1982; Akin et al 1986). They used different models to show elasticity of demand in response to price, income, travel and treatment time. Heller (1982), used household data to determine factors leading to the utilization of outpatient and inpatient services in Malaysia. He analyzed factors leading to the decision of whether or not to seek health services at all and choice of care sought, whether traditional or modern (public or private). His main concerns were whether utilization was sensitive to price of care and

cost in time in seeking care. The cost in time of seeking care was further broken down into travel time, waiting time and treatment time. Other independent variables that he analyzed were monthly household income, household size, dependency ratio and proportion of girls to boys. Ethnic group, the quality of the household sewage disposal system and the quality of water supply were used to proxy the likelihood of illness. To proxy quality of care provided by a health facility, the household's perception on the likelihood of being treated by a physician or a paramedic was used. Heller (1982) came to the conclusion that demand for both outpatient and inpatient care was highly inelastic to cash price, that the total number of outpatient visits were non responsive to the total time required and that income only influenced the consumption of discretionary medical demand but was not a barrier to access.

Akin et al (1986) did a demand analysis for outpatient services in a poor region of the Philippines, using both household and hospital data. In order to isolate the effect of price, they controlled for non price factors. In their model the type of outpatient service sought i.e. whether traditional, modern - public or private or none as discrete choices was the dependent variable. Independent variables included price of care which they specified further as cash

price per visit and amount spent on drugs, and whether or not covered by insurance. Other variables considered were household income and household assets, whether the outpatient was a male or a female, level of education and area of residence - whether urban or rural. Their results also showed that cash price and income had little significant effect on the type of health facility chosen. While severity of illness and quality of health services have been found to be important determinants of demand for health care by other researchers, these were not adequately controlled for in both the Heller and Akin et al (1986) models. The current study will also examine the influence on utilization of the some of the variables included in the Heller (1982) and Akin et al (1986) studies and will also include quality variables such as drug availability, attitude of health workers towards patients and cleanliness of health facility premises.

There is an increasing body of literature which shows evidence of declining utilization of health services following the introduction of cost recovery schemes. Demand analysis for health care using 1984 data for urban Peru, shows that price is an important factor in health care demand, and that demand becomes more elastic as income falls. The analysis shows that although the higher income group was not very sensitive to price changes, health care demand from

the poorer segment of the population dropped as fees increased (Gertler et al 1988).

Sauerborn et al (1994), used logistic regression models to derive price elasticities of demand for health care in different age and income groups in Burkina Faso. They used household crossectional data from the Solenzo Medical district which had four health posts and one medical center. The quality of care and drug availability was almost similar in all the five facilities and their influence on quality was therefore controlled for. Variables used in the regression models were the pecuniary cost of care (out of pocket expenditure on drugs and transportation to get care), time cost of care, annual income of individuals (this was divided into quartiles) and age (divided into 3 groups 0 - 1, 1 - 15 and above 15 years). Other variables used were number of completed years of schooling, sex and availability of means of transport to proxy household wealth. Their results indicated that 42% of severely ill individuals sought professional help and that the price of drugs represented 80% of the pecuniary cost of obtaining care. Overall demand was found to be inelastic following a 10% simulated increase in price. Income was found to be very sensitive to price in the three lowest income groups. The 0 - 1 and 1 - 15 age groups were also very sensitive to price.

The Ghanaian government introduced user charges in 1971 with the aim of reducing excessive demand and to contribute to the cost of curative care, these fees were increased substantially in mid July 1985. Waddington and Enyimayew (1989) analyzed government hospital records in one district of Ghana from 1984 to 1987 in order to analyze the effect of the enhanced fee levels on utilization. They also conducted Focus Group Discussions (FGD's) with community groups and health workers so as to generate qualitative data. They established that though the goals of the government were realized (fees collected increased by 17% in real terms between 1986 and 1987), a vulnerable segment of the population was denied access to public health care (Waddington and Enyimayew 1989). FGD's revealed that people were resorting to using inferior alternative care or delayed in using government facilities following the increase in fees. They also found a marked difference in utilization recovery between rural and urban areas. While utilization rates gradually returned to their pre 1985 levels over a two year period in urban areas, they remained at their reduced levels for three years in rural areas (Waddington and Enyimayew 1989).

A major drawback of the Waddington and Enyimayew study is that they used time-series data on health facility utilization rates before and after the introduction of user fees in only one district of Ghana. Although they tried to control for socioeconomic status of users by comparing data for urban and rural areas, information of the socioeconomic characteristics of the users was lacking.

In Bangladesh it has been shown that user charges could prevent access to health care by the segment of the population most in need. The cost of health care was found to be the commonest reason (43%) for not seeking health services amongst the study population (Stanton and Clemens 1989). Research done in the catchment area of Embaba Hospital in Egypt shows that out-patient price increases will result in a significant reduction of utilization but the effect of price would be minimal for in-patient care as the fees were much lower than those charged in other hospitals in the area (McInnes 1993). It has been documented that utilization of government and mission hospitals fell by 17% four months after introduction of user charges in Swaziland (Gilson 1987). These results indicate that protection mechanisms to protect the poor from the full cost of health care will have to be done if utilization is to be maintained.

In the above cited studies, cost recovery was the major priority for the introduction of user charges. Quality of health services as perceived by users, drug availability and staff attitudes have been found to be important factors which influence choice of health facility used (Waddington and Enyimayew 1988; Ellis and Stephenson 1992; Leberghe 1992). Low perceived quality at entry levels of the public health referral systems can be a reason to explain why patients jump the referral system and go directly to more costly institutions.

Results from a Bamako Initiative (BI) scheme in Cameroon where user charges were introduced in tandem with improved quality of health care, show that utilization increased instead of declining even amongst the poor (Litvack and Bodart 1993). The authors conducted a pre-test, post-test, controlled population based experiment using five public health facilities in the Cameroon. Three of the five health facilities introduced user fees and also improved quality of services offered while the others only introduced user fees. Quality improvement in their study, refers to the provision of a full and steady stock of drugs at the intervention units. Prior to intervention patients received only consultation and usually had to purchase drugs elsewhere. In fact their study demonstrates that access to health care for

poorer people "increased proportionately more than in the wealthier people" in the intervention health units (Litvack and Bodart 1993). In the control units, utilization by the poor declined considerably and as a result the authors argue that when low cost good quality care is locally available, people would prefer using it rather than using a distant facility which may be free. Though this study type is ideal, it consumes a lot of resources in terms of time, money and manpower. Another disadvantage is that it may be considered to be unethical or politically unacceptable in some countries to make quality improvements in only some health facilities and not in others.

In summary the literature shows conflicting results on the effect of user charges on demand and utilization of health services and therefore there is need to investigate this in the local Tanzanian setting. The current study will try to combine different study methodologies so as to isolate the effect of user charges on utilization of public health facilities. In order to get demand side information, household and outpatient interviews will be conducted in all the three districts in Dar-es-Salaam. Analysis of outpatient hospital records, interviews with administrative heads and focus group discussions with different health providers in the health facilities studied will be done to get supplier

side information. A modification of the regression model used by Sauerborn et al study (1994) will be used in the analysis of data obtained from Dar-es-Salaam health facilities and interviewed households and patients.

1.5.3. **Equity and protection mechanisms for the poor**

Most developing countries being co-signatories to the Alma-Ata Declaration had committed themselves to equity in the health sector, and until faced with economic difficulties health care was free in most of them (Mills 1991). The World Bank argues that user charges will promote equity as the revenue collected from those who are able to pay, will make it possible for governments to extend services to the poor (Akin et al 1987).

Researchers and policy makers have come up with different exemption mechanisms aimed at protecting the poor and those suffering from chronic ailments. One of the objectives of the Free Medical Care project introduced by the Thai government in 1977 was to ensure access to health care by the poor and those living in rural areas. Criteria were set up to define poverty (i.e.levels of income, ownership of land, number of people below twenty years in a household e.t.c) and cards which entitled households to free health care were issued. The decision on who was to receive free

health care was left on the discretion of the person in charge of the health facilities (Mills 1991). The governments of Costa Rica and the Republic of Korea have also introduced card systems which entitle the poor to free health care (Abel-Smith 1991). Following independence, Zimbabwe has had a policy of payment for health care in its public and mission facilities on a sliding scale according to salary. Zimbabweans earning less than Z$ 150 are provided free health care in these facilities (WHO 1993). The fact that the rich can afford to pay more than the poor without seriously affecting their necessary demand is a strong argument for charging them more (Musgrove 1986). Differential charging and installation of amenity wards for those who are able to pay have also been recommended by other researchers (Gertler et al 1988; McInnes 1993).

In a study of NGO hospitals in Tanzania, it was found that the majority charged only marginal costs aimed at breaking even and payments were considered according to the patients ability to pay (Mujinja and Mabala 1992). Exemption mechanisms were present in 95% of the NGO hospitals and they used different criteria for example - age (children under five years); severity of illness, inability to pay; disability and chronic disease (Mujinja and Mabala 1992).

Deciding who is able to pay and who cannot is very difficult however, and so far the effectiveness of exemption mechanisms leaves much to be desired (Abel-Smith 1991; Waddington and Enyimayew 1989; Mills 1991).

1.6. RESEARCH HYPOTHESES

1. Introduction of user charges in public facilities will result in a decline in utilization (of these facilities).

2. The access to public health services by the poor will be reduced more than that of the more wealthier groups following introduction of user charges in public health facilities with an exemption mechanism which will not isolate the indigent correctly.

1.7. CONCEPTUAL FRAMEWORKS

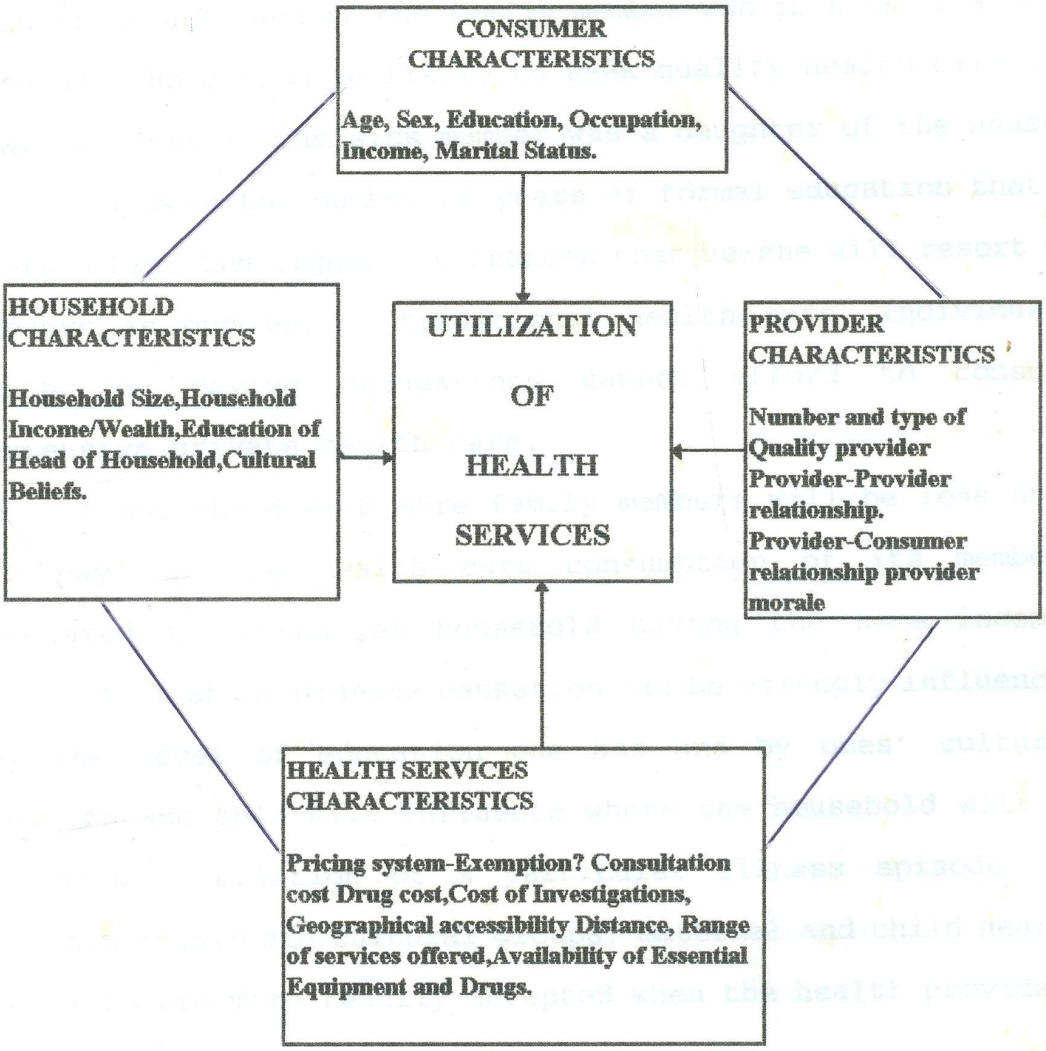
1.7.1. Conceptual Framework for Factors Influencing Utilization of Health Services:

Factors influencing utilization of health services can be broadly categorized into demand side factors and supply side factors (see figure 1.2). The demand side factors are further subdivided into the Individual Consumer (patient) characteristics and endowments; and characteristics as well as endowments of the Household from which the consumer comes from. The supply side factors are also subdivided into two groups; namely Health Services characteristics and Health Provider characteristics. All of the above factors interrelate with one another in various and sometimes complex ways in influencing utilization of health services.

Demand Side Factors:

Consumer characteristics include age, sex and marital status of the patient, education, occupation and income. While household characteristics include household size, household income/wealth, education of the head of the household and cultural beliefs.

Fig 1.2:-CONCEPTUAL FRAMEWORK FOR THE ANALYSIS OF FACTORS INFLUENCING UTILIZATION OF HEALTH SERVICES.



The very young and the elderly are more prone to illness than other individuals and they tend to utilize health services more. There is a preference of boys to girls in many ethnic groups and if the family member who is sick is a son, the household is more likely to seek quality health care and earlier than if the sick member was a daughter of the house.

The more the number of years of formal education that a person has, the higher the chances that he/she will resort to modern as opposed to traditional health care. Individuals with low paying occupations cannot afford to consume expensive private health care.

A household with more family members will be less able to pay for the health care consumption of its members compared to a smaller household having the same income. Perception about disease causation can be strongly influenced by the level of education one has and by ones' cultural beliefs and this will influence where the household will go to seek alleviation of a particular illness episode. In certain ethnic and cultural groups, maternal and child health services are more readily accepted when the health providers are females.

Supply Side Factors:

Health provider characteristics include the absolute number and type of training of the different health workers in the health facility, health worker morale; their relationship with each other and with health consumers. Facilities with shortage of staff or in those where a particular health cadre staff are not available will not be favored by consumers.

Health services characteristics include geographical accessibility; presence of physical barriers which may negatively or positively affect utilization, distance to the health facility from the patients' place of domicile, the pricing system and costs for the different services rendered e.g. cost of drugs, investigations, parking fees for motor vehicles etc. The presence of an exemption system and its mode of operation is a very important factor in determining access by the poor and therefore utilization. Other health services characteristics include the availability of essential drugs and equipments, the presence and functioning of essential services e.g. blood bank, X-ray room, operating room and mortuary. Perception of the quality of care offered by a health facility and its personnel has a strong influence on whether a household/individual utilizes that facility.

The costs/prices that a patient has to incur in order to consume health care include both direct monetary costs and opportunity costs like foregone alternatives and sacrifices. Direct costs include transport charges, and time cost of travelling to the health facility, cost of waiting to receive health care, charges for consultations/investigations and medications. Travel time is linked to distance and the greater the distance to the health facility, the more the money spent on transport. Long waiting times may be due to poor organization or under staffing and may not be well perceived by users. On the contrast longer times spent with a health provider in getting care are associated with more thorough care.

Other indirect costs incurred by the household may include wages lost by another household member who has taken the patient to the health facility and the sacrifices that other family members make in order for the patient to receive health care (funds diverted from other uses and time used to help the patient).

When prices of care at one health facility goes up, users may respond in three ways:-

1. They may continue to use the same facility (at the same level as before or at a lower level),
2. or, decide to go to another facility,

3. or, decide not to seek professional help at all.

Which decision is made will depend amongst other things on users perception of quality of care provided at the health facility, availability of alternative sources of health care and users perception of the seriousness or severity of their problems. In instances where consumption of health care already accounts for a significant share of the households' resources, households will respond to an increase in price by reducing their consumption of health care. Those households which are below or just above the poverty line would require subsidization or exemption from payment of fees.

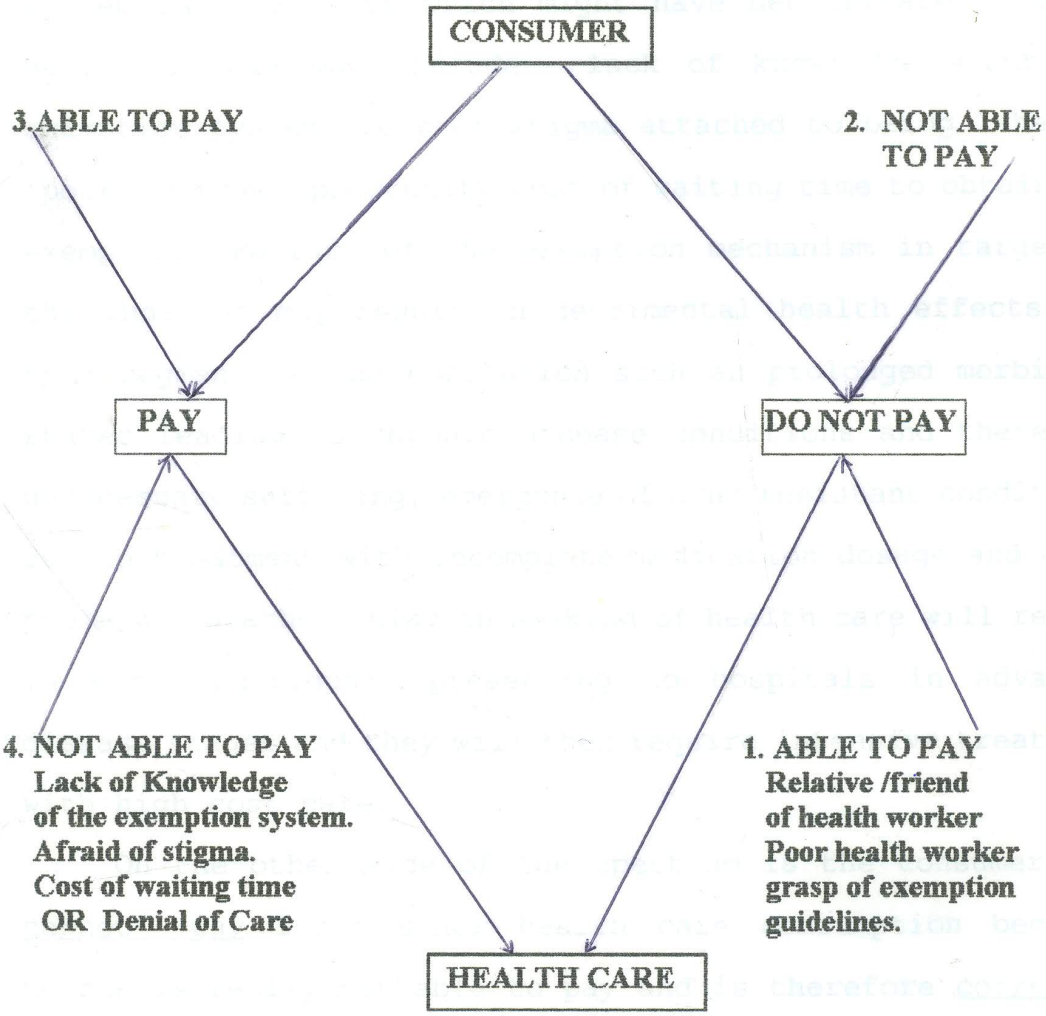
The pricing system of the health facility is also important in determining utilization of the facility. Whether charges are uniform across all age and income groups, if charges for a first time visit and a revisit are the same or not; whether charges are standardized or they vary and how often the charges are reviewed and revised. As far as health providers are concerned - the charges for attendance by a specialist may differ from those charged when one is seen by a general practitioner, cost of time taken for a health worker to attend to the patient and whether the patients has to give gifts, are some of the prices that a patient/household has to shoulder so as to utilize health care.

1.7.2. Conceptual Framework for Assessing the Effectiveness of the Exemption System:

The exemption system has to be designed with an underlying equity objective so that a patient who is truly not able to pay (an indigent) for his/her own health care is ensured of getting access to the health care system and thus to receive the necessary health care that he/she needs. Children who are under five years of age, pregnant women, the elderly and those suffering from chronic ailments are supposed to be exempted from paying in the Tanzania public health system. A conceptual framework of the exemption process is depicted in figure 1.3.

A consumer of health services may or may not be able to pay for his/her health care. The consumer who is charged for his/her consumption of health care may or may not be able to pay. Therefore, the one who is able to pay is saidto be correctly charged and on the other hand the one who is not able to pay is erroneously charged. The consumer who is not able to pay might have undergone a lot of trouble in order to get the necessary funds needed through borrowing from relatives/neighbors, asking for assistance from friends and relatives or he/she might even have sold his/her own personal belongings. This type of consumer is supposed to have been exempted from payment and has therefore been erroneously

Fig 1.3:- CONCEPTUAL FRAMEWORK FOR ASSESSING THE EFFECTIVENESS OF THE EXEMPTION SYSTEM



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1 TYPE 2 ERROR	2
3	4 TYPE 1 ERROR

charged due to the inherent ineffectiveness in the exemption system used. Factors which might have necessitated his/her having to pay may include:- lack of knowledge about the exemption system, fear of stigma attached to being labelled 'poor' and the opportunity cost of waiting time to obtain the exemption. Failure of the exemption mechanism in targeting the indigent may result in detrimental health effects for this segment of the population such as prolonged morbidity states leading to chronic disease conditions and therefore unnecessary suffering, emergence of drug resistant conditions due to treatment with incomplete medication dosage and/or premature deaths. Delay in seeking of health care will result in sick individuals presenting to hospitals in advanced disease stages and they will then require intensive treatment with high cost care.

On the other side of the spectrum is the consumer who cannot pay for his/her health care consumption because he/she is really not able to pay and is therefore correctly exempted from paying. Another consumer might be able to pay but is erroneously exempted from paying either because he/she is incorrectly identified as an indigent or because he/she is related to a health worker in the facility where he/she seeks care. Therefore, in this case the exemption mechanism fails to isolate the indigent. Other patients who might fall in the

incorrectly exempted category could be those who paid for their care. How effective the exemption mechanism is in isolating the poor i.e. those who are not able to pay is very important in assuring equity in health care consumption.

1.8. OBJECTIVES

1.8.1. Broad Objectives

1. To determine the effect of user charges and other non price factors on the utilization of health facilities in Dar-es-Salaam region.
2. To determine the capability of the instituted equity mechanism to isolate the indigent in public health facilities in Dar-es-Salaam region.

1.8.2. Specific Objectives

1. To determine the extent of outpatient utilization of health facilities (public/private) before and after the introduction of user charges in public health facilities.
2. To determine the extent to which some socio-economic characteristics influence the utilization of health services after the introduction of user charges in public facilities, from:-
   (a) Households (characteristics of heads of households - age, sex, marital status, level of education, occupation, monthly household income, household weekly expenditure on food, type of housing and household ownership).

(b) Users of health facilities (age, sex, marital status, level of education, occupation, monthly income, weekly food expenditure).

3. To identify factors along with the price of care which influence choice of a particular health facility (Public/Private) where health care is sought (perception on quality of care, drug availability, provider attitudes, distance to health facility, time cost in seeking care, cost of treatment, mode of transport used).

4. To estimate the direct cost incurred for treatment of an illness episode in a public health facility v/s private health facility, after the introduction of user charges in public facilities.

5. To identify the different sources of income used by individuals to pay for their health care in public health facilities after the introduction of user charges and to compare to sources of income used in private health facilities.

6. To evaluate the operational implementation of the instituted equity mechanism in government health facilities:-

1. Identify who are the indigent using the instituted exemption criteria.

2. Administration of the exemption mechanism.
3. Identify who decides for exemption/waiver.
4. Solicit opinions from the providers and consumers on the effectiveness of the mechanism.

Facilities under the DCC served 1,723,676 outpatients and 53259 inpatients in 1992 (DCC 1992). These figures show a decline in both outpatient and in inpatient utilization when compared to 1991 figures of 2381314 and 55603 respectively as can be seen from tables 2.1 and 2.2.

The Dar-es-Salaam Urban Health Project (UHP) was formed in 1989 so as to improve health services in the city. It has undertaken the tasks of renovation of existing facilities, repair and supply of essential equipment and improved drug availability.

The UHP is run jointly by the DCC and the Swiss Tropical Institute. The DCC started charging user fees in its district hospitals on the 18th of July 1994. It has established local guidelines to be followed by health workers to ensure smooth running of the cost sharing exercise, portions of which can be seen in appendix E.

TABLE 2.1: NUMBER OF OUTPATIENT VISITS IN DAR-ES-SALAAM PUBLIC HEALTH FACILITIES 1991 - 92

DISTRICT	1st VISIT		RE ATTENDANCES		TOTAL	
	1991	1992	1991	1992	1991	1992
ILALA	446214	491934	295769	449003	742027	990937
KINONDONI	393083	133180	318272	167220	711829	300400
TEMEKE	556230	261870	366746	220692	922976	482562
TOTAL	1400527	886984	980787	836692	2381314	1723676

Source:- DCC (1994).

TABLE 2.2: NUMBER OF ADMISSIONS IN DAR-ES-SALAAM PUBLIC HEALTH FACILITIES 1991-1992.

DISTRICT	1991	1992
ILALA	15450	18923
M'NYAMALA	17812	14500
TEMEKE	22341	19836
TOTAL	55603	53259

Source: DCC 1994

The private health sector in represented by ten hospitals, two health centers and one hundred and fifty seven dispensaries. The distribution of health facilities by district can be seen in appendix table G2.

2.4. SAMPLING

Hospitals:

The district hospitals were the first health facilities under the DCC to introduce user charges. As there are only three district hospitals all of them were included in the study. Three private hospitals, one from each district were also included as controls. Proximity of the private hospitals to the district hospitals and similarity in the range of services offered were criteria used in selecting the private hospitals which acted as controls. Dar Group Occupational Hospital was the only private hospital in Temeke district and it was therefore used as the control for Temeke hospital.

Exit interviews to health consumers attending outpatient services were done. Every third patient, eighteen years and more of age was interviewed. According to Tanzania law, a person who is eighteen years and above is considered to be an adult, and the author choose to interview adults only for two reasons. The first reason is that according to the cost sharing guidelines issued by the DCC, all children under five

years of age are supposed to be exempted from paying in public health facilities and important information on the total cost incurred in getting care would not have been possible to obtain from this group. Secondly, adults are more able to decide on their own on where to consume health care and in most cases pay for it themselves. A minimum of forty consumer interviews were conducted in each hospital. A total of 242 interviews were done (Amana, Temeke and Mwananyamala district hospitals; Ebrahim Haji Hospital, Dar Group Occupational Hospital and Mikocheni Hospital).

A quality checklist was administered to health administrators (hospital secretary or medical director) in each health facility. The quality checklist used can be seen in appendix C. Outpatient registry records from each health facility were also examined from January to December 1994.

Households:

Systematic sampling of households within the catchment areas of the district hospitals was done. It was generally assumed that households are most likely to use a nearby facility than a more distant one in case of an illness episode occurring to a household member. Hence, households within the vicinity of five kms of a public facility were chosen for the study. As a result of the systematic sampling,

a total of 362 household were included in the study - 122 in Ilala district, 120 in Kinondoni and 120 in Temeke district.

With the District Hospital being the central point, the author and three research assistants walked in four different geographical directions, that is, north, south, east and west away from the district hospital and interviewed every third household. Each investigator had to interview a minimum of 30 households in each district. For convenience, when an investigator reached the first house, she asked to be shown the local ten-cell leaders' house, and the ten-cell leader then introduced the investigator to every third house in his/her area. Three households in each ten-cell unit were included in the study. In cases where there was more than one household living together in the same house, only one household was interviewed. The head of the household was usually interviewed and in instances when the head of the household was absent another well informed adult household member was interviewed. The household questionnaire can be seen in appendix B.

2.5. ETHICAL ISSUES

Ethical permission was not required as data collection techniques were non invasive. Permission to conduct the research was obtained from relevant authorities. These

included the DCC authorities, the three District Medical Officers and Directors of the three private hospitals included in the study. Consent from the head of household and health consumers (outpatients) interviewed was also solicited for being interviewed.

2.6. DATA GATHERING INSTRUMENTS AND PROCEDURES

Three research assistants (RA's) were recruited to help the Principal Investigator (PI) in data collection. They were all females and form four leavers. They were trained for one week, on how to interview people and how to fill the questionnaire forms. The health consumer and household questionnaire forms were pre-tested in Ilala district to gauge peoples' response to the various questions listed. Relevant changes and modifications were then made.

2.6.1 Health Facility and Outpatient Survey

Utilization is the dependent variable in this study and is defined as the total number of outpatient visits.
The level of utilization of health facilities (public/private) before and after the introduction of user charges in public health facilities was determined by analyzing hospital outpatient records. Information was obtained for two periods -six months before and six months

after the introduction of user charges. The data collected from the health facilities was therefore from January 1994 to December 1994.

A quality checklist which can be seen in appendix C, was administered by the author to a health administrator in each facility included in the study. This inquired on the number and type of quality health staff, availability of essential equipment and their state during the last year eg. X-ray machine, microscopes, centrifuge machine, sterilizers, autoclave, sphygmomanometers, stethoscopes, ENT diagnostic sets; availability of essential drugs and vaccines.

The interviewer administered patient questionnaire form consisted of forty one questions which were asked in the local language, kiswahili. Each question had several options listed, that is, it was a structured and semi-structured questionnaire, some questions also had an open ended option for responses given as "others". The interviews were conducted mainly during the morning hospital shifts 7.am to 2.pm as this was when most of the patients attended for outpatient services. The afternoon shifts in all health facilities studied were observed not to be busy times. Health consumers interviews were done for three to four days in each health facility. The exit interview method was used to recruit consumers for interview. Two members of the research

team recruited the people interviewed when they were just about to leave the hospital premises after being seen by a health provider and getting the prescribed treatment (i.e. drugs, injections, dressing etc). The other two members conducted the interviews which usually lasted from five to ten minutes.

The questions focused on four main sections which are socioeconomic characteristics of health consumers, factors which influenced choice of health facility used, direct costs incurred for the treatment of an illness episode and who pays for it and their perception on the quality of care at the facility chosen.

Information on demographic characteristics such as age, sex and marital status; number of years of formal education, type of occupation, monthly income and household size was collected. If the health consumer was part of couple the occupation status of his/her better half was also obtained.

Information on factors influencing choice of health facility used was solicited. This was intended to determine whether perception on quality of care, drug availability, provider attitude, distance to health facility and time cost in seeking care (transport time and time spent in getting care at the health facility) influenced utilization of a particular health facility.

The direct costs incurred for treatment of an illness episode in a public health facility versus a private health facility was determined. Information was obtained on all costs met i.e. cost of transport (round-trip) cost of laboratory investigations, x-ray investigations, cost of medication, money paid to health workers as 'gifts' so as to get health care etc.

Who pays and the source of payment for the treatment of the illness episode was established to identify proportion of consumers who paid out of pocket, those for whom the insurance or employer pays and the proportion who were exempted.

Perception of quality of care provided at the health facility chosen aimed at finding out whether consumers associate charging of fees for care with better quality of care given. Two additional questions on exemption were asked - one was on whom they thought was the best person to determine that one should get exempted from payment in public health facilities and another one on whether the type of care given to a person who is exempted is different from that given to a person who pays.

2.6.2. Household Survey

Interviews using pre-constructed kiswahili questionnaire forms were done. One week was assigned to each district for household data collection. A household interview usually lasted from fifteen to thirty minutes. The household questionnaire was divided into four parts - A, B, C and D. Section A consisted of eighteen questions and focused on demographic characteristics, years of formal education and income of the head of household. If the head of household was part of a couple, the occupation of his/her better half was also asked. Household size, monthly household income, weekly expenditure on food and other commodities was also inquired on.

Section B focused on household possessions/household health. Information on the possession of various household items, type and ownership of dwelling was obtained.

Section C concentrated on those household members who had experienced an illness episode four week prior to the day of interview. If no illness/injury had occurred in the household this section was skipped. The head of household was asked on the age and sex of the sick members, where they sought health care and reasons for that choice; the direct costs incurred in getting care and who paid for their health care consumption.

Section D had questions on the usual source of health care in case of an illness episode occurring in the household and reasons for choice. Information on the ability to pay for health care, willingness to pay more in public health facilities and whether they had observed any changes in public health facilities following introduction of user charges was also obtained.

2.6.3. **Focus Group Discussions**

Focus group discussions with five health workers of different cadres were conducted in the public hospitals, so as to get the supplier side perspectives on three key issues. These were the cost sharing process and its effect on utilization, the exemption process and their views on the quality of care they offer. The participants included medical officer, laboratory technician, registry clerk, nurse, social worker and cash collector.

The author acted as a moderator for the discussions which lasted for about one hour and one of the research assistants took detailed notes.

The discussions were conducted in Kiswahili and the responses were later on translated to English. The group sat in a circular arrangement facing each other in a quiet area/room so that there were no disturbances that would have

diverted the group from the issues under discussion. The moderator first introduced herself and the research assistant and the general theme of the discussion. The participants also introduced themselves and this process made them feel at ease and the discussion started. Each theme was discussed for twenty minutes. The author posed guiding questions and made refocusing statements when the discussions strayed away from the theme under discussion.

2.7. DATA ENTRY AND DATA VALIDATION AND DATA ANALYSIS

Computer data entry was done using the SPSS package using a fixed field format. Questionnaire forms from different hospitals and from the different districts were compiled together and given serial numbers. All questions were coded prior to data entry. Data for the health consumer survey was entered separately and that for the household survey was also entered separately. For those households which had experienced an illness episode in the last four weeks prior to the date of interview, the specified information was obtained and data entry was done in a separate file. This file was then joined to the main household file by using serial numbers.

Validation of data entry was done by checking for consistency and for any unreasonable entries. A frequency

printout for the different questions was done and if there was any missing information or unreasonable entries, a search for the questionnaire form(s) using serial number(s) was done and the information verified by checking the actual questionnaire form itself.

Data analysis for the outpatient and household surveys was done by using the SPSS computer package. Multivariate analysis was also done.

Focus group discussion results were analyzed as follows:- the author and the recorder met after the discussions and went through the notes taken during the sessions. A report of the discussion was then prepared reflecting the opinions expressed by the session participants. The key statements and attitudes expressed for each theme discussed were listed. The opinions expressed by the different discussion groups were also compared.

2.8. STUDY LIMITATIONS

1. Only the three district (public) hospitals and three private hospitals were included in this study. It was not possible to include other health facilities in the public referral system such as dispensaries, rural health centers and the referral hospital; as well as other private health facilities in the region because of

time and resource constraints.

2. It was not possible to get good controls for the public hospitals studied as the distribution of private health facilities does not correspond to that of public health facilities. For example, Ilala district has more private health facilities compared to the other two districts while Temeke district has only one private hospital in its area.

3. Only those households within five kms of the district hospitals were included in the household survey.

4. Male outpatient attenders in the health facilities studied were very few, during the period when outpatient interviews were conducted. Although efforts were made to ensure that each male outpatient attender was included in the study, the number of males in the study population is small.

5. Information on respondents monthly income and their households' monthly income was not easily obtained from the people interviewed. Some individuals refused to be further interviewed after the question which asked them to state their income was asked. A smaller number of the people interviewed also declined to state their weekly food expenditures.

CHAPTER 3

3.0. RESULTS

3.1. TREND IN OUTPATIENT UTILIZATION

Figures 3.1 and 3.2 show the trend of outpatient frequentation for the public and private health facilities extracted from hospital records from January to December 1994, respectively. In general, figure 3.1 shows that the number of outpatient visits in public hospitals dropped sharply in the third quarter of the year and remained at much lower levels in the fourth quarter compared to the first and second quarters of the same year. In fact utilization declined by 53.4% between the second and third quarters of the year.This drop could be attributed to the introduction of user charges. This is supported by the daily outpatient attendances for the month of July 1994. Figure 3.3 shows that for both Temeke and Ilala hospitals the number of outpatient visits dropped sharply from 17th to 18th July, though the attendances picked up later on they still remained at much lower levels than before. The drop was steeper for Temeke for the first three days of the cost sharing exercise. Mwananyamala hospital had an almost gradual in attendances from the beginning of the month showing that people had responded to notices posted in the hospital premises and

radio announcements that cost sharing was to commence in that month.

Figure 3.2 shows that utilization of the private facilities included in the study, remained at an almost constant level throughout the year, except for Mikocheni hospital. The utilization graph for Mikocheni shows that outpatient attendances rose gradually during the first half of the year and reached a peak in July and August and then dropped sharply between August and September. The lower levels reached persisted for two months and utilization started to pick up again in December reaching levels that were previously attained in the month of January of the same year. An administrator at Mikocheni hospital explained that this was the normal outpatient utilization trend for that hospital. The observed drop could also be due to a slight increase in health facility fees.

In all the private facilities studied it was observed that there were certain groups of individuals whose health care costs were met by their employers. Dar Group Hospital services for example, were introduced so as to cater for the health needs of employees (and in some cases, their dependents) of certain groups of companies although it also caters to the health needs of other private individuals. This can be a possible explanation of the almost constant monthly

Fig 3.1: PUBLIC HOSPITALS OUTPATIENT ATTENDANCES JAN – DEC 1994

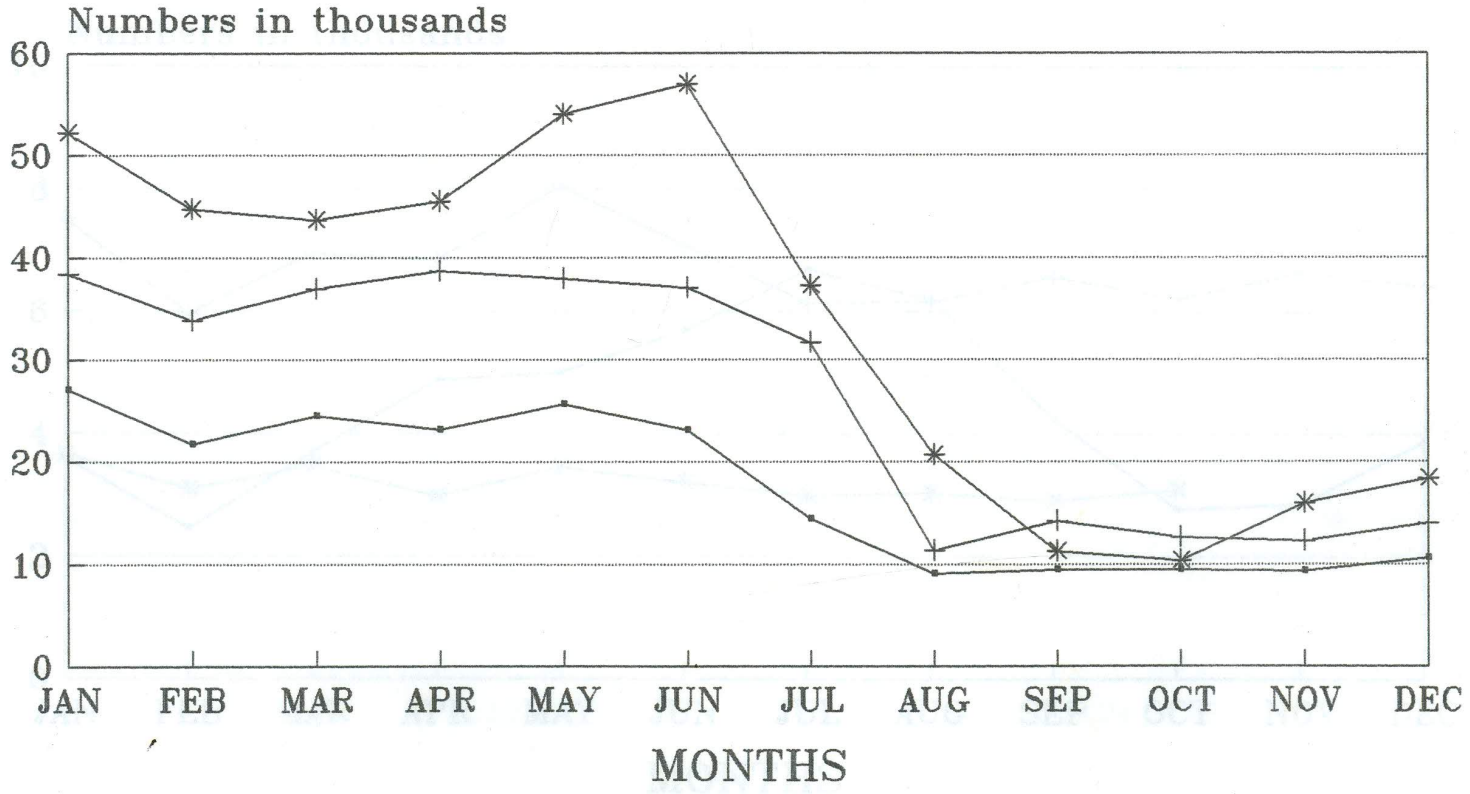


Fig 3.2: PRIVATE HOSPITALS OUTPATIENT ATTENDANCES JAN – DEC 1994

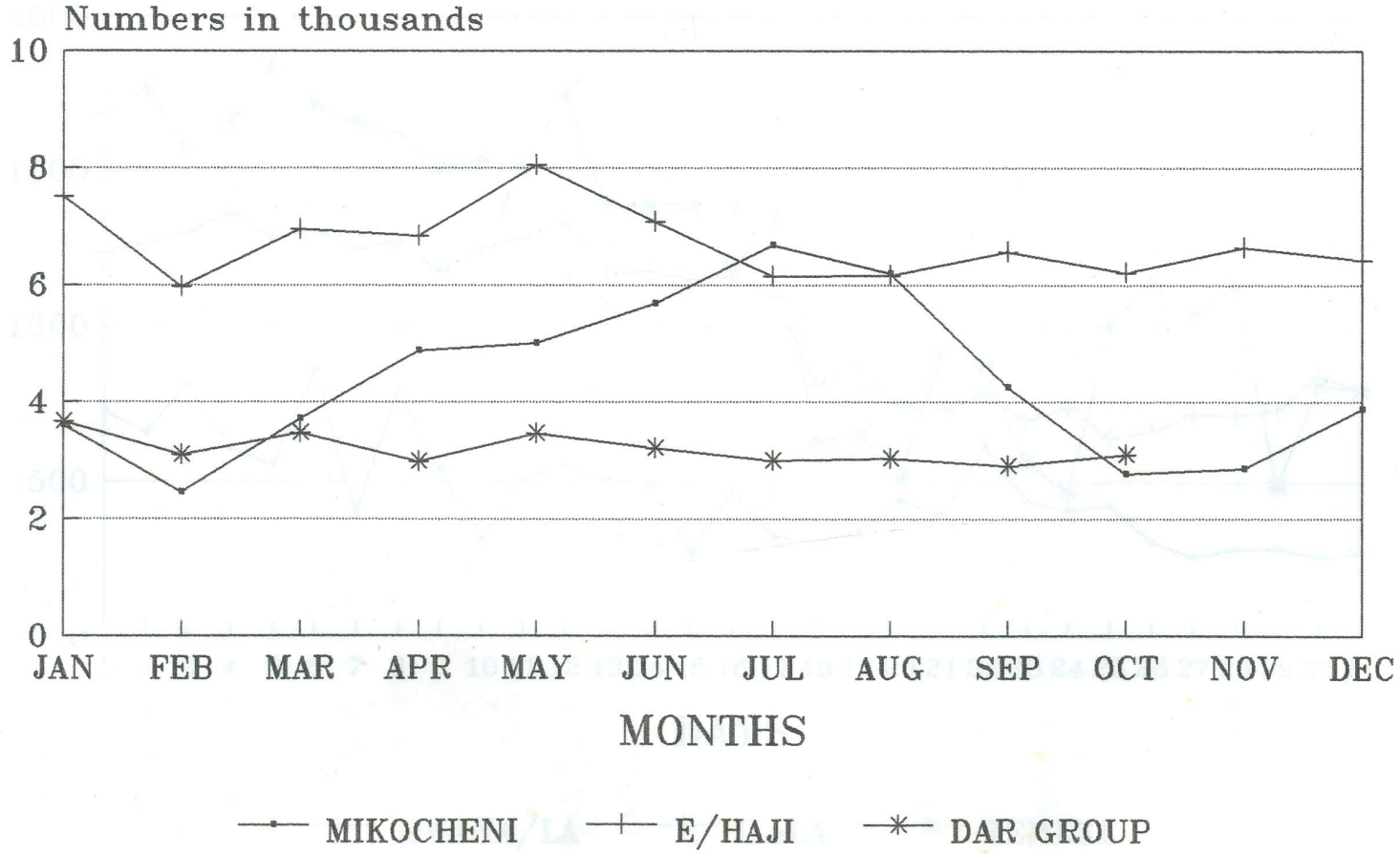
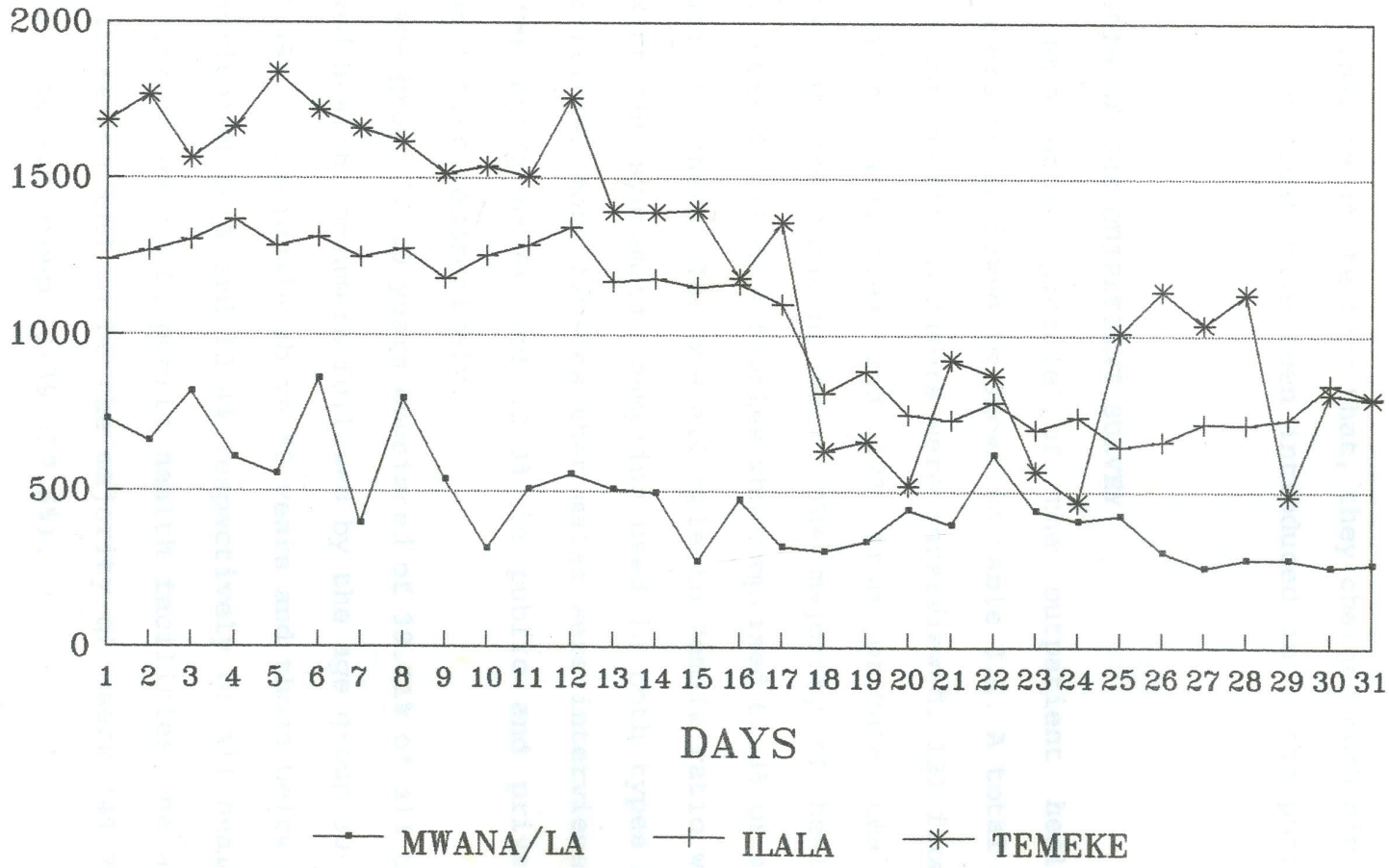


Fig 3.3: PUBLIC HOSPITALS OUTPATIENT DAILY ATTENDANCES JULY 1994



outpatient utilization rates observed in these health facilities inspite of the fact that, they charged much higher fees than those that have been introduced in the public hospitals.

3.2. RESULTS OF THE OUTPATIENT SURVEY

The demographic profile of the outpatient health facility users interviewed is shown in table 3.1. A total of 242 outpatient health consumers were interviewed, 121 from public health facilities and 121 from private health facilities, at the time of exit. The majority of health consumers interviewed were females who comprised 61.3% of all health facility users. The overall male to female ratio was 0.53:1. With the systematic sampling used in both types of health facilities more females than males were interviewed, the figures being 68.6% and 62.0% in public and private health facilities respectively.

The age group 20-29 years consisted of 39.41% of all the interviewed health consumers followed by the age group 30-39 years (32.4%). Individuals above 50 years and those below 20 years contributed 5.8% and 12.4% respectively of all health consumers interviewed. In public health facilities the age group 20-29 were found to be the majority of users (41.7%) followed by the age group 30-39 (27.5%).

TABLE 3.1: DEMOGRAPHIC PROFILE OF HEALTH CONSUMERS.

		PUBLIC n	(%)	PRIVATE n	(%)
1.	Total No Interviewed	121	(100.0)	121	(100.0)
2.	Gender				
	Male	38	(31.4)	46	(38.0)
	Female	83	(68.6)	75	(62.0)
	Chi-square = 1.167, 1 df. p = .3446.				
3.	Age groups (yrs)				
	< 20	17	(14.1)	13	(10.7)
	20 - 29	50	(41.7)	45	(37.2)
	30 - 39	33	(27.5)	45	(37.2)
	40 - 49	12	(10.0)	12	(9.9)
	> 50	8	(6.7)	6	(5.0)
4.	Marital status				
	Single	34	(28.1)	34	(28.1)
	Couples	81	(66.9)	82	(67.8)
	Separated/widowed	6	(5.0)	5	(4.1)
	Chi-square = 0.9704, 2 df. p = 0.9526.				
5.	Household size				
	1 - 3	29	(24.4)	27	(22.3)
	4 - 6	47	(39.5)	54	(44.6)
	> 6	43	(36.1)	40	(33.1)
	Mean	5.8		5.6	
	t = -0.56, 240 df. p = 0.58.				

NB: 1. Age of one public facility user is missing.
2. Household size of two public health facility users is missing.

In private facilities age groups 20-29 and 30-39 each contributed 37.2%. Married patients were the majority of health facility users interviewed (67.4%), followed by singles (28.1%) and separated/widowers made up the remaining

4.5%. About 42% of health facility users interviewed came from families with household size of between four and six people.

Table 3.2. shows that individuals who had 5-8 years of formal education utilized health facilities most (54.1%) followed by those who had 9-14 years of formal education (29.8%). Individuals who had 5-8 years of formal education made up the majority of public health facility users (62.8%), while those with 9 years or more of formal education were 18.2%. Amongst private health facility users, 45.5% had 5-8 years of formal education and 47.1% had 9 or more years of formal education.

Unemployed individuals were 37.3% of all health facility users followed by public sector and self employed individuals (21.2% each). The unemployed group is the aggregation of unemployed individuals, housewives and students. When occupation is crosstabulated by type of health facility used; it is found that the unemployed group were most of the public facility users (47.5%) followed by the self employed (29.2%). Private sector employees made up 6.7% of all public facility users interviewed. Majority of the private facility users were found to be private sector employees (33.9%) followed by unemployed individuals (27.3%).

TABLE 3.2: SOCIOECONOMIC PROFILE OF HEALTH CONSUMERS.

		PUBLIC n (%)	PRIVATE n (%)
1.	Number of years of formal education		
	0	16 (13.2)	4 (3.3)
	1 - 4	7 (5.8)	5 (4.1)
	5 - 8	76 (62.8)	55 (45.5)
	9 - 14	21 (17.4)	51 (42.1)
	> 15	1 (0.8)	6 (5.0)
2.	Occupation[1]		
	Public sector employee	20 (16.7)	31 (25.6)
	Private sector employee	8 (6.7)	41 (33.9)
	Self employed	35 (29.1)	16 (13.2)
	Unemployed	57 (47.5)	33 (27.3)
	Chi-square = 38.07, 3df. p =.0000.		
3.	Monthly income[2]		
	< 10,000	19 (21.3)	13 (14.0)
	11,000 - 20,000	37 (41.6)	27 (29.0)
	21,000 - 30,000	24 (27.0)	18 (19.4)
	> 30,000	9 (10.1)	35 (37.3)
	Mean monthly income	21306.07	37216.77
	w statistic = 6993.0, p = 0.001.		
4.	Weekly food expenditure		
	< 5000	17 (15.2)	7 (6.3)
	5000 - 9999	63 (56.3)	40 (36.0)
	10,000-14,999	18 (16.0)	31 (27.9)
	15,000-19,999	0 (0.0)	2 (1.8)
	> 20,000	14 (12.5)	31 (27.9)
	Mean weekly food expenditure	9363.39	13395.50
	t statistic = 3.83, df 221. p = 0.00016.		

1. Occupation of one public health facility user is missing.
2. Thirty two public users and twenty eight private users did not report their monthly incomes.

Only 182 health facility users reported their monthly incomes, that is 89 from public facilities and 93 from private facilities. Out of those who revealed their incomes 24.2% earned more than Tshs. 30,000 and 17.6% earned below Tshs. 10,000 per month. Majority (35.2%) earned from Tshs. 11,000 to 20,000 per month.

Differences are observed when the monthly incomes of the two types of health facility users are compared. While majority of private sector users (37.6%) earn more than Tshs. 30,000 per month, in the public sector the majority earn between Tshs. 11,000 and 20,000 (42.1%) per month.
Out of the 223 health facility users who reported their households weekly food expenditure, 68.0% spent between 5000 -9999 Tsh. Of those who reported household weekly food expenditure of more than 20,000 Tshs.; 68.9% were individuals utilizing private health facilities.

Table 3.3, shows the different reasons given by outpatient facility users for choosing the health facility that they used. Health consumer perception of good quality care was the main reason given by most of the respondents (34.6%). The second and third reasons for choice of a facility in order of frequency were nearness to place of domicile 26.6% and the employer pays 24.6% respectively.

Low cost of care was the reason given by 19.2% of the respondents in public health facilities. While none of the private facility users gave this reason. On the other hand 49.2% private health facility users reported that they went there because their employer paid for them (this was not stated by the public facility users).

TABLE 3.3: REASONS GIVEN FOR CHOICE OF HEALTH FACILITY USED.

REASON	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Nearness to place of domicile	55	(45.8)	9	(7.5)	64	(26.6)
Quality care[1]	34	(28.3)	49	(40.8)	83	(34.6)
Low cost of care	23	(19.2)	0	(0.0)	23	(9.6)
Employer pays	0	(0.0)	59	(49.2)	59	(24.6)
Others	8	(6.7)	3	(2.5)	11	(4.6)
TOTAL	120	(100.0)	120	(100.0)	240	(100.0)

Chi-square = 120, 4 df. p = .0000.
NB: 1. Quality care - include responses like, workers know their job, good drug availability and short time to get care.

Table 3.4 depicts the outpatient health consumers views on the availability of prescribed medication in the health facilities studied.

TABLE 3.4: DRUG AVAILABILITY BY TYPE OF HEALTH FACILITY.

DRUG AVAILABILITY	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Always available	33	(27.3)	96	(80.0)	129	(53.5)
Sometimes available	78	(64.5)	23	(19.2)	101	(41.9)
Not available	10	(8.3)	1	(0.8)	11	(4.6)
TOTAL	121	(100.0)	120	(100.0)	241	(100.0)

Chi-square = 68.08, 2 df. p=.0000.

About 65.0% of public facility users reported that drugs were sometimes available, while 27.3% reported that drugs were always available. Amongst private facility users majority (80.0%) reported that drugs were always available and only 19.2% reported that drugs were sometimes available in private facilities. The observed differences are highly significant (p=.0000).

According to table 3.5, most of the health consumers in both facilities (84.3%) ranked provider attitude towards patients as good, this was 80.2% amongst public users and 88.4% amongst private facility users. Hence there was no significant difference in the attitude of health workers in public and private facilities (p =.1110).

TABLE 3.5: ATTITUDE OF HEALTH PROVIDERS TO HEALTH CONSUMERS BY TYPE OF HEALTH FACILITY.

ATTITUDE	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Good	97	(80.2)	107	(88.4)	204	(84.3)
Satisfactory	24	(19.8)	14	(11.6)	38	(15.7)
TOTAL	121	(100.0)	121	(100.0)	242	(100.0)

Chi-square = 3.122, 1 df. p =.1110.

Table 3.6 shows that about 82.6% and 71.1% of private and public facility users rated the type of care they received as good respectively. There was no significant difference in the quality of care perceived by the users in the public compared to the private facilities (p = .470).

TABLE 3.6: HEALTH CONSUMER PERCEPTION OF QUALITY OF CARE BY TYPE OF HEALTH FACILITY.

PERCEPTION OF QUALITY	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Good	86	(71.1)	100	(82.6)	186	(76.9)
Satisfactory	35	(28.9)	21	(17.4)	56	(23.1)
TOTAL	121	(100.0)	121	(100.0)	242	(100.0)

Chi-square = 4.554, 1df. p =.470.

Table 3.7 shows the duration of time that health consumers spent in order to reach their health facility of choice. Almost 31.0% of all health facility users lived

within 21-30 minutes of health facilities while 21.7% lived more than 30 minutes away from the health facility. Public facility users who lived up to 20 minutes away were 57.2% while this was 38.1% for private health facility users. Individuals living more than 30 minutes away were more amongst private facility users (30.6%) compared to public facility users (12.6%). Public health facilities are therefore closer to users homes than are public facilities and this is statistically significant (p =.0029).

TABLE 3.7: TIME (MINUTES) TAKEN TO REACH THE HEALTH FACILITY OF CHOICE.

TIME (MIN)	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Up to 10	27	(22.7)	21	(17.4)	48	(20.0)
11 to 20	41	(34.5)	25	(20.7)	66	(27.5)
21 to 30	36	(30.2)	38	(31.4)	74	(30.8)
> 30	15	(12.6)	37	(30.6)	52	(21.7)
TOTAL	119	(100.0)	121	(100.0)	240	(100.0)

Chi-square 13.97 3df, p =.0029

Table 3.8 shows the different means of transport used to reach the health facility of choice. Personal transport includes bicycle, taxi and personal car. Most of the health facility users used public transport (46.7%), or went by foot (42.6%) and only a small proportion used personal transport

(10.7%). About 59.0% of public facility users walked to the health facilities. Private facility users used public and personal transport more than public facility users (54.5% versus 38.8% and 19.0% versus 2.5% respectively). This implies that public health facilities were closer to users homes than private facilities. The observed differences are statistically significant (p =.0000).

TABLE 3.8: MODE OF TRANSPORT USED BY TYPE OF HEALTH FACILITY.

TRANSPORT	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
By foot	71	(58.7)	32	(26.5)	103	(42.6)
Public transport	47	(38.8)	66	(54.5)	113	(46.7)
Personal transport	3	(2.5)	23	(19.0)	26	(10.7)
TOTAL	121	(100.0)	121	(100.0)	242	(100.0)

Chi-square = 33.35, 2 df. p =.0000.

Table 3.9 compares the mean costs of the different expenses incurred in order to obtain health care in public and private health facilities. It shows that private facility users spend more than public facility users on all cost categories. The overall out of pocket expenditure for a private facility user was Tshs. 2930.92 as opposed to Tshs. 631.33 for a public facility user. In table 3.9 much lower numbers of n were used for private health facility users than

TABLE 3.9: COST IN Tshs. INCURRED FOR TREATMENT OF AN ILLNESS EPISODE BY TYPE OF HEALTH FACILITY.

	COST	PUBLIC	PRIVATE
1.	Transport costs		
	n	48	88
	mean	266.67	567.95
	S.D.	138.89	759.11
	range	200-1000	200-5000
	w statistic = 2641.0, p = 0.001.		
2.	Consultation costs		
	n	119	31
	mean	210.92	3256.45
	S.D.	51.73	7815.87
	range	200-500	200-30,000
	w statistic = 4080.0, p = 0.0000.		
3.	Laboratory investigations cost		
	n	35	15
	mean	175.71	2000
	S.D.	157.82	3327.59
	range	50-500	200-13000
	w statistic = 593.0, p = 0.0000.		
4.	Drug costs		
	n	99	31
	mean	250.30	3346.77
	S.D.	609.05	5553.66
	range	50-4500	350-30,000
	w statistic = 3476.5, p = 0.0000.		
5.	Total cost (out-of-pocket)		
	n	120	98
	mean	631.33	2930.92
	S.D.	703.22	6393.89
	range	200-4750	200-36000
	w statistic = 11280.0, p = 0.2340.		

for public facility users in calculating the mean cost incurred for the various costs met in obtaining care. This is because only a few of the private facility users paid for themselves and the rest were paid for by their employers and hence they did not know the cost of all the items.

Table 3.10 shows that, the majority (70.2%) of public facility users paid for their own health care, 27.3% had their health care costs met by friends or relatives and 2.5% were exempted from payment. A very high proportion (72.7%) of private health facility users had their cost of health care met by their employers. Only 21.5% paid for themselves and 5.8% had their health care cost borne by relatives or friends. These observations are highly significant (p=.0000). Out of the three people who were exempted in public health facilities one was a pregnant woman, and two had a categorized exemption illnesses.

TABLE 3.10: WHO PAID FOR HEALTH CARE BY TYPE OF HEALTH FACILITY.

WHO PAID	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Consumer	85	(70.2)	2	(21.5)	109	(45.0)
Employer	0	(0.0)	88	(72.7)	88	(36.4)
Relative/friend	33	(27.3)	7	(5.8)	40	(16.5)
Exempted	3	(2.5)	0	(0.0)	5	(2.1)
TOTAL	121	(100.0)	121	(100.0)	242	(100.0)

Chi-square = 139.7, 3 df. p =.0000.

Table 3.11 shows the proportion of individuals who were investigated prior to drug prescription by type of health facility. The proportion of individuals attending a public facility who were investigated prior to getting drug prescriptions (42.1%) was lower than those in private facilities (58.7%), and the difference is significant (p =.0051).

TABLE 3.11: WHETHER OR NOT INVESTIGATIONS WERE DONE PRIOR TO DRUG PRESCRIPTION BY TYPE OF HEALTH FACILITY.

INVESTIGATIONS	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Yes	51	(42.1)	71	(58.7)	122	(50.4)
No	70	(57.9)	50	(41.3)	120	(49.6)
TOTAL	121	(100.0)	121	(100.0)	242	(100.0)

Chi-square = 6.612, 1df. p =.0051.

TABLE 3.12: HEALTH CONSUMERS OPINION ON THE AMOUNT THEY PAID FOR THEIR HEALTH CONSUMPTION.

AMOUNT PAID	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Little	42	(35.6)	1	(0.8)	43	(18.1)
Reasonable	64	(54.2)	40	(33.3)	104	(43.7)
Too much	12	(10.2)	8	(6.7)	20	(8.4)
Don't know	0	(0.00)	71	(59.2)	71	(29.8)
TOTAL	118	(100.0)	120	(100.0)	238	(100.0)

Chi-square = 116.4, 3 df. p=.0000.

The opinions of outpatient health users on the amount of money that they had paid to get care by health facility used is seen in table 3.12. More than 50% (54.2%) of public facility users felt that the amount they paid was reasonable; 35.6% felt that the cost was too low. Only 10.2% felt that the cost that they had incurred was too high. This shows that the some of the people who sought care in public health facilities were relatively poor compared to private facility users (p=.0000).

Almost 60% (59.2%) of private health facility users could not comment on the cost of care (the employer paid); 33.3% felt the cost was reasonable and 6.7% felt that the cost was too high.

Table 3.13 shows users response when they were asked on their ability to pay for their health consumption.

TABLE 3.13: ABILITY TO PAY BY THE TYPE OF HEALTH FACILITY.

RESPONSE	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Able to pay	82	(70.1)	78	(66.1)	160	(68.1)
Unable to pay	35	(29.9)	40	(33.9)	75	(31.9)
TOTAL	117	(100.0)	118	(100.0)	235	(100.0)

Chi-square = .4291, 1 df. p =.5762.

The proportion of health facility users who responded that they were able to pay for their health care was 68.1% while the proportion who stated that they were unable to pay was 31.9%. A higher percentage of private facility users compared to public facility users stated that they could not pay but used these services because their employers paid for them.

Table 3.14 shows the proportion of outpatient health facility users who had experienced difficulty in paying for their health care by type of health facility. The proportion of respondents interviewed who stated that they had experienced difficulty in paying for their health care costs was more amongst public facility users (33.9%) compared to those amongst private users (4.1%). This observation is highly significant (p =.0000).

TABLE 3.14: PROPORTION OF INDIVIDUALS EXPERIENCING DIFFICULTY IN PAYING BY TYPE OF HEALTH FACILITY.

EXPERIENCED DIFFICULTY	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Yes	41	(33.9)	5	(4.1)	46	(19.0)
No	80	(66.1)	116	(95.9)	196	(81.0)
TOTAL	121	(100.0)	121	(100.0)	242	(100.0)

Chi-square = 34.79, 1 df. p =.0000.

Outpatient health consumer interviewed were asked on how much time they spent with the health provider, their responses are presented in table 3.15, below. The majority of health consumers in both types of health facilities spent from 1 - 5 minutes with a health provider, 67.5% in public and 50.4% in private health facilities respectively. While no one was seen for more than 15 minutes in public health facilities, almost 11.0% of individuals attending private health facilities were seen for more than 15 minutes (p =.0051).

TABLE 3.15: TIME SPENT WITH HEALTH PROVIDERS BY TYPE OF HEALTH FACILITY.

TIME (MIN)	PUBLIC	N(%)	PRIVATE	N(%)
Up to 5	79	(67.5)	60	(50.4)
6 to 10	26	(22.2)	34	(28.6)
11 to 15	12	(10.3)	12	(10.1)
> 15	0	(0.0)	13	(10.9)
TOTAL	117	(100.0)	119	(100.0)

Chi-square = 16.65, 3 df. p =.0051.

Health facility users were asked to state whether the health providers who had attended them explained to them about what they were suffering from. Their responses are presented in table 3.16, below.

TABLE 3.16: WHETHER EXPLAINED ON ILLNESS BY HEALTH PROVIDER.

EXPLAINED ON ILLNESS	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Yes	56	(48.7)	78	(65.0)	134	(57.0)
No	59	(51.3)	42	(35.0)	101	(43.0)
TOTAL	115	(100.0)	120	(100.0)	235	(100.0)

Chi-square = 6.37, 1 df. p =.0116.

A higher proportion of individuals attending private health facilities were explained on what they were suffering from (65.0%). In public health facilities 51.3% of the health consumers who went there were not explained on their health

problems by health providers (p=.0116).

Study respondents were asked if the health provider that they had seen, asked them to return to the health facilities if their health problems did not improve after they had received treatment. Table 3.17 shows that a higher proportion of individuals attending private health facilities (62.5%) were told to go back if they did not get better compared to those attending public health facilities (54.6%). The difference is not significant however (p =.2386).

TABLE 3.17: WHETHER TOLD TO GO BACK BY TYPE OF HEALTH FACILITY.

TOLD TO GO BACK	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Yes	65	(54.6)	75	(62.5)	140	(58.6)
No	54	(45.4)	45	(37.5)	99	(41.4)
TOTAL	119	(100.0)	120	(100.0)	239	(100.0)

Chi-square = 1.528, 1 df. p =.2386.

Table 3.18 shows the availability of prescribed medication in the health facilities studied. The availability of prescribed medication was very much higher in private facilities (93.4%) compared to 52.9% in public health facilities (p =.0000).

TABLE 3.18: WHETHER GOT ALL DRUGS PRESCRIBED BY TYPE OF HEALTH FACILITY.

GOT ALL DRUGS	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Yes	64	(52.9)	113	(93.4)	177	(73.1)
No	57	(47.1)	8	(6.6)	65	(26.9)
TOTAL	121	(100.0)	121	(100.0)	242	(100.0)

Chi-square = 50.50, 1 df. p =.0000.

Most of the outpatients interviewed (57.1%) identified their local ten cell leader to be the ideal person to determine need of exemption as can be seen from table 3.19.

TABLE 3.19: PERSON TO DECIDE EXEMPTION IN PUBLIC HEALTH FACILITIES.

PERSON CHOSEN	RESPONDENTS NUMBER	PERCENT
Ten cell leader	137	57.1
Doctor	65	27.1
Social worker	30	12.5
Others	8	3.3
TOTAL	240	100.0

3.3. RESULTS OF THE HOUSEHOLD SURVEY

A total of 362 households were chosen for the study, 122 from Ilala district, 120 from Kinondoni district and 120 from Temeke district. The demographic characteristics of the heads of households interviewed is presented in table 3.20.

The proportion of male headed households (81.2%) was very much higher than that of female headed households (18.8%). The age range of heads of households was from 19 to 80 years and the mean age was 39 years. A higher proportion of heads of households were in the age group 30-39 years old (33.4%). The majority of heads of households were either married or

TABLE 3.20: DEMOGRAPHIC PROFILE OF HEADS OF HOUSEHOLDS.

		N	(%)
1.	Gender		
	Male	294	(81.2)
	Female	68	(18.8)
2.	Age years		
	< 20	1	(0.3)
	20-29	76	(21.0)
	30-39	121	(33.4)
	40-49	88	(24.3)
	> 50	76	(21.0)
	Mean age 39.4 yrs, range 19 to 80 yrs, SD 12.6 yrs.		
3.	Marital status		
	Single	78	(21.5)
	Couples	242	(66.9)
	Widowed/divorced	42	(11.6)
4.	Household size		
	1 - 3	112	(30.9)
	4 - 6	173	(47.8)
	> 6	77	(21.3)
	Mean household size 4.9, range 1 to 14.		

cohabiting (66.9%). The rest were singles (21.6%) and widowed/divorced (11.6%). A higher proportion of households (47.8%) had a range of family size of 4 to 6 followed by those with 1 to 3 family size (30.9%). Households with more than 6 family members were 21.3% of the households studied. The total number of people in these households was 1783 while the average family size was 5 members per household.

Table 3.21 shows the marital status of the heads of households interviewed by household size.

TABLE 3.21: MARITAL STATUS OF HEAD OF HOUSEHOLDS BY HOUSEHOLD SIZE.

MARITAL STATUS	HOUSEHOLD SIZE		
	1 - 3	4 - 6	> 7
Singles	50	25	3
Married	51	122	69
Divorced/widowed	11	26	5
TOTAL	112	173	77

Married heads of households had bigger families compared to divorced/widowed or single heads of households.

Table 3.22 shows some socioeconomic characteristics of heads of households interviewed. Majority of heads of households had at least primary school education (54.4%),

5.5% had no formal education and 2.5% had post secondary education. Most of them (94.5%) were employed; 31.5% in the public sector, 23.8% in the private sector and 39.2% were self employed. The mean household income was Tshs. 32488.89. The proportion of households earning below Tshs. 10000 per month were 10% and 44.8% earned more than Tshs. 30000. The mean weekly household food expenditure was Tshs. 9429.01, but more than a quarter of the households (27%) spent less than Tshs. 5000 per week on food. Those households spending more than Tshs. 20000 per week on food were 42.2%.

TABLE 3.22: SOCIO-ECONOMIC PROFILE OF HEAD OF HOUSEHOLDS.

		N	%
1.	Number of years of formal education		
	0	20	5.5
	1 - 4	48	13.3
	5 - 8	149	41.2
	9 - 14	136	37.5
	> 15	9	2.5
2.	Occupation		
	Public sector employed	114	31.5
	Private sector employee	86	23.7
	Self employed	142	39.2
	Unemployed	20	5.5
3.	Monthly Household Income		
	< 10,000	27	10.0
	11,000 - 20,000	99	36.7
	21,000 - 30,000	23	8.5
	> 30,000	121	44.8
	Mean household income, Tshs.32488.89.		
4.	Weekly food expenditure.		
	< 5000	99	27.3
	5000 - 9999	139	38.4
	10,000 - 14,999	76	21.0
	15,000 - 19,999	4	1.1
	> 20,000	44	2.2
	Mean weekly food expenditure , Tshs. 9429.01.		

N.B. Ninety two heads of households did not report their households' monthly income.

According to table 3.23 the commonest durable assets owned by the households interviewed in this study was the radio which was present in about 75% of the homes. Only 46% of the households owned an electric fan and almost 41% had an electric iron. Refrigerators, sewing machines and television/videos were present in less than 20% of the households. All other durable assets were present in less than 10% of the homes. The distribution of household durable assets indicate that the study population was not affluent.

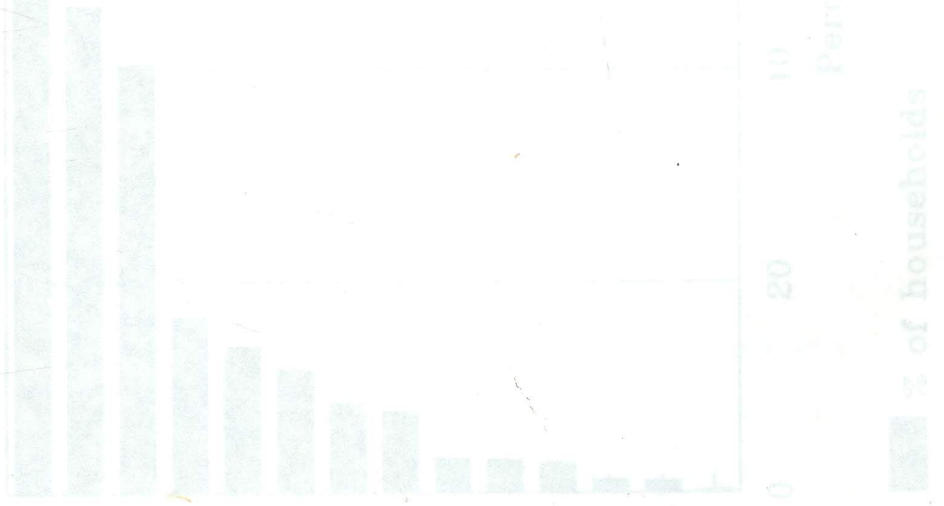


Table 3.23: HOUSEHOLD DURABLE ASSETS

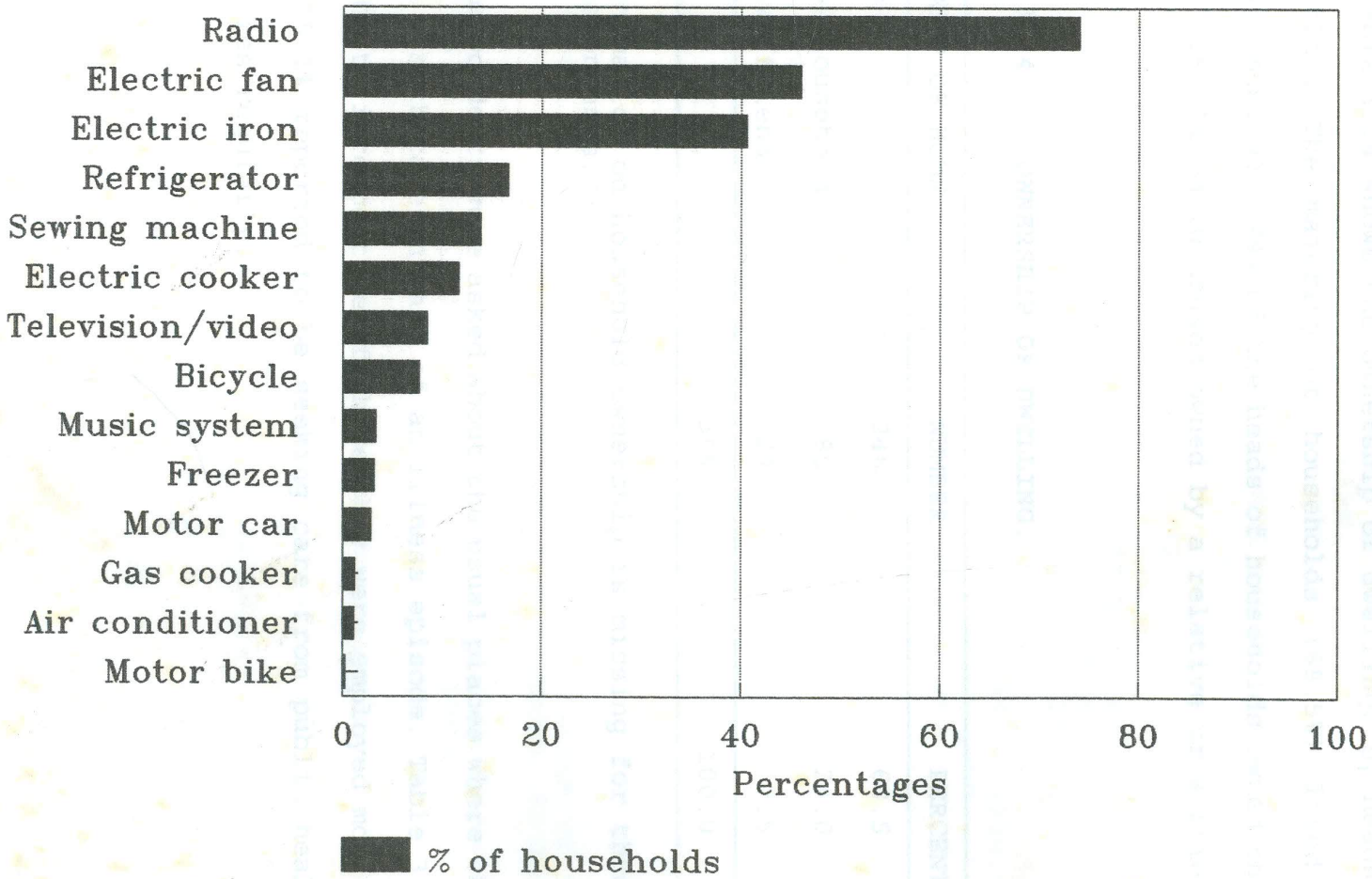


Table 3.24 shows the ownership of dwellings by heads of households. The majority of households (68.5%) lived in rented homes. Only 24% of the heads of households owned their homes, 7.5% lived in houses owned by a relative or a friend.

TABLE 3.24: OWNERSHIP OF DWELLING.

OWNERSHIP OF HOME	NUMBER	PERCENT
Rented	246	68.5
Head of household	86	24.0
Relative/friend	27	7.5
TOTAL	359	100.0

NB: Information on household ownership is missing for three respondents.

Respondents were asked about the usual places where they sought health care in case of an illness episode. Table 3.25 shows that, irrespective of where they were employed most of them, 75.1% reported to be seeking care from public health facilities regularly.

TABLE 3.25: OCCUPATION OF HEAD OF HOUSEHOLDS BY USUAL SOURCE OF HEALTH CARE.

OCCUPATION	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Public sector employee	83	(72.8)	31	(27.2)	114	(100.0)
Private sector	62	(72.1)	24	(27.9)	86	(100.0)
Unemployed	18	(90.0)	2	(24.9)	20	(100.0)
Self employed	109	(76.8)	33	(23.2)	142	(100.0)
TOTAL	272	(75.1)	90	(24.9)	362	(100.0)

Chi-square = 3.323, 3 df. p =.3444.

Table 3.26 shows that public health facilities were used more regardless of the level of education of the head of household.

TABLE 3.26: NUMBER OF YEARS OF FORMAL EDUCATION OF THE HEAD OF HOUSEHOLD BY USUAL HEALTH FACILITY CHOICE.

EDUCATION (YEARS)	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
No formal schooling	14	(70.0)	6	(30.0)	20	(100.0)
1- 4	43	(89.6)	5	(10.4)	48	(100.0)
5- 8	115	(77.2)	34	(22.8)	149	(100.0)
9- 14	95	(69.9)	41	(30.1)	136	(100.0)
> 15	5	(55.6)	4	(44.4)	9	(100.0)
TOTAL	272	(75.1)	90	(24.9)	362	(100.0)

Chi-square = 9.858, 4 df. p =.0429.

Table 3.27 shows the reasons given by heads of households interviewed as to why they chose the health facilities that they usually used in case of an illness episode in the family.

TABLE 3.27: TYPE OF USUAL FACILITY USED BY HOUSEHOLDS BY REASON WHY USE.

REASON	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Nearby	154	(65.8)	30	(31.2)	184	(100.0)
Low cost	80	(97.6)	2	(2.4)	82	(100.0)
Better care	24	(40.0)	36	(60.0)	60	(100.0)
Others	14	(38.9)	22	(61.1)	36	(100.0)
TOTAL	272	(75.1)	90	(24.9)	362	(100.0)

Chi-square = 94.26, 3 df. p =.0000.

In general, the commonest reason for choice of usual health facility used was because they were reported to be near to the users' home (50.8%) followed by low cost (22.7%) and better care (16.6%). About 9.9% of the respondents had other reasons for choice of usual facility used. When a public to private health facility comparison is made, it is seen that distance and low cost are the major reasons mentioned for choice of a public facility while other reasons

and better care are the major reasons mentioned for choosing a private facility.

From table 3.28 it is seen that only 41.3% of all the heads of households interviewed expressed that they were willing to pay more for health care in public facilities. More regular public health facility users (42.4%) than regular private facility users (37.8%) expressed willingness to pay more, but the results are not significant (p =.438).

TABLE 3.28: USUAL FACILITY USED BY WILLINGNESS TO PAY MORE IN PUBLIC FACILITIES.

WILLINGNESS TO PAY MORE	PUBLIC N	(%)	PRIVATE N	(%)	TOTAL N	(%)
Yes	115	(42.4)	34	(37.8)	149	(41.3)
No	156	(57.6)	56	(62.8)	212	(58.7)
TOTAL	271	(100.0)	90	(100.0)	361	(100.0)

Chi-square = .6047, 1 df. p =.4606.

Household respondents were asked on who they felt was the best person to determine the need for exemption in public health facilities. Their opinions are seen in table 3.29. Most of the respondents, identified the local ten cell leader (73.5%). The attending doctor was identified by more respondents (14.2%) and only 10.8% identified the social worker.

TABLE 3.29: PERSON TO DECIDE WHETHER ONE NEEDS EXEMPTION IN A PUBLIC HEALTH FACILITY.

PERSON CHOSEN	No. OF RESPONDENTS	PERCENTAGE
Ten cell leader	244	73.5
Doctor	47	14.2
Social worker	36	10.8
Others	5	1.5
TOTAL	332	100.0

A total of 180 heads of households responded that they had been to the district hospitals after user charges were introduced. Table 3.30 shows that the majority (91.7%) said they were able to pay for the care that they had received.

TABLE 3.30: ABILITY TO PAY OF HEADS OF HOUSEHOLDS WHO HAD VISITED A DISTRICT HOSPITAL AFTER USER CHARGES WERE INTRODUCED.

ABLE TO PAY	RESPONDENTS NUMBER	PERCENT
Yes	165	91.7
No	15	8.3
TOTAL	180	100.0

Table 3.31 shows the responses given by the heads of households interviewed on their perception of quality of care provided in public hospitals following the introduction of user charges.

TABLE 3.31: HEAD OF HOUSEHOLDS PERCEPTION OF CARE OFFERED IN PUBLIC FACILITIES FOLLOWING THE INTRODUCTION OF USER CHARGES.

PERCEPTION ON:	NO CHANGE N (%)	IMPROVED N (%)	WORSENED N (%)	TOTAL N (%)
Type of care	207 (57.8)	135 (37.7)	16 (4.5)	358 (100.0)
Health provider attitude	156 (43.9)	123 (34.6)	76 (21.4)	355 (100.0)
Drug availability	92 (27.1)	160 (47.1)	88 (25.9)	340 (100.0)
Time to get care	139 (28.9)	232 (65.0)	22 (6.1)	393 (100.0)
Cleanliness	103 (28.9)	232 (65.0)	22 (6.1)	357 (100.0)

A high proportion of the household respondents (57.8%) had observed no change in type of care given in public health facilities since the introduction of user charges. The greatest improvement that had taken place following introduction of user charges is cleanliness of facilities and

premises, followed by drug availability (47.1%). The lowest area in which improvement had occurred was health provider attitude towards health consumers.

A total of 280 individuals in the 362 households included in the study had experienced an illness episode in the month prior to the survey. A total of 269 individuals were reported to have suffered from various ailments and 11 had experienced injuries. When asked on where they had gone for care, it was reported that 275 had resorted to professional help and 5 had self treated at home. Table 3.32 shows the sex distribution of the sick household members who had sought professional help by health facility choice.

TABLE 3.32: SEX DISTRIBUTION OF SICK HOUSEHOLD MEMBERS BY CHOICE OF HEALTH FACILITY USED.

SEX	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Male	64	(40.2)	61	(52.6)	125	(45.5)
Female	95	(59.8)	55	(47.4)	150	(54.5)
TOTAL	159	(100.0)	116	(100.0)	275	(100.0)

Chi-square = 4.116, 1 df. p =.0425.

In general more females (54.5%) than males (45.5%) had sought health care. Females used public facilities more than private facilities and this observation is significant (p=.0425).

Table 3.33 shows that the sick family members who had resorted to public sources of health care spent less money than those who had resorted to private sources of care. There is more variability in the amount spent in seeking care from private sources because private sources of health ranged from the local general store where one could purchase simple medications to private dispensaries and private hospitals.

TABLE 3.33: COST INCURRED BY HEALTH FACILITY CHOICE.

COST (Tshs)	PUBLIC	PRIVATE
Mean	2478.69	3175.69
SD	3271.46	9660.81
n	153	116

Average cost incurred by total population was Tshs.2842.19.

Table 3.34 shows that sick household members spent less time on average in going to private sources of health care compared to those who sought care from public health facilities. The average time to reach a public health facility was 24.9 minutes while it was 14.5 minutes to a private health source. However, the average distance to a public health facility was 2.38 km, and this is lower than the average distance of 6.88 km to a private source of health care, this means that those individuals who went to private facilities had used faster means of transport.

TABLE 3.34: TIME TAKEN TO HEALTH FACILITY OF CHOICE FOR SICK HOUSEHOLD MEMBERS.

TIME TAKEN (MIN)	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Up to 10	40	(26.1)	76	(66.1)	116	(43.3)
11 to 20	61	(39.9)	21	(18.3)	82	(30.6)
21 to 30	40	(26.1)	12	(10.4)	52	(19.4)
> 30	12	(7.8)	6	(5.2)	18	(6.7)
TOTAL	153	(100.0)	115	(100.0)	268	(100.0)

Chi-square = 43.24, 3 df. p = .0000.

When reasons given for choice of a health care facility are ranked according to frequency, closeness to the sick individuals homes was the first reason given for both public and private users,that is, 51.3% and 49.1% respectively (see table 3.34). The second reason given in order of frequency for choice of a public facility was the low cost of health care (23.7%); while for choice of private source of health care was the better care that they receive (38.8%). About 22% of those who went to public sources of health care went there because of the better quality of care that they receive there. Very few head of households responded they chose to go to a particular health facility because their friends or relatives work there,that is, 3.3% and 7.8% in public and private respectively.

TABLE 3.35: REASONS GIVEN BY HEAD OF HOUSEHOLD FOR CHOICE OF HEALTH FACILITY USED DURING THE RECENT ILLNESS EPISODE.

REASON	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Near	78	(51.3)	57	(49.1)	135	(50.4)
Better care	33	(21.7)	45	(38.8)	78	(29.1)
Costs less	36	(23.7)	5	(4.3)	41	(15.3)
Friend relative works there	5	(3.3)	9	(7.8)	14	(5.2)
TOTAL	152	(100.0)	116	(100.0)	268	(100.0)

Chi-square = 25.32, 3 df. p =.0000.

Table 3.36 shows who paid for the sick household member during an illness episode which had occurred four weeks prior to the household interview.

TABLE 3.36: WHO PAID FOR THE HEALTH CONSUMPTION FOR SICK HOUSEHOLD MEMBER(S).

WHO PAID	PUBLIC	N(%)	PRIVATE	N(%)	TOTAL	N(%)
Household	145	(94.8)	104	(92.0)	249	(93.6)
Employer	5	(3.3)	9	(8.0)	14	(5.3)
Exempted	3	(1.9)	0	(0.0)	3	(1.1)
TOTAL	153	(100.0)	113	(100.0)	266	(100.0)

Chi-square = 4.992, 2 df. p =.0824.

The household paid for the majority of the sick family members during the recent illness episode, that is, out of

pocket expenditure were incurred for health consumption of 94.8% public users and for 92.0% of those who went to private facilities. The proportion of individuals who were paid for by the employer was higher amongst individuals who sought care from private sources compared to those who sought care from public sources, that is, 8.0% and 3.3% respectively. Only three individuals who went to public sources of care were exempted, while nobody was exempted from paying in the private sources of health care. The differences observed in this table are not significant, however (p =.0824).

The head of households interviewed were asked whether they were able to pay for their sick family members and their responses are presented in table 3.37. A very high proportion of respondents stated that they were able to pay for the health care of their sick family members.

TABLE 3.37: ABILITY TO PAY BY HEALTH FACILITY CHOICE.

ABLE TO PAY	PUBLIC N(%)	PRIVATE N(%)	TOTAL N(%)
Yes	138 (99.3)	97 (95.1)	235 (97.5)
No	1 (0.7)	5 (4.9)	6 (2.5)
TOTAL	139 (100.0)	102 (100.0)	242 (100.0)

Chi-square = 4.239, 1 df. p =.0395.

3.4. MULTIVARIATE ANALYSIS

Multivariate logistic models were done using the outpatient health facility data and data obtained for households members who had been sick four weeks prior to the household interviews. Utilization of a particular health facility public or private is the dependent variable used in this model. Independent variables that were used were those that have been found to influence demand for health care in this study. Therefore, demographic variables such as age, sex and number of years of formal education were included in the models. Weekly food expenditure levels were used as a proxy to income. Employment status, marital status, household size and the total cost incurred in obtaining care were also included. The time spent in going to the facility of choice was used instead of distance as this study took place in an urban setting where there is ease in getting access to health facilities. Availability of prescribed medication, attitude of health workers towards patients and cleanliness of the health facilities were used as proxy variables of quality of care for the outpatient model.

Equation used for the Outpatient Model

$$\ln\left(\frac{p}{1-p}\right) = a + b1\ Sex + b2\ Age1 + b3\ Age2 + b4\ Edu + b5\ Food1 + b6\ Food2 + b7\ Food3 + b8\ Employ + b9\ Tcost1 + b10\ Tcost2 + b11\ Time + b12\ Marry + b13\ Hsize + b14\ Attitude + b15\ Medicine + b16\ Clean.$$

Equation used for the Household Patient Model

$$\ln\left(\frac{p}{1-p}\right) = a + b1\ Sex + b2\ Age1 + b3\ Age2 + b4\ Edu + b5\ Food1 + b6\ Food2 + b7\ Food3 + b8\ Employ + b9\ Tcost1 + b10Tcost2 + b11\ Time + b12\ Marry + b13\ Hsize.$$

Where, p = the probability of seeking care from a public facility.
1 - p = the probability of going to a private facility.
a = constant.

Explanation of variables used

Sex : 0 = Male
1 = Female
Age 1: 0 = Otherwise
1 = 36 - 50 years
Age 2: 0 = Otherwise
1 = 51 years and above
(Reference Age group is 18 - 36 years).
Edu: Number of years of completed education (continuous).
Food 1: 0 = Otherwise
1 = Tsh 5,001-10,000
Food 2: 0 = Otherwise
1 = Tshs 10,001 - 20,000
Food 3: 0 = Otherwise
1 = Tshs 20,001 and above
Employ: 0 = Not employed
1 = Employed
Tcost : Sum of all the costs incurred by the patient to get care. (Reference group < Tsh 1000).
Tcost 1: 0 = Otherwise
1 = Tshs 1000 - 2999
Tcost 2: 0 = Otherwise
1 = Tshs 3000 and above
Marry : 0 = Not married
1 = Married
Hsize : Number of household members (continuous).
Attitude: Attitude of health workers toward patients.
0 = Poor
1 = Good
Medicine: 0 = Medicine not always available
1 = Medicine always available
Clean : 0 = Not clean
1 = Clean

3.4.1. Results of the outpatient model

Females are found to be more likely to use a public facility compared to males although the results are not significant (p= 0.676). When other variables are controlled for the age group 36 - 50 found to be less likely to use a public facility than the age group 18-36 years of age and has a negative coefficient. Individuals above 51 years are found to be more likely to use a public health facility compared to those in the age group 18-36 years of age. The more the number of years of education an individual has the less likely that he/she would choose a public health facility. This parameter has a negative coefficient and is highly significant (p = 0.000). The log odds of going to a public health facility decreases with an increase in weekly food expenditure. Those people spending between Tshs.5001-1000 per month on food are more likely to seek health care from a public health facility than those spending below Tshs.5000. Individuals who spend between Tshs.10001-20000 and more than Tshs.20,000 on food for a week are less likely to seek health care from a public facility although the results are not statistically significant (p = 0.812 and p=0.319).

Unemployed individuals were more likely to use a public health facility than the unemployed. With an increase in the price of care individuals were less likely

TABLE 3.38: RESULTS OF THE HOSPITAL PATIENT MODEL OF CHOICE TO A HEALTH FACILITY.

VARIABLE	PARAMETER	STANDARD ERROR	WALD TEST	P-VALUE
Constant	9.3026	22.2794	0.1743	0.676
Female	0.1276	0.4436	0.0827	0.774
Age (years)				
36 - 50	-0.8418	0.5553	2.2982	0.129
51+	0.3950	1.6748	0.0556	0.814
Years of education	-0.2202	0.0668	10.8732	0.001
Food expenditure				
5001-10000	0.3837	0.5927	0.4191	0.517
10001-20000	-1.1870	0.6813	3.0356	0.812
200001+	-0.7714	0.7740	0.9932	0.319
Employed	-0.4292	0.4614	0.8651	0.352
Total cost				
1000-2999	-1.0639	0.5677	3.5123	0.061
3000+	-1.7361	0.8152	4.5358	0.033
Time	-0.0420	0.0113	13.8923	0.0002
Married	-0.4801	0.4433	1.1726	0.279
Household size	0.1111	0.0695	2.5513	0.110
Attitude	-5.0398	22.2657	0.0512	0.821
Medicine	-2.5683	0.4180	37.7506	0.0000
Cleanliness	0.4990	0.9066	0.3030	0.582

N.B. The number of patients used in the analysis was 220; that is, 109 public hospital users and 111 private hospital users. The number of patients excluded was 22, 19 had not reported their weekly food consumption and 3 were exempted from paying in the public hospitals.

to use a public health facility and results were significant for those incurring Tshs 3000 or more (p = 0.33). The log odds of time taken to reach a health facility has a negative coefficient as expected and is highly significant (p = 0.0002). Married people were more likely to seek care from a private hospital compared to a public hospital.

Patients coming from large families were found to be more likely to use public health facilities. Attitude of health workers towards patients also influenced the log odds of going to a public hospitals as can be seen from the negative sign of this parameter. Availability of medication is found to have significant effect on choice and people are less likely to got to a public facility (p =.0000). The amount of money charged for health care and availability of medication were within the individuals decisions to use the facilities.

3.4.2. Results of the household patient model

As in the outpatient model, females were found to be more likely to use public health facilities compared to males. When other variables are controlled for, the influence of the different age groups on choice of health facility used is found to be different from that observed in the outpatient hospital model. The age group 36 - 50 years is found to be

more likely to use a public health facility compared to the age group 35 years and below, and the age group 51 years and above is found to be less likely to use a public health facility.

Results obtained for food expenditure categories are also contradictory to those obtained in the outpatient model. Sick individuals from households reporting weekly food expenditures of between Tshs.5001-10000 and Tshs.10001 - 20,000 per week were less likely to have gone to a private facility than those spending up to Tshs.5000 a week on food. Whereas those households spending more than Tshs.20,000 per week on food were more likely to use a public facility compared to those spending up to Tshs.5000 per week on food. Two possible explanations for this observation could be that these households reporting weekly food expenditures of over Tshs.20000 exaggerated their weekly food expenditures or that these higher income households have more access to public health services than lower income households.

TABLE 3.39: RESULTS OF THE HOUSEHOLD PATIENT MODEL OF CHOICE TO A HEALTH FACILITY

VARIABLE	PARAMETER	STANDARD ERROR	WALD TEST	P-VALUE
Constant	0.5320	0.8391	0.4021	0.526
Female	0.4249	0.2769	2.3549	0.125
Age (years)				
36 - 50	0.3331	0.4098	0.6607	0.416
51+	-0.7952	0.5513	2.0801	0.149
Years of education	-0.0671	0.0413	2.6331	0.105
Food expenditure				
5001-10000	-0.1089	0.3861	0.0795	0.778
10001-20000	-0.4098	0.4139	0.9801	0.322
200001+	0.1194	0.5111	0.0546	0.815
Employed	-0.7399	0.6963	1.1293	0.288
Total cost				
1000-2999	-0.3745	0.3160	1.4045	0.236
3000+	0.1778	0.3756	0.2242	0.636
Time	0.0271	0.0108	6.2904	0.012
Married	1.1579	0.3997	8.3928	0.004
Household size	-0.0629	0.0620	1.0291	0.31

N.B. The number of household members who had an illness episode four weeks prior to interview who were included in this analysis was 269, of whom 153 had gone to a public source of care and 116 had gone to a private source of care. The number of individuals excluded was 11, 6 did not report the amount of cost they incurred and 5 chose to self treat.

Employed individuals were less likely to seek health care from a public facility when compared to unemployed individuals. The probability of going to a public facility compared to a private facility were higher when the logs odds of time taken to the health facility is observed. Married individuals are more likely to seek care from a public facility. With an increase in household size the log odds of going to a public facility decreases.

3.5. CALCULATION OF ARC PRICE ELASTICITY

The arc price elasticity is calculated by using the following equation:-

$$\text{Arc price elasticity} = \frac{Q_1 - Q_0}{\left(\frac{Q_1 + Q_0}{2}\right)} \Big/ \frac{P_1 - P_0}{\left(\frac{P_1 + P_0}{2}\right)}$$

Where Q_1 = The total public hospital outpatient attendance after the introduction of user charges. This was 159377 in the 3rd quarter of 1994.

Q_0 = The total public hospital outpatient attendance before the introduction of user charges. This was 342136 in the 2nd quarter of 1994.

P_1 = The mean cost of health care in public hospitals after the introduction of user charges. This was established to be Tshs.631.33 in this study.

P_0 = The mean cost of health care in public hospitals before the introduction of user charges. The mean transport cost established in this study, Tshs.266.67 is assumed to represent this cost. Substituting the figures in the equation:-

$$\text{Arc price elasticity} = -\frac{182759}{250756.5} \Big/ \frac{364.66}{449}$$

$$= -0.89$$

The fact that the result is negative shows that the demand decreases when the price rises and vice versa. As the calculated value of 0.89 is below 1, the demand for public hospitals is inelastic. The interpretation is that the increase in the price of health care has resulted in a less than proportionate decrease in demand for public health services. The increase in the price of public health services however results in an increase in the expenditure on health care; in other words with an increase in price, the poor are more likely to part with a larger proportion of their incomes to obtain health care.

3.6. ANALYSIS OF THE EXEMPTION MECHANISM

3.6.1. Identification of the Indigent

Identification of the indigent is very difficult as the exemption guidelines do not state explicitly the criteria to

be used. There is just a 'blanket' statement that those who are verified to be indigent are entitled to receive the necessary treatment free of charge.

The exemption form has 5 section - A B C D E

Section A covers identification details for example patient number, name, age, sex, marital status, place of domicile, and ten cell leader. etc. Section B has to be filed in with information on the education status and occupation, number of outpatients visits/admission in the past six months.

Section C - Information on whether the patient has received treatment at another health facility whether he/she has worn expensive clothing or not and if there is any other indication that he/she can pay. Section D has to be filled with information recommending exemption and the recommending officer has to fill in his/her name, rank or station and signature. Section E is filled by the authorizing officer who also has to write down his/her name,status/rank and signature.

Out of the 121 public outpatient health users interviewed only 3 were exempted from paying. It was seen that two of the exemptions were given due to illnesses categorized as exemption diseases and one exemption was given because the public facility user was a pregnant woman. If households spending up to Tshs. 5000 a week on food are

categorized as low income households, it is seen in the table below that none of patients coming from the lower weekly food expenditure group was exempted from paying, and more importantly all the people who were exempted were in the group spending more than Tshs. 5000 per week on food.

TABLE 3.40: WEEKLY FOOD EXPENDITURES AND WHETHER EXEMPTION WAS GIVEN.

WEEKLY FOOD EXPENDITURE	EXEMPTED		TOTAL
(in T.Shs.)	YES	NO	
Above 5000	3	92	95
Up to 5000	0	17	17
TOTAL	3	109	112

3.6.2. **Identification of who decides for exemption/waiver**

The social worker is usually the person who recommends exemption and the medical officer in charge, the hospital secretary or the Matron authorizes the exemption. As each hospital had only one social worker in many instances other health workers like the medical officer in charge of the outpatient department or another medical officer had to fill in the exemption form to recommend exemption.

3.6.3. **Administration of the exemption mechanisms**

In all the three public hospitals, these was only one person assigned as a social worker responsible for granting exemptions. All the social workers were females, one was a trained social worker and two were nurses who had received some training in social work. The author held discussions with these social workers (and other staff) on how they arrive at the decision that a particular individual requires exemption.

In general they all follow the laid down procedure. There are six steps in the exemption process.

Step 1: An individual who presents at the public hospital outpatient registry station and pronounces that he/she is not able to pay for the health services is directed to the hospitals' social worker.

Step 2: The social worker takes a detailed social history of the individuals' age, marital status and employment status. Whether he/she has relatives or friends who can pay for him/her etc. She also takes a brief medical history - since when has the individual been sick, the presenting complaints and whether he/she has sought treatment for the current problem at that particular health facility or at any another place. This process takes about one to

between 17th and 18th July. Although, attendances picked up three days later they remained at a much lower level. In Ilala hospital, small daily fluctuations in outpatient attendances were observed in the first half of the month followed by a marked drop between the 17 and 18th of July 1994. It is very likely that the observed drop in attendance can be attributed to the introduction of user fees. Studies done in other developing countries in Africa have also established that introduction or sharp increases in user fees has a negative impact on the frequenting to health facilities. In Swaziland, Yoder (1989) found a 32.0% decline in utilization of public health facilities following a 300-400% increase in fees. Similarly in Ghana, sharp fee increases in public facilities in mid 1985 was associated by a more than 34.0% drop in frequentation (Waddington and Enyimayew 1989). These findings contradict the much earlier studies done in the Far East by Heller (1982) and Akin et al (1986) which had established that the price of health care has a very small influence on the utilization of health services.

The DCC district hospitals charging rates are very much lower than those charged by the private facilities studied, for example, the consultation fee is Tshs. 200 in the public hospitals while that of private hospitals ranges from Tshs.

400 - 700. Despite of this fact, study findings show that the level of utilization of two of the private facilities studied had remained at almost steady levels throughout the year. A possible explanation is that some employers have clearly specified that their employees use these facilities in case of an illness episode and also pay for their employees health consumption.

The issue that now comes up is where did the 50% of public facility regular users go for care. It is possible that there has been a shift in demand for health care to lower levels of the public health referral system due to the introduction of user fees, that is, instead of going to the district hospitals, the once regular users of these facilities may have now shifted to health centers and dispensaries where they do not have to pay. Another possibility could be that the once regular district hospital users have shifted to other private hospitals that were not included in this study, or that they had shifted to the numerous dispensaries which are rapidly mushrooming in the city. Yet another possibility could be that a proportion of the regular district hospital users can now no longer get access to the public health system because of the cost of care and have now resorted to self medication or no treatment.

Studies have shown that with an increase in health care price, the consumers shift their demand to the next best alternative provider. In Swaziland Yoder (1992) established that 30-40% of the people who had originally frequented public facilities had switched to private facilities, implying that once people had to pay in public facilities they opted to go to the next "best" alternative provider. The Waddington and Enyimayew (1989) study also established that following an increase in user fees some public facility users switched to private facilities and also that the cost of care was a significant access barrier to other individuals who resorted to seeking inferior alternative sources of health care and/or delayed used of public facilities.

The results of the outpatient survey shows that demographic characteristics such as age, sex and marital status are not significant determinants of choice of health facility between public and private. Although Stanton and Clemens (1989), identified women and children to be a vulnerable group as far as utilization of health services is concerned, findings of the present study show that women were found to use health services more than men, in both the outpatient survey (61.3%) and household survey (54.50%) conducted.

According to the outpatient survey, employed individuals used both types of health services more than unemployed individuals; and that the unemployed individuals used public health facilities more (47.5%) than private health facilities (27.3%). Those individuals who had received more than 8 years of formal education used private facilities more than public facilities, 47.1% and 18.2% respectively. The multivariate analysis of outpatient data shows that with an increase in the number of years of formal education that an individual has, his/her log odds of going to a public hospital are low ($p = .001$). Assuming, the amount of income that an individual has is a function of his/her education and employment status; these results indicate that income has an influence on the choice of type of health facility to use, which has also been established by other studies (Gertler et al 1988; Waddington and Enyimayew 1989; Sauerborn et al 1994).

The responses on the main reason for choosing a particular health facility were analyzed, and it was found that distance to the health unit from an individuals' home was the major factor influencing choice of a public facility. Such results have been found elsewhere (Gertler et al 1988). Closeness to one's home is likely to have a lower cost implication in terms of transport cost and time cost in

obtaining care, than the cost of going to a more distant health facility.

Private facility attendances seemed to be hindered by the high out-of-pocket expenditure needed for the patients to obtain care in these facilities. Looking at the outpatient regression analysis, it is seen that with an increase in the amount of money used to pay for health care, the log odds of using a public facility decreased. A high proportion (72.7%) of private facility users, chose to go there because their employer paid for them, hence they never saw their marginal cost. The cost that was mainly met by this group of private facility users were travel cost and the time cost in obtaining care. The second major reason for choice of a private facility over a public one was the better quality of service that these facilities offered. Other studies have also found that quality of care influenced choice of health facility to use and that individuals did not mind paying more when the money collected was used to increase the quality of care offered (Mujinja and Mabala 1992; Shephard et al 1992; Litvack and Bodart 1993).

Availability of drugs is usually perceived by users as a sign of quality of care. Respondents in private facilities reported the availability of drugs was the main reason of their choice of that facility. More than 90% of the

respondents in private facilities got the medication that was prescribed for them within the hospital premises compared to 52.9% of public respondents. Abel-Smith and Rawal (1994) found an even lower drug availability rate (48.6%) in Dar-es-Salaam public hospitals. The regression analysis showed people were less likely to use a public facility when other variables were controlled for and this was highly significant ($p = .0000$). Focus group discussion results also demonstrated the need of an improved drug availability in the public health system. Drug availability was not the main reason expected for people to opt for not going to the DCC health facilities because they are supposed to have a regular supply of drugs, from the Central Medical Stores and from the UHP as a project. One wonders as to what will happen to the availability of drugs in the DCC health facilities when the UHP support is withdrawn. The drug availability situation in other public hospitals in the country which do not get any extra assistance in the procurement of drugs is open to speculation.

Attitude of health workers to patients which is another aspect of consumer perception of quality was reported to be good by the majority of respondents in both facilities; that is, 80.2% in public and 88.4% in private facilities respectively. However, a higher proportion of private

facility users (65.0%), compared to public facility users (48.7%) were explained on their health problems by the prescriber and requested to report back if their problems were not alleviated. This is because, private facility users pay more for their health care and health providers feel they have to be more pleasant in order to ensure that users return to these facilities for care. This could also be a reflection of supplier induced demand for health consumption which could even be unnecessary just because providers know that their clients are able to pay.

With the introduction of cost sharing, public hospitals are now put in position to compete against private hospitals for health consumers. In order to be competitive, the availability of essential medication and health provider communication skills in public facilities have to be greatly improved.

The household survey depicts the general low economic ability of the study population. Only 24% of the heads of households owned their homes and the majority had to rent. About 47% of the households that disclosed their monthly incomes earned up to Tshs. 20,000 per month. In this study, households spending less than Tshs. 5000 a week on food are assumed to be low income households; and this group included 27.3% of the households interviewed, and the households of

10% of the outpatient health facility users interviewed.

Study results show that 8.3% of the heads of households who had been to a public health facility after user charges were introduced stated that they could not afford to pay for their health care. Amongst public outpatient users interviewed, almost 30% stated they were unable to pay. The usual source of health care for majority of the households that were included in the present study was reported to be the public health facility (75.1%). It is therefore evident that the introduction of user fees for health services that were previously enjoyed "free" of charge by the general population could place many low income households in a situation of financial crises; as poor households would have to resort to borrowing from relatives or friends or even to selling some of their possessions/durable assets so as to pay for their health care, as reported in this study. Review of literature shows that this is a very likely possibility; for example, poor families in Thailand had to sell their land which was in most cases their only means of livelihood in order to pay for their health care (Abel-Smith 1991). Findings of the current study show that relatives or friends paid for 27.3% of the public outpatient users interviewed and that 33.9% of public facility users had reported on having experienced difficulty in paying for their health care. This

implies that the number of households that should be eligible to free health care is quite high.

Difficulty in paying for health services has also been documented by other researchers in Tanzania. In their study of NGO user-charges, Mujinja and Mabala (1992) reported that some of the health facility users had experienced difficulty in meeting the cost of their health care and that some had to pay in installments while others offered to work for the hospital in one capacity or another in lieu of cash payment after their illnesses had improved. Abel-Smith and Rawal (1992) also established that 32% of the rural and 22% of the urban population included in their study reported difficulty in paying for their health care.

The outpatient data for public health facility users in this study establishes that none of the exemptions were given to individuals classified as coming from low income households and hence unable to pay. Thus the type I error where people who are supposed to be exempted, are not exempted in the present exemption system is very high.

A 1993 household survey done in the country shows that the more affluent households utilize public and private facilities more than the relatively poorer segment of the population (World Bank 1993). The survey showed that the relatively more well off individuals made up 35-37% of all

public facility users. The more affluent segment of the society has more access to the bigger public and referral hospitals as these are located in urban areas where the affluent tend to concentrate. Therefore a large number of people who are able to pay for their health care, consume subsidized health care which has been earmarked for the poor.

The exemption procedure has been found by this study to be lengthy and therefore time consuming, and at times ends up in asking for unnecessary details. According to the discussions held with the social workers in the course of this study, none of the people who had been awarded exemption because they were indigent went back to seek an exemption in another visit. If this implies that their health problems had drastically improved following the initial treatment that they had received, well and good. It is also quite likely that they had felt to be humiliated during the process they had gone through in getting the first exemption and that they did not want to repeat the experience. It is not very easy to discuss ones financial and social situation to a complete stranger especially if one is also sick and worried about his/her health. Stigma attached to being labelled poor has been documented by other researchers as a deterrent to the asking for exemption amongst people who needed it (Mills 1991).

The need of identifying an individual who is familiar with the social and financial status of the person requesting exemption is evident from respondents' responses on who should identify the indigent. A very high number of household respondent (73.5%) and 57.% of outpatient respondents identified the local ten cell leader, a person who is closer to them socially in the community. Research done in Thailand has established that cases of corruption have occurred when members of the community have been assigned the task of identifying the indigent (Mills 1991). The study findings have established that the existing exemption system is inefficient and ineffective in isolating the indigent. There is therefore need to review the whole exemption process.

CHAPTER V

5.0. CONCLUSIONS AND RECOMMENDATIONS

5.1. CONCLUSIONS

The conclusions of this study are as follows:-

1. The introduction of user charges in DCC health facilities has had a significant impact on the utilization of the district hospitals in Dar-es-Salaam.
2. The exemption system used in the Dar-es-Salaam public hospitals has been established to be inefficient and ineffective in isolating the indigent.

5.2. RECOMMENDATIONS

The following recommendations are made based on the findings of this study:-

1. Further research is needed to establish where the more than 50.0% of previous regular public facility users have shifted their demand for health care. Other alternative methods of paying have to be explored.
2. There is need to review the present exemption criteria and the whole exemption process. Exemption criteria should be explicitly identified and followed and the number of unnecessary steps to be followed should be reduced.

3. There should be proper documentation of all the people who are exempted. All costs incurred for each exempted individual who is seen as an outpatient/inpatient should be recorded . As computers have been introduced in all District hospitals, a simple computer program for this documentation could be easily introduced.
4. Other alternative methods of paying have to be explored and the local community should be involved in identifying the indigent.
5. The current charging rates should be reviewed so that the costs of the various procedures and medicines reflect their true market value; hence generating more revenue from those who are able to pay, while taking care of the indigent at the same time.

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