

AN ANALYSIS OF THE USER FEE POLICY FOR HEALTH CARE IN ERITREA

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In memory of my Father Zere Asbu and my Brother Sahle Zere

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ARI	Acute Respiratory Infection
ATP	Ability to Pay
BOD	Burden of Disease
CI	Confidence Interval
GDP	Gross Domestic Product
HIV	Human Immuno-Deficiency Virus
IMF	International Monetary Fund
MCH	Mother and Child Health
NSO	National Statistics Office
OPD	Outpatient Department
PHC	Primary Health Care
PYLL	Potential Years of Life Lost
SD	Standard Deviation
SEMISH	State of Eritrea Management Information System for Health
STD	Sexually Transmitted Disease
TB	Tuberculosis
WHO	World Health Organization
WTP	Willingness to Pay

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The usual disclaimer applies

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ABSTRACT

The recent upsurge in the interest about financing government health services through user charges has necessitated the conducting of country-specific policy studies in order to monitor the implementation of user fees. This helps to achieve the espoused benefits of the policy and minimize any potential untoward effects. This study was conducted with the objectives of assessing the Eritrean user fee policy that was decreed in February 1996, at all stages from the design to its implementation and the interim effects on revenue generation, efficiency, equity, quality and utilization of services.

Primary and secondary data were collected from patients and providers using questionnaire and interview schedules - structured and unstructured. Both open-ended and closed-ended questions were included and covered such issues as socio-economic and demographic characteristics of the respondent, illness and utilization behaviour, and fees and exemptions. The instruments were pre-tested in a small sample of the target population and administered by trained interviewers who had previous experience in health related research. The primary data collection was limited to the capital city for two reasons: firstly, its easy access given the time constraints and, secondly, as a lion's share of the fee revenue is collected in the capital city, it was felt that a close scrutiny at that level could give a preliminary picture of the system as a whole.

Respondents were selected randomly and included 100 outpatients, and 50 each of inpatients and health workers (including support staff). Qualitative and quantitative data analysis was done. Descriptive statistics and multivariate regression techniques were employed using the Epi-info and micro-TSP software packages.

It was found that the policy, which was an update of a pre-existing one was launched against the background of a favourable macro-economic, political and health sector climate. Fees reduced utilization at the tertiary hospital, but did not bring about the required level of efficiency as they did not signal to patients to use the appropriate cost-effective levels of care and the referral system. Fee waivers are found to be infrequent, and the process of proving one's indigence at the local administrations is lengthy, thus adversely affecting equity. The cost-recovery ratio for the system as a whole for 1996 was the highest in Sub-Saharan Africa. However, at the lowest health care units, the health stations, the scheme does not seem viable. In some of them, fees could not even cover the salary of the cash collector. Utilization at the primary care units showed a relative increase after implementation of the fee policy, indicating a possible shift of demand from the hospital which is relatively expensive. Though this is in the desired direction, it has a long way to go as many patients are bypassing the nearby primary care facilities .

At the sampled health center, patients' willingness and ability to pay was found to be higher than the current fee level. However, for the hospital's services, the willingness to pay for the current quality of services was lower than what is currently charged.

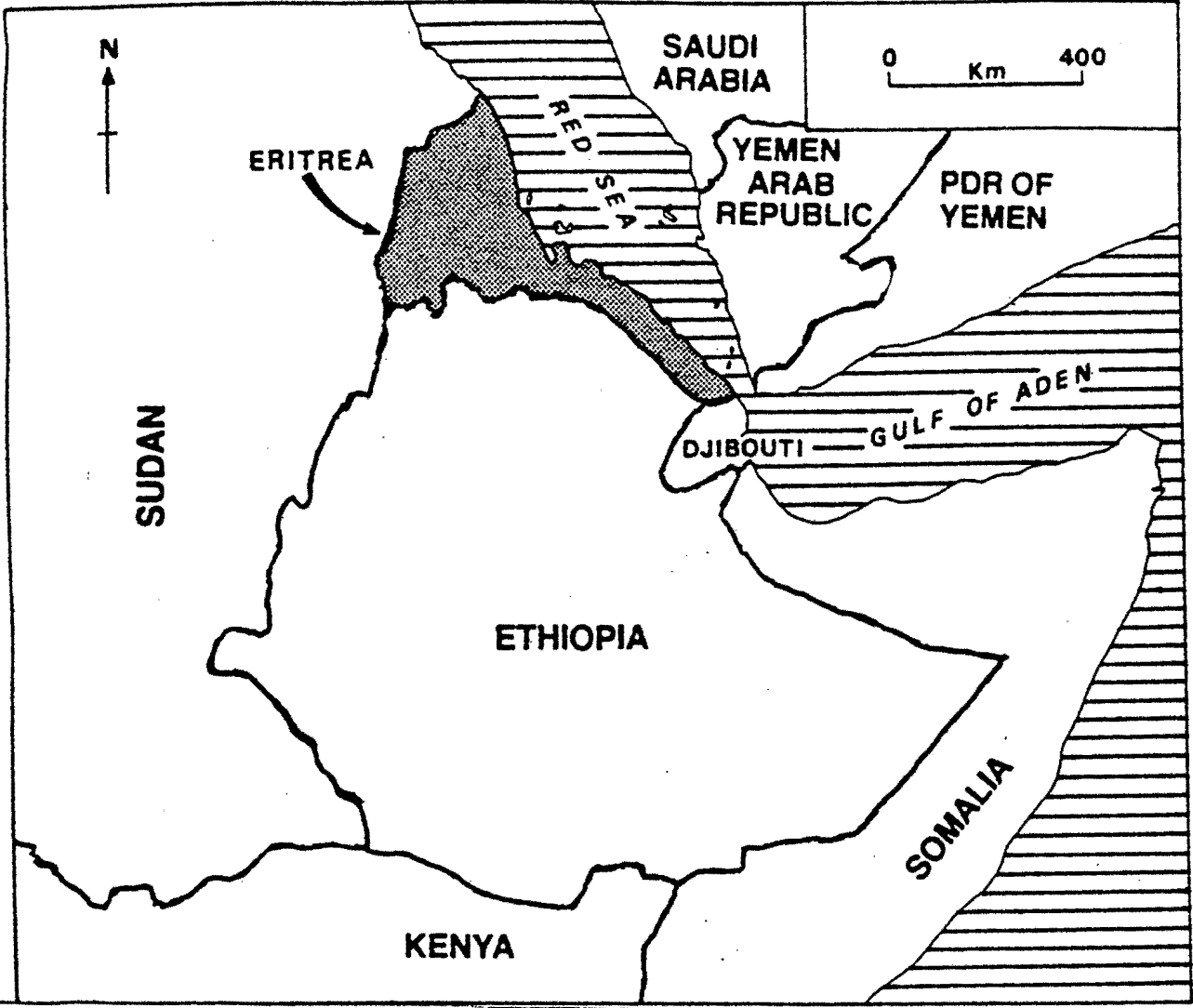
The study recommends that, for patients bypassing the appropriate primary level facilities, fee levels at the tertiary referral hospital need to be increased so as to promote efficiency. Fee increases at the health centers in the capital city needs to be considered as well. As equity may not be ensured with the current system of entitlement to fee waivers, it is advisable to do a prospective means test. Proxy indicators of indigence should be developed given the income data constraints that make the income-related assessment more difficult. Furthermore, geographical price discrimination is worth considering as the ability to pay of different

communities is likely to vary. The MOH should institute negotiations with the Ministry of Finance to retain the fee revenue collected within the health sector, so as to be able to achieve the espoused benefits of user fee policy.

Finally the study recommends that such a study be conducted at a large scale and alternative or complementary options of health financing such as health insurance be examined for their feasibility.

Figure 1: Map of Eritrea

MAP 1 ERITREA: IN THE HORN OF AFRICA



1. INTRODUCTION

1.1. Statement of the problem

Many governments in the developing world are faced with growing constraints on the availability of resources to finance public sector health services. To bridge the existing resource gap, measures have been taken to mobilize resources both from within and without the health sector. Among the policies promoted for mobilizing additional resources from within the health sector has been the introduction of user fees in public health facilities, where consumers of health care pay part or all of their health care costs.

Despite the interest in user fees as a means of achieving the goals of raising revenue, improving quality of care, efficiency, equity and sustainability of health care services, a number of questions have been raised regarding their implementation and the achievement of their espoused benefits in different settings.

No single formula for the institution of a user fee policy for health care exists that is appropriate for all countries in Sub-Saharan Africa. Each country faces a different set of problems, prospects and priorities. Therefore, a case by case analysis of the situation is required to institute a relatively well functioning user fee policy and avoid the potential negative repercussions of such a financing reform.

1.2. Significance of the study

The state of Eritrea, which received its UN sanctioned sovereignty in mid-1993, launched a policy of user fees for health care in February 1996. In a country emerging from the ashes of a devastating war and whose economy is seriously constrained, a critical analysis of the user fee policy is justified to rectify any deviations from what is intended, and prevent negative health consequences that may fall on the poor. Furthermore, such a study is likely to shed light on the factors that may account for the successes or failures of a user fee policy in an economy which is in the aftermath of a protracted war. Also, the absence of such previous studies in the country makes this pioneering project worth undertaking for the purpose of documenting the existing situation.

1.3. Aim and objectives

1.3.1. Aim

The aim of this study is to generate policy related findings that will deepen the understanding of the factors associated with the proper functioning or malfunctioning of user fee schemes in countries with post-war economies. The study will provide insights into the (re)design, implementation and monitoring of the effects of user fees for health care with respect to efficiency, equity and viability.

1.3.2. Specific objectives

The study proposes to:

1. Undertake a review of user fee experiences of Sub-Saharan africa, as a basis for evaluating the Eritrean user fee policy.
2. Conduct a situation analysis of Eritrea, to provide a macro-context for the user fee evaluation.
3. Assess the context and process of the user fee policy design in Eritrea.
4. Identify facilitating and constraining factors in the design of the scheme.
5. Critically evaluate the content of the user fee policy with respect to its implications for efficiency, equity, quality and utilization of health care.
6. Scrutinize the implementation of the scheme and identify the successes and problems encountered in its implementation so far.
7. Examine the exemption mechanism instituted to protect the poor.
8. Make policy recommendations concerning the design, implementation and monitoring of the effects of the user fee policy, that will help in moving towards the achievement of the stated goals.

1.4. Limitations and delimitation of the study

1.4.1. Delimitation of the study

The study uses secondary data and facility-based surveys. Hence it has a limited scope and generalizability. It tries to analyze in retrospect, the existing user fee policy and does not purport to evaluate the major alternative health care financing strategies and suggest the best option for Eritrea. The study is confined to investigating the design, implementation and effects of the user fee policy.

The health effects of the user fee policy will be gauged in terms of its effects on facility utilization. Measuring its health impacts in terms of the conventional indicators is both premature and difficult to do in this study. Assessment of equity issues will involve a critical analysis of the potential effects on equity as implied in the various policy documents.

1.4.2. Limitations of the study

The study has the following shortcomings that limit its generalizability and need to be taken into account when interpreting the findings.

1. Since the complementary primary data is generated by means of facility-based surveys in public sector health institutions, it has a selection bias. It does not capture the views of those who do not seek care in a public sector health facility.
2. The facility-based interviews (exit interviews with outpatients and interviews with inpatients) involved predominantly people who were sick at the time of interview. Elicitation of reliable responses on the spot from people who are suffering was very difficult and has affected reliability of the data to a certain degree.
3. Primary survey data were collected in the national capital city which may have a slightly different socio-economic set-up from the rest of the country. Thus, the study does not incorporate the diversity that may exist within the country.
4. As a newly emerging nation after decades of colonization, the tradition of research is still in its embryonic stage. Within this state of affairs, eliciting responses of a high reliability through surveys becomes doubtful since people regard such queries as highly political that the ordinary citizen is not supposed to discuss.
5. Because of the Nation's young age, there is a dearth of relevant and accessible published information. Thus, as a pioneering study it lacks much information which could have been utilized in reinforcing discussion of the findings.
6. The health management information system is still in its early developmental stages. Hence some useful information could not be accessed. For example, the work-load of the private-for-profit clinics could not be analyzed for they do not send their activity report on a monthly basis. Thus, if there is a shift of demand from the public to the private sector, there is no way that this can be assessed objectively.
7. The time lapse since the launching of the user fee policy seems to be too short (about one-and-a half years) to give a comprehensive picture of all the effects of user fees. Some of what is stated in the policy documents has not even been implemented, thus restricting the investigation.

8. Because of time limitations, the study was conducted during the winter season, in the months of July and August. Though this may not affect the ability to pay of the urban population, which does not depend on agricultural production, it may affect the pattern of morbidity and health care seeking behavior. This effect of seasonality has not been taken into account.
9. Finally, since the primary data is generated by means of survey instruments which largely collect opinions, the limitations of survey instruments need to be considered. Furthermore, questions related to income are very sensitive in African societies making it difficult to collect reliable information. Mechanisms for determining ability and willingness to pay are still evolving and in societies where the levels of education are very low, data collected by such crude instruments needs to be handled cautiously.

1.5. Definitions of important terms and concepts:

Terms and concepts which are frequently referred to in the health financing literature, are used in this report as defined and described below:

1. **Cost-effective:** when for a given output the cost is minimized or (what is the same thing) for a given cost the output is maximized. It embodies technical efficiency and is a supply-side concept. In economics jargon, cost-effective means "*being where an isocost line is tangential to an isoquant*" (Culyer 1989).
2. **Cost recovery:** receipt, by a health provider, of a payment from individuals or the community in exchange for health services. It may be expressed as a percentage of expenditure (Kinnon *et al.* 1994).
3. **Cost sharing:** refers to a method of financing health care that involves some portion of the expenditure falling directly on the user. The cost is then shared between user and employer, government, donor, taxpayer, insurance agency, etc. (Kinnon *et al.* 1994).
4. **Efficiency:**
Allocative efficiency: is the extent of optimality in distribution of resources among a number of competing uses. Allocative efficiency exists if we pursue health care programs that are worthwhile (i.e. marginal benefits exceed marginal cost). The social perspective is fundamental

to allocative efficiency. This perspective ensures that due account is taken of all costs and benefits of an intervention, regardless of whether they fall within or outside the health care sector (e.g. on families and patients or on the productive capacity of the economy) (Donaldson and Gerard 1993).

Technical efficiency: is the extent to which production inputs (e.g. labor, drugs, equipment) are combined in a way that yields the maximum feasible output (e.g. outpatient visits, immunizations, hospitalizations). Technical efficiency involves the selection between alternative means of achieving the same ends, and may therefore be interpreted as the pursuit of maximum output for a given level of resources or a minimum of resources used for a given level of output (*ibid*). In economics jargon, it means “*being on an isoquant*”. It is a supply-side concept (Culyer 1989).

5. **Equity:** though related to equality, the concept of equity is different in that it incorporates the idea of social justice. It relates to ethical judgments about the fairness of the distribution of resources and benefits. Vertical equity addresses the question of the extent to which individuals who are unequal in society should be treated differently. Horizontal equity is concerned with equal treatment of equals. Out of the various definitions of equity, in this report the definition of “*equal access for equal need*” is adopted (Donaldson and Gerard 1993).
6. **Exemption:** an excuse from payment based on the patient’s age, having a specific illness such as tuberculosis or using a specific preventive service such as antenatal care (Quick 1994). However, in most of the literature in health financing, it is regarded as synonymous with a fee waiver.
7. **Health financing:** provision of funds or credit for a specified purpose. The origin of finances may be external or domestic (private or public). In this report, it refers to the changes in the balance between the alternative sources of funds for publicly-provided services (Gilson and Mills 1995).
8. **Means testing:** it is a targeting mechanism which helps to classify specific individuals as eligible or ineligible for benefits (e.g. fee waivers) according to income-related criteria. The purpose of means testing in the health sector is usually to totally or particularly release

from payment those who are unable to pay user fees or who would suffer undue financial hardship by paying (Willis and Leighton 1995).

9. **Sustainability:** in the context of health financing there are two aspects of sustainability to which reference is made in this report (Kutzin 1995a):

Financial sustainability: refers to the capacity of a system to provide a sufficient level of finance to enable it to function effectively over time without needing a substantial injection of external support; and

Institutional sustainability: relates to the capacity of health system management to develop and implement measures to support effective financing reform.

10. **Targeting:** is the general process of channeling benefits such as subsidized health care to a target population such as the poor, females or children (Willis and Leighton 1995). Frances and Stewart (1984) describe targeting as “*a powerful way of increasing the efficiency of social expenditure*” (Barker 1996).

11. **User fees:** are charges levied on the patient/client for any aspect of health care, including consultation, drugs and other services rendered by public providers (Thomason *et al.* 1994). It is synonymously used with user charges.

12. **Waiver:** a discretionary release from payment based on inability to pay (Quick 1994).

1.6. Organization of the report

The report is divided into seven parts:

- **Part one:** as presented above is an introduction and includes a statement of the research problem, the justification, aims and objectives of the study. It also discusses the scope and shortcomings of the study and definitions of important terms and concepts in health care financing.
- **Part two:** deals with an exposition of the relevant corpus of economics as it relates to health care financing, particularly user fees. An attempt is made to discuss the problems of health and the health sector within the context of SSA. The economics of health care financing, especially the issue of market versus government intervention in financing health

services, and market failure in health care are presented in some detail. Part two further discusses the issues of design, implementation and monitoring of user fee policies.

- **Part three:** gives a description of the study area. It gives a brief outline of Eritrea's history, geography, demography, economic activity and health profile. In the country's health profile, the general health situation, health policy and resources including health care financing are included.
- **Part four:** deals with a description of the study methodology adopted. It includes such issues as sources of data, instruments and techniques of data collection, sampling and techniques of data analysis.
- **Part five:** presents the results of the study. It starts with a situational analysis of the macro-context and proceeds to an analysis of the user fee policy formulation process and the effects of the policy on revenue generation, equity, efficiency, quality and utilization of health services.
- **Part six:** is the discussion section where the findings in the preceding part interpreted contextually.
- **Part seven:** in this last part, conclusions are drawn and possible possible policy relevant recommendations forwarded.

2. REVIEW OF LITERATURE

2.1. Problems of health and the health sector in developing countries

Good health is basic to human welfare and a fundamental objective of social and economic development (World Bank 1994). Yet the extent of ill-health in developing countries, particularly Sub-Saharan Africa, is enormous. Infectious and parasitic diseases are still rampant,

and deficiencies in the standards of health services are extensive. The seriousness of the *status quo* may be discerned from the following observations (Hoare and Mills 1986, World Bank 1994):

- 80 percent of the world's population has no access to any permanent form of health care.
- In SSA, only one in three persons has access to safe water and only one in four access to sanitation facilities.
- Infant mortality rates remain high in most developing countries and the rate of improvement has begun to slacken.
- More than half of all child deaths can be traced to the vicious complex of malnutrition, diarrhea and respiratory diseases. These diseases are preventable, and it is a failure to control them that is checking further progress in reducing child morbidity and mortality rates.

The above observations highlight the fact that the basic health needs of the vast majority remain unmet, and the problem has assumed mammoth proportions.

The World Bank in its policy study *Financing Health Services in Developing Countries* (Akin *et al.* 1987) describes the problems of African health systems as:

- **Problems of allocation**, characterized by problems of insufficient spending on cost-effective health programs;
- **Internal inefficiency of government programs**, characterized by the widespread use of higher level facilities by patients who could well be served at the lower level units; and
- **Inequitable distribution of benefits from health services**, characterized by a condition where 70 percent or more of the public spending goes to finance urban-based hospitals which provide for the minority urban population, while simple low-cost interventions for the masses are under-funded. This implies that the rural poor benefit little from tax-financed health care.

2.2. Health sector reforms

Health sector reform is not a new development; it has been occurring in countries throughout the world for many years under different names such as "*reorientation of national health systems towards the objective for health for all*" (Kutzin 1995b, WHO 1983). The aim of reform is creating the necessary conditions for the provision of cost-effective essential health care of acceptable quality accessible to all citizens (Mogedal *et al.* 1995).

Reform may deal with overall health policy including financing and service priorities, address organizational structures or make changes in systems and formal processes to improve the way things operate within a given policy and structure. The World Bank (Akin *et al.* 1987) singled out four policy reforms to help address the problems of national health systems:

- Charging users of publicly provided health services, especially for the types of care that benefit solely individuals and their families.
- Encouraging risk coverage programs.
- Strengthening non-government provision of health services for which households are willing to pay.
- Decentralizing the public health system.

The first three reforms in essence are issues of public-private mix in the financing and provision of health services. The components of the reform package are interrelated with one another and need to be viewed in that way. However, in the forthcoming discussion, emphasis will be laid upon the health financing part, which is the focus of this paper.

In broad terms, financing reforms are considered primarily as changes in the balance between alternative sources of funds for publicly-provided health services. These involve alternative arrangements for paying for, allocating, organizing and managing health resources (Gilson and Mills 1995, Leighton 1996). The overall purpose of health financing reforms is to improve health status. Hence cost recovery in the health sector is a policy instrument, not a policy objective (Creese 1991). A number of specific objectives are common across various financing reforms and strategies in Sub-Saharan Africa. Each technique of financing reform has both primary and secondary goals or effects as can be seen from Table 2.1.

Table 2.1: Health sector financing reform: goals and strategies

Strategy(technique)	Primary goal	Secondary goal or impact
Raise revenue (example, user fee; insurance plans and prepayment schemes to pool risk make it easier to mobilize resources for health)	Financial sustainability	equity access efficiency quality
Reallocate resources (example, increase MOH budget share for PHC and cost-effective service packages; reduce government subsidies for hospitals)	efficiency and cost-effectiveness	equity access financial sustainability
Develop alternative organizations of service delivery resources (increase role of private providers, decentralize MOH responsibilities for health services to regional or district level)	efficiency and cost-effectiveness	access financial sustainability

Source : Leighton (1996)

Different countries in Sub-Saharan Africa state various objectives in their health financing policy documents. Some have revenue raising as their major objective and others emphasize quality improvements in PHC with the revenue raised (Nolan and Turbat 1995).

For health financing reforms to meet their intended aims, they must be complemented by institutional reforms and management processes such as civil service reform, decentralization, strengthening management capacity, building consensus on priorities and overcoming bureaucratic constraints (Leighton 1996). It is also essential that such reforms be designed specifically for each country in accordance with its experience and prevailing conditions.

Experience has highlighted that, countries attempting to undertake major reforms in the financing and organization of their health sector confront a number of obstacles, prominent of which are: conflicting policy goals, political instability, weak institutional capacity, poor economic conditions, incomplete health sector development and information constraints (*ibid*).

To overcome these potential obstacles to health financing reform, the following strategies are recommended (Leighton 1996, Shaw and Griffin 1995):

- General strategies which include: strengthening institutional capacity, adapting and updating reforms to take account of economic conditions and building consensus among various stakeholders (for example, involving health professionals);

- Strategies to inform the design of reforms: assessment of lessons learned in the cost-recovery experience of NGOs and private-for-profit sector, conducting official pilot tests to demonstrate the feasibility of the main option under consideration and assessing international experience and in-country collection of baseline data; and
- Strategies for implementing reform: phasing-in of reforms in the face of weak infrastructure and weak institutional capacity.

Lessons learned so far indicate that the design and implementation of financing reform takes time, rigorous information, institutional capacity and multisectoral planning. These issues need to be taken seriously if undesirable effects of user fees are to be avoided. The following section presents the basic economics behind health care financing, particularly the market for health care, market failure and government versus private financing of services.

2.3. The economics of health care financing

Scarce societal resources are allocated in one of two ways, or a combination of both, with the ultimate objective of maximizing social welfare. These two ways are the market system and government policies and plans (Browning and Browning 1979). The economic principles of the market and the concept of market failure underpin different methods of financing health care (Donaldson and Gerard 1993). Therefore, a careful understanding of these issues is central to the debate on market or government intervention in the financing and provision of health care.

Much economic activity is organized through private markets in which competitive forces determine prices. These market determined prices are signals that guide resource allocation. A system that relies on prices determined in open markets to coordinate economic activities is generally referred to as a *price (market) system* (Browning and Browning 1979).

Markets are made up of the interaction of consumers on the demand side, and producers on the supply side. A market adjusts supply and demand using price signals, thus allowing for the exchange of goods and services between consumers and producers without the need for government intervention. In a perfect market situation, producers and consumers are satisfied by the resultant exchange and distribution; at the given market price producers are able to sell

all that they want (so maximizing their profit) and consumers are able to purchase all they wish (so maximizing their utility) (Donaldson and Gerard 1993).

Thus, if the societal objective of utility maximization could be achieved through the market forces, it would be desirable to leave markets unfettered by government intervention (*ibid*). However, the market mechanism assumes that certain conditions will be met in order to produce an efficient allocation of resources. A Breakdown of these assumptions results in market failure rendering the market mechanism unable to produce ideal results, which may necessitate government intervention. The major causes of market failure are discussed below (an exposition of these issues could be found in any textbook of micro-economics, e.g. Koutsoyiannis (1979) and Lipsey (1979)).

- **Public goods**

The concept of public good does not necessarily refer to a good or service that is provided by the government. Instead, it refers to a good or service that has two characteristics, regardless of whether or not the government produces it. These two characteristics are *non-rivalness in consumption* and *non-excludability*. A good or service has non-rivalness in consumption when, with a given level of production, consumption by one person need not diminish the quantity consumed by anyone else. The second characteristic, non-exclusion, means that it is impossible, or prohibitively costly, to confine the benefits of the good or service (once produced) to selected persons. As examples of a public good in the health sector, environmental improvement measures for the control of malaria and health education through the mass media may be cited.

The existence of public goods creates problems for the market mechanism. Once a public good is produced, a number of people will automatically benefit, regardless of whether or not they pay for it (because they cannot be excluded). This leads to the *free-rider* problem and it is unlikely that the good or service will be provided by the market, or if provided through the contribution of a few, it will not be provided in sufficient quantities. Government financing of a public good with taxes overcomes one aspect of the free-rider problem, the tendency of people to withhold payment.

- **Externalities**

Sometimes in the production, distribution or consumption of certain goods, there are harmful (negative externalities) or beneficial (positive externalities) side-effects that are borne by people who are not directly involved in the market exchanges. Immunization against infectious diseases is an example of a consumption activity with external benefits. When a person is inoculated, s/he benefits directly, because her/his chance of contracting the disease is minimized. The decision to be inoculated also confers benefits indirectly on others, because they are less likely to catch the disease as the immunization coverage expands.

Externalities lead to an inefficient allocation of resources, or market failure, just as public goods do. Market demands and supplies will reflect only the benefits and costs of the participants in the market; the benefits and costs that fall on others will not be taken into account in determining production. For example, a person may decide against being immunized because the improvement in her/his health is not worth the cost involved. If, however, the benefits of the improved health for others are added to her/his benefit, the combined benefit could exceed the cost. In this case, her/his decision not to be immunized would represent an inefficient allocation of resources. Left to the market alone, in the presence of externalities and public goods, some goods or services will not be produced at all and some will be produced in inappropriate amounts.

- **lack or asymmetry of information**

In contrast to other commodities, health care consumers (patients) have little idea of the effectiveness, quality or the consequences of having or not having treatment. There is an asymmetry of information, leading to an unusual relationship between producers and consumers in health care. The clinician is consulted and functions as an agent on behalf of the patient. Thus, demand for health care is often initiated by the supplier. An obvious danger of this is that consumers may be exploited: depending on the price of health care, and the method used to pay for it, clinicians may stand to benefit from generating demand for their own services (termed *supplier-induced demand*).

- **Merit goods**

Merit goods are those which, due to imperfect knowledge, individuals would choose to consume too little. Health care may in some instances be a merit good. For example, the mentally-ill may not recognize their need for health care, while the unconscious or minors are unable to make “*rational*” decisions (Culyer 1971, Drummond and Mooney 1982). In such cases, the government should intervene to encourage consumption.

- **Risk and Uncertainty**

The need for health care is hard to predict. It follows that one can not plan one’s future consumption of health care in the way that one could do for commodities like food. Costs associated with illness are also uncertain and often large. To cope with this problem of risk and uncertainty, the insurance mechanism has been developed. If health insurance is left to the market, problems of *moral hazard* (both consumer and provider) and *adverse selection* may occur. Consumer moral hazard arises because being insured reduces the financial costs of treatment at the point of consumption. This diminishes the incentive to adopt a healthy life style. Provider moral hazard may lead to supplier-induced demand and consequent exploitation of the consumer. With adverse selection, the private insurance markets may not cover those considered “bad” risks. Some form of state intervention is therefore essential to ensure that these negative side-effects do not occur (Donaldson and Gerard 1993).

- **Competition and barriers to market entry**

The health care market is not conducive to competition as a number of barriers to entry exist. While restrictions on entry to the health professions has the stated intention of maintaining standards of practice, it effectively reduces supply which tends to increase costs. Patenting regulations for pharmaceuticals also have the same effect.

- **Economies of scale and monopolies**

There are significant economies of scale in certain health services such as hospital services and the production of pharmaceuticals. The existence of economies of scale can result in the creation of a monopoly or oligopoly with the consequence of having the power to set prices.

- **Summary**

The extent of health care market failure, in conjunction with equity issues, warrants some form of government intervention. It should, however, be understood that market inefficiency does not imply that government will do any better. The above arguments do not necessarily imply that in the face of market failure, government should provide health services. Government's role could be confined to financing and regulating services.

Having established that some level of government intervention is inevitable and unavoidable in health care, it then becomes important to consider the mix between the two ways of resource allocation: Private (market) versus Public (government).

2.4. User fees as an option for health financing

2.4.1. Introduction

Most African countries have been largely providing and financing health services from the public purse since their independence. However, with tightening economic conditions and increase in the burden of disease, there has been an upsurge of interest in methods of financing health services from sources other than the public purse. User fees are one of the alternative ways of health care financing that have received increased attention.

The proponents of user fees argue that in addition to revenue generation, user fees can also enhance equity, efficiency (Vogel 1988) and community involvement and empowerment (UNICEF 1989). The counter-argument is that fees affordable to most Africans will not generate significant revenue, and that the administrative costs may exceed revenue. Moreover, user charges seriously reduce access to health care, with important negative effects on health status (Creese 1991). To substantiate this, specific country examples where an increase in fees at government health centers led to a decline in the use of services are cited (For example, Waddington and Enyimayew 1989, Mwabu *et al.* 1995).

By and large, in countries grappling with macro-economic adjustment, the prospect for an increase in health spending financed by higher allocation from tax revenue is likely to remain limited. Therefore the need for cost-sharing through user fees or other methods is beyond question. However, to attain the set goals of a particular financing policy, issues of design,

implementation and monitoring and evaluation need to be addressed carefully. The discussion that follows highlights these issues.

2.4.2. Design and implementation of a user fee policy

To achieve the espoused benefits of user fees while avoiding the adverse effects, the following issues need to be considered thoroughly:

- **Clear goals and objectives**

In designing a user fee policy, it is essential to have explicit goals which are specific to the country circumstances. Consensus on the goals and objectives needs to be established among relevant ministries, health personnel, interest groups and the public (Leighton 1996).

- **Grouping services to be subject to user fees**

One method of classifying services is in terms of categories, namely, *curative care*, *patient-related preventive services* and *non-patient-related preventive services* (de Ferranti 1985). As discussed in the previous sections, most non-patient-related preventive services such as vector control and health education fall into the category of *public goods*. User fees for these services may therefore be ruled out on the grounds of both efficiency and practicality. For patient-related preventive services, user fees would be feasible. However, patient-related preventive services such as immunization have significant positive externalities, which need to be taken into account in fee setting. They must either be provided free or at subsidized price. User fees are feasible with curative services which may have externalities which are less extensive (*ibid*).

- **Determining fee levels and structure**

A decision must be made on how much to charge and what method to use (fee per visit, fee per episode, *etc*). The fee should be administratively simple and affordable for the majority of the population. It must also give signals for efficient use of services and resources, that is, it must provide some incentives for patients to seek care initially at the primary level. For example, fees at higher levels can be reduced or waived for those who have been referred. Moreover, fees at higher levels of care should be set relatively high (Nolan and Turbat 1995). In setting reasonable fee levels, data on consumer demand (ability and willingness to pay, and use of service for various income, demographic and geographic groups) and cost is required (Leighton 1996).

Economic theory stipulates that, in a market system, price should be set at a level equal to the marginal cost (Creese 1991). This would aim at full cost recovery. However, given the inefficiency that is inherent in the public health sectors of developing countries, marginal cost pricing may not be feasible (*ibid*).

Finally, there should be a built-in mechanism whereby fee levels can be adjusted periodically to keep pace with inflation. This policy is most likely to be useful if price changes are a routine administrative, rather than a political, act (Creese and Kutzin 1995).

- **Exemption / waiver rules**

Clear, easily administered eligibility criteria for exemptions should be decided upon and updated periodically. In doing this, the effectiveness of exemption and waiver mechanisms already in place should be evaluated. In addition, data on the demographic profile, income levels and health status of groups that would benefit from the exemptions / waivers should be obtained so as to design an effective rule (Leighton 1996).

- **Fee retention**

A decision must be made about the retention and distribution of fee revenue. It must clearly be stated whether fee revenue will be retained at the point of collection, whether part of it goes to other levels of the health system (e.g. the district or province) or the whole of it goes to the central treasury (*ibid*).

- **Use of fee revenue**

Guidelines as to how and for what purpose the fee revenue is to be used must also be issued. This may include allowing partial or full facility discretion. Data on expected revenue, costs for quality improvements and current needs are required to establish these guidelines.

- **Phasing of implementation**

Implementing the policy on a small scale, where it is most likely to succeed, is the best way to begin. Consensus must be reached as to whether phasing will be done by type of facility and / or geographic area. The starting point depends upon a number of factors, of which the following aspects are important: administrative feasibility, costs, equity and effectiveness (Griffin 1988, Leighton 1996).

- **Public information**

Users of health care tend to be far more receptive to paying fees when they understand the nature and level of the charges. An information campaign launched before introducing or raising fees can facilitate this process by explaining why changes are necessary and how the system will work. At a more basic level, posting simple pricing structures for outpatient services in clearly visible places at clinics and hospitals can promote public understanding and participation. An information campaign should also be conducted for all health personnel, key interest groups and stakeholders.

- **Monitoring and evaluation**

Systems to assess the impact of reforms on the population, facilities, the health sector and the goals of equity, efficiency, quality and sustainability must be established and capacity to evaluate findings developed. Monitoring and evaluation tools should be simple and useable.

- **Financial management**

Efficient collection and administration of fees is necessary for the success of the program. The concerned staff need to be given training in financial management, billing, etc.. A transparent financial management system ensures that revenues are safeguarded and used for intended purposes.

- **Quality improvement**

Since patients need value for their money, quality improvements must be achieved and sustained. It is good to establish quality assurance mechanisms. Routine monitoring of quality must be undertaken and corrective actions taken where necessary.

2.4.3. Effect of user fees

Any decision on policy reform should always be expected to have two types of consequences. The first type is varying degrees of attainment of the expected outcome of that decision, and the second is the range of indirect effects that accompany it. The different effects of a user fee policy are explained below:

- **Effect on efficiency**

The World Bank's policy paper on health financing (Akin *et al.* 1987) suggested several mechanisms for improving efficiency in the health sector by charging fees. It stated that by sending the appropriate price signals, fees would encourage appropriate use of first contact and referral facilities and reduce unnecessary use of services. Furthermore, where user fees are in place in a facility, exemptions for specific services such as prenatal care or tuberculosis treatment, could encourage consumption of these important services. It was also suggested that providers will be cost-conscious and thus limit practices such as the over-prescription of drugs (Creese and Kutzin 1995). The available information, however, shows that the existence of fees has not increased the utilization of free preventive services nor has it encouraged providers to be restrained in their supply of services (*ibid*).

- **Effect on equity**

The potential for better targeting of subsidies to the poor, hence for improved equity, is enormous under a user fee system if fees are reduced or forsaken for the poor (Griffin 1988). Because 60-80 percent of public funds are absorbed by urban, hospital based care, it is often the middle class and the rich, not the poor, who benefit most from the services. The imposition of fees makes it possible for governments to generate revenue to extend appropriate services to the under-served. The charging of appropriate fees to the rich also removes much of the unfair subsidy inherent in free care (Akin *et al.* 1987). However, evidence regarding the effect of fees on access to services is less positive. In most cases, user fees have had negative consequences for equity because income-related exemption measures have proved difficult to implement (Creese and Kutzin 1995, Gilson *et al.* 1995).

- **Effect on utilization**

A financing system that places a heavy burden on users of health services will adversely affect access to health services and restrain utilization (McIntyre and Khosa 1996). Higher prices can have three different effects on health facility utilization (Weaver 1995): patients will avoid seeking care, will delay seeking care or make fewer visits, or will seek care from alternative private and public facilities.

A number of studies have shown that an increase in fees was followed by a drop in utilization (for example, Yoder 1989, Mwabu *et al.* 1995, Waddington and Enyimayew 1989). To date,

there are no studies that have examined the impact of increasing or imposing user fees on the health status of the population.

The effects of user fee schemes on utilization may be negative or positive depending on how they are designed and implemented. The design and implementation processes need to be monitored continuously so as to achieve better outcomes and to avoid irreversible negative effects. The discussion that follows will highlight the basics of user fee policy evaluation.

2.4.4. Evaluating a user fee policy

Health care reforms may be evaluated for their impact on efficiency and equity, and in terms of the content, context and processes that influence the impact (Gilson and Mills 1995). Types of questions that need to be addressed when evaluating health sector reform are described in Table 2.2.

Table 2.2: Evaluative questions in health sector reform

Issue	Evaluative questions
IMPACT efficiency equity	Have reforms: 1. influenced provider behavior (e.g., referral practice, treatment choice)? 2. influenced user behavior (e.g., reduced 'frivolous' use, achieved more appropriate use of the referral system)? 3. influenced managerial practice? 4. influenced the degree of accountability of providers/managers exercised by health care users/the wider community? and so, 5. influenced the pattern of service provision (e.g., balance primary/tertiary care; packages of care offered at different levels of the health system, especially primary)? 6. contributed to lower costs for the same quality, or is an increase in cost justified by proportional/greater increase in quality? Have reforms: 1. influenced the pattern of health care utilization by different population groups? 2. improved services by extending coverage and/or improving quality? 3. had an impact on perceived quality? 4. ensured access to information among the population? 5. influenced the distribution of the payment burden between population groups? 6. protected the poor/the most vulnerable from payment? 7. influenced the extent of accountability over providers/managers exercised by health care users/the wider community? This evaluation should specifically consider: * the difference between socio-economic groups or appropriate proxies such as geographical areas; * the change in their situation as a result of reform; * the impact on the public sector relative to the private sector.
FACTORS INFLUENCING IMPACT content context actors process	1. what were the objectives of the reform? 2. what were the elements of the reform? • what incentives are inherent in the reform? • what management mechanisms are part of the reform? 3. what complementary policies were packaged with the reform, e.g. resource re-allocation mechanisms? 4. what steps were taken to address weaknesses in institutional capacity as part of the reform? 1. what were the policy relevant features of • the national economic and political situation? • the national health profile, system and policies? • the national environment and culture 2. how did these features influence the range of feasible reforms and their content? 3. how did the influences of these varying features interact? 4. how did these features influence the interest and role of actors concerned with the policy? 1. who were the policy-relevant actors at different stages of the reform process? 2. what interests did they have in the reform? 3. how strong was their influence? 4. how did they influence the various stages of reform? 5. what were their mechanisms of influence? Did the process of the reform: 1. allow for debate? 2. establish and implement the preconditions necessary for reform before reform implementation? 3. allow for experimentation?

Source: Gilson and Mills (1995)

The above mentioned questions form a model of policy analysis that offers a more comprehensive framework for thinking about health reform rather than approaches which concentrate purely on the technical features of the content of the reform. An understanding of this analytical model enables us to have a better understanding of health policy reform and to plan for more effective implementation.

In summary, African countries are said to have considerable experience with user fees. Presently, almost all have launched cost-sharing schemes of one type or another, which in some instances are new, and in others mere revisions of schemes previously in place. In any case, to avoid the potential adverse effects of cost-sharing schemes, necessary precautions should be taken in the design and implementation stages. Furthermore, sensitive monitoring and evaluation instruments need to be put in place to identify problems and reverse any untoward effects as early as possible.

In the next part, background information on the study country will be discussed. This will include user fee policy-relevant macro-issues such as the economy, socio-demography, epidemiological profile and historical and geographical features of the country.

3. PROFILE OF THE STUDY AREA

3.1. Brief historical background

Like all African states, Eritrea came into being during the European colonial period. Prior to this time, a number of different peoples occupied present-day Eritrea though none controlled the entire area. Eritrea's modern history began when Italy reduced it to an oppressed, dominated and colonized nation. the following chronology describes important landmarks in its history (Ministry of Trade and Industry /Asmara Chamber of Commerce 1995, Cliffe and Davidson 1988).

- 1869-1890: All of the area now known as Eritrea was gradually united under Italian rule. On 1 January 1890, Italy declared its occupied territory to be a colony in East Africa. They named it *Eritrea*.
- 1890-1941: Italy established an administrative structure and transport and communication network in Eritrea.
- 1941-1952: During World War II, the British defeated the Italians and established a protectorate over Eritrea
- 1952: Eritrea was federated with Ethiopia by UN resolution as an autonomous state.
- 1961: The armed struggle for independence began.
- 1962: Ethiopia's emperor, Haile Selassie I, forcefully annexed Eritrea and abrogated the UN resolution of 1950 which had federated the country to Ethiopia as an autonomous entity.
- 1991: The Eritrean Peoples' Liberation Front liberated the country in May and established the provisional government of Eritrea.
- 1993: Following an internationally supervised referendum, Eritrea was declared an independent and sovereign nation in May 20, 1993.

3.2. Geography

Eritrea is located in what is commonly called the Horn of Africa, between latitudes 12 degrees 42' N and 18 degrees 2' N and longitudes 36 degrees 30' E to 43 degrees 20'E. It is bounded by the Sudan to the North and West, the Red Sea to the East, Ethiopia to the South and the Republic of Djibouti to the Southeast.

The country has a surface area of about 124,000 square kilometers. It has four distinct physiographic regions, namely the central highlands, western lowlands, eastern lowlands and coastal lands, with average elevations above sea level of about 2000,1000,500 and below 500 meters respectively. Temperatures vary chiefly with altitude. The mean annual temperature ranges from a low of 16 degrees centigrade in the highlands to a high of 30 degrees centigrade in the eastern lowlands (*ibid*). These features have important implications for its epidemiological profile. Eritrea is now divided into six administrative zones and 55 sub-zones (MOH 1996a).

3.3. Economy

At independence, the Eritrean government inherited an economy not only characterized by a devastated infrastructure and lack of capital, but also an economy which was hard-hit by the adverse impact of central planning during the period of the Marxist Military Government of Ethiopia in 1974-91. To reverse the situation, the first step that the government took was to formulate a macro-economic policy that guides all economic activities. The macro-economic policy provides for (Government of the State of Eritrea 1994):

1. a transition to a market economy;
2. the introduction of a liberal trade policy;
3. a central role for the private sector as the engine of growth; and
4. a sustainable investment in human resource development.

Its per capita GDP, presently estimated at about US\$160-190 (World Bank 1997) places it among the poorest countries in SSA. The economic performance of the country for the years 1992-96 can be observed from Tables 3.1 and 3.2.

Table 3.1: Eritrea : GDP by sector, 1992-96 (in millions of Birr*)

Sector	1992	1993	1994	1995	1996
Agriculture	508.4	277.4	489.1	390.9	371.7
Industry	340.0	451.2	579.1	792.2	1043.6
Distribution services	601.4	952.5	1273.6	1375.3	1525.5
Other services**	319.3	501.7	697.4	938.5	862.4
GDP at current factor cost	1769.0	2182.7	3039.1	3496.8	3803.3
GDP at constant factor cost	1769.0	1724.1	1893.0	1949.0	2080.7

Source: IMF (1997)

* Birr is the Ethiopian currency currently in use in Eritrea. Birr 7.20=US\$1. A new Eritrean currency known as "Nacfa" will be in circulation soon.

** includes financial services, dwellings and domestic services, public administration and services and others

**Table 3.2: Sectoral composition of GDP at current factor cost 1992-96
(percentage of GDP)**

Sector	1992	1993	1994	1995	1996
Agriculture	28.7	12.7	16.1	11.2	9.8
Industry	19.2	20.7	19.1	22.7	27.4
Distribution services	34.0	43.6	41.9	39.3	40.1
Other services	18.0	23.0	22.9	26.8	22.7

Source: *ibid*

The share of agriculture in the GDP has fallen dramatically over the years, where as those of Industry and distribution services increased significantly. This would imply that over the years, the import of food grains has been on the increase. Eritrea has about 3.2 million hectares of land, 26 percent of its total area, which is suitable for agricultural use. So far only 10 percent is under cultivation. Along its 1,000 kilometer coast line, there is said to exist the potential for catching 60-70,000 tons of fish per annum (Asmara Chamber of Commerce 1995).

Overall, the economy has thrived since 1994, with a persistent real GDP growth. A real GDP growth of 7 percent was recorded in 1996. During the same period, the rate of increase in inflation decreased significantly compared to the year before. In Asmara, the capital city, there was an inflation increase of about 3.4 percentage points in 1996 as compared with 11 percentage points in 1995. Moreover, the government has implemented significant structural reforms such as decontrol of most prices, including foreign exchange, privatization and civil service reform.

3.4. Demographic profile

The population of Eritrea is estimated to be about 2.6 million. Approximately 85 percent is a rural population engaged predominantly in agriculture and pastoralism. The distribution of the population in the six administrative zones is as depicted in Table 3.3.

Table 3.3: Zonal distribution of population

Zone	Number	Percentage
Debubawi Keih Bahri	243,301	9.3
Semenawi Keih Bahri	350,209	13.3
Anseba	395,209	15.1
Gash-Barka	513,977	19.6
Debub	630,027	24.0
Maekel	491,566	18.7
Total	2,624,479	100.0

Source: MOH (1996a)

The socio-demographic indicators of the country are similar to those of other countries in Sub-Saharan Africa (SSA). In fact they are worse when compared to the averages of SSA. Table 3.4 below indicates the value of selected indicators of the country in juxtaposition with the respective averages for SSA.

Table 3.4: Eritrea and SSA: selected vital statistics

Indicator	Eritrea	Sub-Saharan Africa
Crude birth rate per 1000	48	45
Crude death rate per 1000	18	15
Rate of natural increase (percent)	3.0	3.0
Infant mortality rate per 1000 live births	135	104
Under-five mortality rate per 1000	203	175
Maternal mortality rate per 100,000 live births	710	700
Life expectancy at birth	46	49/52 (M/F)
Total fertility rate	6.9	6.5
Adult literacy rate (percent)	20	50

Source: MOH (1996a), World Bank (1994a, 1997)

The indicators above demonstrate that the socio-demographic and health status of the population is in an unfavorable state and indicate the enormity of the task ahead to improve the health status of the Eritrean population.

3.5. Health Profile

3.5.1. Health situation

As can be inferred from the discussion on the demographic profile, the health status of the Eritrean population (as measured by the conventional parameters such as the life expectancy, and the various mortality rates) is one of the worst in Sub-Saharan Africa. As in the rest of the region, there is a high prevalence of “*diseases of poverty*”. The commonest health problems accounting for a greater proportion of the burden of disease are infectious and parasitic diseases, nutritional disorders and perinatal and maternal conditions. The pattern of morbidity is evident from Tables 3.5 and 3.6. These data are based on reported institutional statistics.

Table 3.5: Eritrea : leading causes of outpatient morbidity, 1995

Diagnosis	Number	Percent
Acute upper respiratory tract infections	92,980	13.0
Malaria	81,183	11.3
Diseases of skin and subcutaneous tissue	65,632	9.2
Diarrhea, all forms	63,125	8.8
Infection of the eye including trachoma	29,832	4.2
Pneumonia	25,692	3.6
Gastritis and Duodenitis	21,838	3.1
Dental caries and other diseases of the teeth	21,522	3.0
Acute bronchitis and acute bronchiolitis	20,278	2.8
Anemias	18,989	2.7
Influenza	18,421	2.6
Otitis media and other diseases of the middle ear and mastoid	16,974	2.4
Injuries	15,861	2.2
Diseases of the urinary system	15,303	2.1
Tuberculosis, all forms	14,693	2.1
Total (all causes)	713,396	100.0

Source: MOH (1996a)

The above mentioned diseases make up nearly three-quarters of all causes of outpatient morbidity. It is evident that diseases that are amenable to primary care strategies dominate the pattern of morbidity. The burden of disease, as measured by potential years of life lost (PYLL), indicates a predominance of perinatal and maternal conditions, infectious diseases including AIDS and malnutrition (see Table 3.6). Diseases like malaria and tuberculosis are still responsible for a significant proportion of hospital deaths. The burden imposed by AIDS is also not to be underestimated.

Table 3.6: Eritrea: Burden of disease

Cause of death	Percentage PYLL
Perinatal/Maternal	24.9
Diarrhea	16.9
Pneumonia	11.3
Tuberculosis	6.9
Malaria	5.4
Measles	4.3
AIDS	2.6
Protein-calorie malnutrition	2.2
Cardio-vascular diseases	1.6
Injury	0.6
Subtotal	76.8
All other causes	23.2
Grand total	100.0

Source: Shaw (1997)

Diseases which are responsive to less costly preventive and promotive care seem to be taking a heavy toll of life. This obviously has a bearing on decisions of resource allocation, where a shift of emphasis is required away from the traditional medical model to holistic primary care interventions.

3.5.2. Health policy and strategic health sector plan

The Government of the State of Eritrea (GSE) has issued a clear policy framework for the health sector in its macro-economic policy decreed in November 1994. The macro-objectives of the health sector as stipulated in the document are (GSE 1994):

1. to reduce and eventually eliminate deaths from easily controllable diseases; and
2. to enhance awareness of good health practices in order to improve the productivity of the work-force.

Achievement of these broad objectives is intended to be attained through the following strategies (*ibid*):

1. Basic health services will be made available to both the urban and rural populations. Priority will be given to Primary Health Care and immunization programs.
2. Major health hazards will be given special attention for containment and control.
3. The private sector will actively participate in the provision of health services following rules, regulations and operational modalities provided by the Ministry of Health.
4. Community and beneficiary contribution in financing health services will be promoted.
5. National insurance schemes will be introduced.
6. Information dissemination on healthy practices will be actively promoted.

The more detailed health policy revolves around the principles of Primary Health Care which include community involvement, intersectoral collaboration, decentralization, efficiency and equity. It emphasizes the need for designing a practicable cost-recovery system that will ensure the sustainability of the health care system as well as its accessibility to those who need it most.

The country has formulated a ten-year strategic health sector plan covering the period 1994-2003 (MOH 1996b). It is envisaged that at the end of the plan period, Eritrea will have a fully

functional health care system based on PHC principles. The following measurable targets have been set for the planning horizon:

- Strengthening health worker training institutions to produce the required health human resources in the desired quantity and quality.
- Institution of a sound and fully functional financing plan that includes a system of user charges and the initiation of social health insurance.
- Establishing a drug manufacturing plant and supply all levels of health facilities with drugs appropriately and adequately in line with the standards established by the MOH.
- Promulgate relevant health legislation such as one on private practice.
- Improvements in the health status indicators:
 - reduction in infant mortality rate to 60 per 1000 from its baseline level of 135 per 1000.
 - reduction in child mortality rate from 203 per 1000 to 150 per 1000.
 - increase in life expectancy to 55 years from its level of 45 years.
- Improvements in service provision and coverage:
 - coverage of antenatal and child immunization services will reach 80 percent.
 - All health service units will provide EPI services for children under-two and pregnant women.
 - prevalence of malaria among 90 percent of the population at risk will be reduced to levels below 50 percent.
 - prevalence of blindness will be reduced from a rate of 15 per 1000 to 10 per 1000.
 - pit latrines will be available in 80 percent of rural households.
 - 3000 hand-dug wells will be set up to provide safe water for the rural population.
 - health services will be made available to 80 percent of the population by the end of the plan period.

The capital budget required for the entire plan period is estimated to be Birr 300 million at 1994 constant prices. It is proposed that 50 percent, 30 percent and 20 percent will be financed by government, external assistance and communities respectively. A gap is said to exist between the level of recurrent financing implied in the plan and resources available from

government and external resources. To bridge this gap, an increase in user charges is regarded as an option.

3.5.3. Health financing and expenditure

Currently total expenditure on health care is estimated to amount to 4 percent of the GDP. The per capita expenditure on health is estimated at approximately US\$ 6.40 (World Bank 1997). This includes both private and public expenditure. The health sector's share of the government's current and capital expenditure for the years 1992-96 is presented in Table 3.7.

Table 3.7: Government expenditure on health, 1992-96

Year	Current expenditure (millions of Birr)	Percent of total government current expenditure	Capital expenditure on health (millions of Birr)	Percent of total government expenditure
1992	11.0	1.7	0.2	0.2
1993	18.2	1.6	18.1	4.0
1994	35.1	2.3	13.5	3.0
1995	75.3	3.5	35.5	6.5
1996	56.0	3.0	87.7	10.5

Source: adapted from IMF (1997)

From Table 3.7, it can be seen that in the period 1992-96, the recurrent and capital expenditures on health had an average annual growth rate of about 50.2 and 357.6 percent respectively. However, it is also seen that the recurrent expenditure dramatically decreased in 1996 as compared to 1995. The ratio the recurrent and capital expenditure decreased from 55:1 to 0.63:1, which implies an increase in the construction and maintenance of health facilities.

About 90 percent of the recurrent health expenditure from all sources was spent on curative services, which is the highest in Eastern Africa (see Table 3.8). It was a meager amount that was allocated to community-based and preventive services.

Table 3.8: Health care expenditure by type of intervention(percent)

Country	Community-based	Preventive	Curative	Total
Eritrea	1.3	8.3	90.4	100.0
Ethiopia	8.5	13.0	78.5	100.0
Kenya	7.9	15.5	76.6	100.0
Tanzania	6.7	15.4	77.9	100.0
Uganda	13.4	24.5	62.1	100.0
East Africa	8.1	15.3	76.6	100.0

Source: Shaw (1997)

As is the case in many other countries in Sub-Saharan Africa, Eritrea embarked upon a new cost sharing scheme at all levels of government health facilities in February 1996. In fact, a token fee was charged in all government health facilities for a long time prior to 1996. So, the launching of the new scheme could be regarded as update of a scheme which was already in place to match the new realities of the health sector and the macro-economy at large.

The health financing option designed for implementing the cost-sharing scheme was the levying of user fees, with a long term plan of introducing some form of health insurance. The proposed user fee scheme was motivated by the increasing burden of financing that fell on the government as a result of providing free or subsidized health care. Furthermore, it was also meant to create public awareness of the costs that the government incurred in financing services and wipe out attitudes of dependency that a system of free health care is likely to cause (MOH 1995a).

User fees graduated according to the level of the health facility have been implemented. The fees were also designed to discriminate between people who use the referral system and those who do not, the latter paying a bypass charge. Flat fees inclusive of all costs of care are levied at the health station and health center levels. At the level of a hospital, however, the registration and consultation fees do not include costs of treatment and diagnostic tests (*ibid*).

Fees are intended to recoup 50 percent and 70-75 percent of the recurrent expenditure at the zonal and national referral hospitals respectively (MOH 1996a). Fee rates levied for the various levels are presented in Table 3.9.

Table 3.9: Level and structure of user fees

Item	Health station	Health center	Sub-zone hospital	Zone hospital	Tertiary hospital
Registration and consultation (without referral)	3.00	5.00	10.00	11.00	16.00
Registration and consultation (with referral)	-	-	5.00	6.00	7.00
Inpatient hotel costs per day (without referral)	-	1.00	19.00	19.00	19.00
Inpatient hotel costs per day (with referral)	-	-	9.50	9.50	9.50
Private wing, hotel costs per day	-	-	-	33.00	33.00

Source: MOH (1995b)

At the level of the health station and health center, the flat rate of Birr 3 and 5 respectively are inclusive of registration and consultation, treatment and where available, of laboratory services at the health center level. A one time payment entitles the client to a free care for a month regardless of the episode of illness. This also holds for the registration and consultation fee at the higher levels.

In the hospitals, fees are levied for investigations (laboratory, X-ray etc.), procedures (operations, delivery etc.) and drugs over and above the registration and consultation fees cited above. Fees for laboratory and X-ray services were set on the basis of costs of consumable items (chemical reagents, film etc.) and did not include labor and capital costs (depreciation of equipment, building).

The policy has provided for exemptions and waivers for the following :

1. Exempt diseases:

- tuberculosis
- leprosy
- sexually transmitted diseases (STDs)
- mental illnesses

2. Exempt services:

- immunization
- maternal and child health care
- health education
- emergency care for the first 24 hours

3. Waiver:

People who are unable to pay are given free access to care after being screened by the local administration and presenting to the health facility a waiver certificate indicating that they are indigent. Applications for the certificate are made during the time of sickness. The future plan is that the bills of those who obtained free care because of inability to pay will be sent to the local administration that issued the waiver certificate for settlement.

Civil servants and members of the armed forces and their families are allowed to obtain care on a credit basis, which later will be paid by periodic deductions from their monthly salary through their respective employers.

3.5.4. Health services, resources and utilization

3.5.4.1. Services and facilities

Organizationally the Ministry of Health is structured in such a way that its role at the national level is limited to that of advisory functions and policy formulation. With the government's political and administrative decentralization, the burden of leadership at the zonal level is entrusted to the zone health department.

The Eritrean health delivery system is five-tiered and consists of the following in ascending order of level of care:

- community health service
- health station
- health center
- zone hospital
- referral and specialized hospital

Table 3.10 indicates the number of the various levels of health facilities at the time of liberation and in 1996.

Table 3.10: Number of health facilities at time of liberation and in 1996

Facility type	Number at liberation	Number in 1996
Government hospital	15	17
Private hospital	2	3
Government health center	21	43
Private health center	1	5
Government health station	57	117
Private health station	15	28

Source: MOH (1996a).

The above table shows a significant expansion in all types of facilities, especially health stations and health centers. The number of beds in 1996 was 3,024, which is a 27 percent increase from the level at the time of liberation. The current level of beds gives a population to bed ratio of 868, which is more or less similar to an average of 900 for Sub-Saharan Africa.

In 1996 there were 244 retail drug outlets (pharmacy, drug shop and rural drug vendor shop) in the country. The private-for-profit sector is largely dominated by the drug outlets. The number of full-time private-for-profit health facilities is negligible. Most clinics are run by clinicians who are employed full time in the government health sector and who are moonlighting in the private sector.

3.5.4.2. Access to and utilization of services

As is true for countries at a similar developmental stage access to primary care and utilization of services is very limited. Table 3.11 presents a comparison of various access and utilization measures between Eritrea and SSA.

**Table 3.11: Access to various health and health-related services:
Eritrea versus Sub-Saharan Africa**

Indicator	Eritrea ¹	SSA ²
Access to primary care (percent)	46.0	54.0
Access to safe water (percent)	8.0	37.0
Access to sanitation facilities	14.0	26.0
Immunization per 100 children under one	34.0	45.0
Contraceptive prevalence rate (percent)	4.0	11.0

Source: ¹ MOH (1996a), World Bank (1997)² World Bank (1994b)

Service utilization statistics for 1996 indicate that there were 1,258,796 first time outpatient visits all over the country yielding a per capita number of visits of 0.48. Utilization of various services for the years 1994-96 is shown in Table 3.12.

Table 3.12: Health service utilization measures, 1994-96

Utilisation measure	1994	1995	1996
Outpatient visit, first time	1,401,550	1,426,024	1,258,796
Number of discharges	56,681	69,461	64,377
Average length of stay (days)	10.8	8.4	8.9
Antenatals, first visit	49,653	49,763	46,213
Deliveries attended	15,605	19,442	20,975
Children under-five examined, first time	140,569	148,757	181,169
Family planning, first visit	17,565	17,223	19,261
Children under-one immunized	n.a. ¹	23,254	33,998
Women 15-49 years immunized	29,158	40,267	58,904
Growth monitoring, first and subsequent visits	158,780	173,691	216,230
Laboratory tests performed	410,193	629,181	611,075
X-ray tests performed	35,825	31,202	47,438
Surgical operations, major and minor	9,705	8,833	9,253

Source: SEMISH, 1994/5/6

¹ not available

It can be seen from Table 12 that all of the preventive health services except antenatal care increased in 1996 as compared with 1994. Of the curative services, first time outpatient visits and number of surgical operations performed showed a decrease.

3.5.4.3. Health personnel

Eritrea faces a critical shortage of personnel. The population to physician ratio in 1996 was 25,000. This is about three times the ratio for Sub-Saharan Africa, which for the years 1995-90 was in the order of 9,000. Similarly the population to nurse ratio was 12,000 while the corresponding figure for Sub-Saharan Africa was 2,000. Numbers of staff in the different categories are presented in Table 3.13.

Table 3.13: Number of selected categories of health personnel, 1996

Category	Number
Physician	107
Nurse	579
Health assistant	1,134
Pharmacist	15
Technician ¹	163

Source: MOH (1996a)

¹ includes laboratory and X-ray technicians

There is a high concentration of health workers in the capital city Asmara, where there is also a high concentration of health facilities. This is a legacy of the colonial times which the government is trying to address by diverting its focus to the under-served rural areas.

To cope with the demand for health workers, training has been intensified. Thus the number of middle and low-level health workers currently being produced at home is by far greater than what it used to be during the colonial times.

3.6. Summary

In this section, the country's health sector profile and factors impinging on health and the health sector were presented. This will form the necessary framework for the analysis of the user fee policy. In the following sections (sections 4 and 5), the methodology used in the study and the results of the research will be presented.

4. Methodology

4.1. Data sources

Data for this study are obtained both from primary and secondary sources. Secondary data are used in analyzing the formulation of the policy, its implementation and potential implications for revenue generation, equity and efficiency. These data are obtained from various health policy and planning documents of the MOH and publications of multilateral organizations such as The World Bank and International Monetary Fund. Moreover, facility utilization statistics for the country as a whole and three health facilities in Asmara, the national capital city, namely the national referral hospital (Mekane Hiwot), a health center (Semenawi Asmara) and a health station (Godaif), were reviewed to examine changes in utilization that might have resulted from the increase in user fees. The three facilities were those at which primary data were also collected (see section 4.3). Financial statistics obtained from the MOH's finance division and the finance sections of the selected health facilities are used for analysis of the revenue generation and administrative issues surrounding the collection of revenue.

Primary data were collected from consumers, service providers and managers. These included exit interviews with outpatients, interviews with inpatients and in-depth interviews with key informants.

4.2. Instruments and techniques of data collection

4.2.1. Structured interview schedule for outpatient interviews

Two types of structured interview schedules were designed to collect data from consumers. One type was used for outpatient exit interviews (see Appendix A). The schedule was pre-tested in the target group and circulated among colleagues to assess clarity and to identify issues that might have been overlooked.

The interview schedule consisted of four sections. The first section was a note to the interviewee explaining the purpose of the study, highlighting the fact that the views of the consumer are of paramount importance in policy design and revision, and assuring respondents that confidentiality was guaranteed. The second part included questions related to the socio-demographic characteristics of the patient. Part three dealt with questions relating to illness and health service utilization and part four addressed matters related to fees and exemptions.

It was administered by interviewers who had previous experience in interviewing for health-related surveys. They were given a thorough explanation of the questions and procedures to be followed in conducting the interviews. Patients or caretakers, if a patient was under-fifteen, were then approached at exit from the health facility. The outpatient exit poll was only conducted at the national referral hospital and the health center.

4.2.2. Schedule for inpatient interviews

The schedule for inpatient interviews was similar to that for outpatients except for some changes in the questions asked to reflect the fact that the patients were still in the system and had not yet gone through the fee payment (or waiver) process (see appendix A).

4.2.3. Provider Questionnaire

A questionnaire was used to collect information from health professionals of different categories and levels and from support staff. The questionnaire had three parts. Part one was a note explaining the aim of the study and an appeal for cooperation. Part two included questions about the respondent and part three focused on questions related to the user fee policy (see appendix A). User fee policy related questions that were asked ranged from awareness of policy objectives and appropriateness of policy to perceptible effects of the scheme encountered in practice so far.

After pre-testing and circulating it among colleagues and concerned officials it was distributed to a sample of health professionals in the national referral hospital and the selected health center by the investigator and then collected at a later date.

4.2.4. Unstructured interview guide

An unstructured interview guide was used in eliciting responses from key informants including both providers and consumers. Key informants from the provider side included administrators, heads and staff of finance and statistics sections. Issues concerning policy implementation such as financial performance, utilization of services, problems encountered and promising results obtained were discussed. In-depth interviews were also conducted with consumers who were considered key informants by the investigator. The criterion for selecting individuals was solely based on their approachability as judged by the researcher.

4.3. Sampling

Data to complement secondary sources were collected in the capital city Asmara, where there is a concentration of facilities. Three health facilities of different levels were included in the study: the central referral hospital, a health center and health station.

The central referral hospital was purposively included because of its high volume of work, contribution to fee revenue and consumption of resources. Semenawi Asmara health center and Godaif health station were selected by simple random sampling among a total of five health centers and fourteen health stations. Only utilization statistics and financial information were gathered from the health station, and no interviews were conducted there.

A small sample size was used, due to the sensitivity of the user fee issue which made interviewing people very difficult, coupled with time constraints. Hence it is desirable to interpret findings with caution. However, it is worth noting that responses obtained during pretest of the interview schedules in the target respondent population were found to be more or less similar to those in the main study. Hence the marginal benefit of increasing the sample size might not have been very great.

The different categories studied included:

- 150 outpatients, of which 100 patients were from the hospital and 50 from the health center.
- 50 hospital inpatients

Exit interviews were done over a period of five days, Monday through Friday, to capture any day-to-day variations, if any. The total number was evenly distributed over the five days. Patients with a prescription paper or drugs during exit were candidates for interview. Patients who still had to return for their laboratory or X-ray examinations or to collect test results were not included for they were still within the system.

Because of the absence of a sampling frame, systematic sampling could not be used. Whoever was found leaving the health facility was approached and asked to participate in the study as a respondent. As it is well stated in the section on limitations of the study, because of the suspicion that people had, some did not volunteer. This will obviously introduce biases in the responses which again need to be viewed critically.

Selection of inpatients was done by means of stratified random sampling. The hospital was first stratified by its clinical departments: medical, surgical, pediatric, obstetric and gynecological departments. Then the number of patients to be included from each clinical department was made proportional to the bed numbers. If by chance a selected bed was found to be unoccupied, the nearest patient was taken as a substitute.

Fifty health workers and support staff were selected for the study. This included 41 from the hospital and 9 from the health center. At the health center, all staff who were at work during the day of questionnaire administration were included, whereas 41 workers were selected from the various clinical departments of the hospital. To select the 41 health workers, numbers of workers in each clinical department during the questionnaire administration were taken and stratified by professional group. Then respondents were selected randomly. The number of each professional group included in the sample was proportional to its number on that particular date. All providers who were requested to complete the questionnaire did so willingly. There was no problem of non-response.

4.4. Techniques of data analysis

Qualitative and quantitative analyses of data were done. The design and implementation of the policy was evaluated using a policy analysis framework (Walt and Gilson, 1994). This involved analysis of the content, context and process of policy design and the various stakeholders or actors. The effects of the user fee policy to date were assessed using the following criteria (WHO 1993, Kutzin 1995b): revenue generation potential, equity, efficiency, quality of services and utilization effects.

Quantitative data analysis was done using the Epi Info (version 6.0) and Micro TSP software packages. Descriptive statistics such as the mean and standard deviation, proportions, charts and tables were used. A linear trend model with a dummy variable demarcating the period *before* and *after* the implementation of the user fees policy was fitted to test for statistical significance of the changes in facility utilization pre- and post-implementation of the new user fee scheme. Moreover, various measures of hospital performance such as the bed occupancy rate, average length of stay and bed turnover rate were also computed to identify any changes that might have occurred since implementing the policy.

5. Results

In this part of the report, the findings of the study will be presented in sections and subsections. Findings will be presented without interpreting them extensively as that will be done in section 6, the discussion section.

5.1. Situational analysis

From the discussion on the profile of the study area (see section 3), the following pertinent inferences can be made:

- **Geography**

The geographical features of the country are indicative of the diversity in its epidemiological profile. Tropical diseases such as malaria are rampant in the physiographic regions classified as lowlands as compared with the highlands whose altitude is over 2000 meters. The distribution pattern of diseases among different regions of the country has enormous implications with respect to decisions on resource allocation.

- **Economy**

In recent years, the country's economy has persistently attained remarkable rates of real GDP growth, which is promising. However, it should be noted that the base year value of the GDP is small, and therefore, large rates of growth will not bring about a substantial change in the absolute value of the GDP in the foreseeable future.

Based on the information in Table 3.1, the average annual rate of growth of the real GDP for the years 1992-96 is computed to be 4 percent. Assuming that this growth rate can be maintained, and given a base year per capita GDP of US\$ 160-190 in 1996, projections indicate that the per capita GDP will reach a level of US\$ 195-230 at the end of five years and US\$ 240-280 at the end of ten years. This issue should be taken into account when setting fees for public sector health services.

The government's macro-economic policy facilitates the development of the market mechanism and the proliferation of the private sector, which of course, is conducive for the development of the private health care sector. Development of the private health care sector within the framework of the government's policy guidelines will expectedly ameliorate the

burden of financing and providing health care that the government is currently shouldering. This may also affect the operational efficiency of the public health sector positively. But a clear regulation is required in this aspect, as growth of the private sector can adversely impact on public sector services (e.g. drain skilled staff from the public sector). The government's macro-economic policy is to be welcomed as it is a step forward in improving the supply of health care.

Tables 3.1 and 3.2 have indicated that there was a dramatic fall in the contribution of agriculture to the GDP between 1992 and 1996. Its contribution decreased from Birr 508.4 million in 1992 to Birr 371.7 million in 1996. Given the fact that agriculture is the means of livelihood of the rural population, it warrants attention with respect to mobilizing health care resources including finance. The reciprocal link between dwindling income levels and health is well established. Therefore extreme care should be taken in implementing user fees or other forms of community-based financing of health services in areas where the means of livelihood is predominantly agricultural activity. Possibilities for geographical price discrimination or exemption/waiver need to be explored and exercised.

- **Demography**

High rates of fertility and mortality, and a low life expectancy highlight the fact that the task ahead to improve the health status of the Eritrean population is formidable, and hence there is a dire need for resources. Furthermore, with the current natural rate of increase, the population is expected to double in a time period of one generation. This signals the need for steadily increasing resources in the years to come. The population density is low, although, there are regional differences. This may to some extent have a negative bearing on the efficiency of resource use if the focus is entirely on providing institution-based services - economies of scale may be foregone.

- **Health profile**

The causes of morbidity and mortality are those typical of less developed countries, which are responsive to primary care strategies. This raises the need for concern about allocative efficiency. The allocation of resources should shift away from the tertiary and other high level facilities and programs to more cost-effective interventions. Reallocation of resources in this

direction is likely to bring about increased access/coverage, and to decrease the costs that patients incur to obtain health care. This will have implications for the outcomes and acceptability of user fees. When people incur fewer costs (e.g. transportation costs, waiting time, etc.), the acceptability of the user fee scheme is likely to be increased.

The health policy of the country is based on the principles of PHC. However, the litmus test for the level of commitment to PHC remains the will power to divert resources to those cost-effective interventions needed by the vast majority of the population. The achievements since independence (see later discussion) seem to reflect high levels of commitment to these principles. This is likely to address issues of efficiency and equity which of course are also the very objectives of any form of financing policy, including user fees.

The health policy has also made provision for the growth and development of the private sector in health care, within the framework of the macroeconomic policy which was discussed earlier. The policy and ten-year strategic plan of the health sector, recognizing the shortfalls in resources required, have clearly indicated the need for cost sharing.

Expenditure on health care, which at present is about 4 percent of the GDP, is typical of that in sub-Saharan Africa and other developing countries. Given a per capita GDP of US\$ 160-190, the per capita expenditure on health would be in the range of US\$ 6.4 - 7.6, which is about half of what is recommended by the World Bank (1994) to provide a cost-effective package of health services in low income countries.

After independence, the MOH's concern has been the establishment of lower-level cost-effective facilities and programs. This can be seen from Table 3.10 which indicates that the number of health stations and health centers, both governmental and non-governmental, has more than doubled since independence, whereas the increase in the higher level facilities was marginal. However, for this endeavor to achieve the overall health policy goals, the need to channel the recurrent resources accordingly is indispensable. Table 3.8 shows that an overwhelmingly greater proportion of health care expenditure is currently allocated to curative care. The intensification of the training of middle- and low-level health workers could also be regarded as an adjunct to the moves towards pursuing cost-effective strategies.

Access to health and health-related amenities is low. Utilization of services deemed to be cost-effective (e.g. immunization, family planning) is low. A per capita annual outpatient utilization of 0.48 visits is very low by all standards, and is only 19.2 percent of the 2.5 visits per capita recommended for low-income countries (Gish 1990). This could partly be a result of low coverage of health services, and probably also demand-side factors, of which financial accessibility could be a possibility. However, this remains to be explored in the forthcoming sections.

In summary, the country's profile highlights the following:

- There is a high burden of disease (BOD), which is predominantly related to *diseases of poverty*.
- There seems to be slight evidence of an epidemiological transition, in the sense that the BOD also includes such conditions as cardio-vascular diseases and injuries.
- There is a major resource gap that has to be bridged if improvements in health status, which are also stipulated in the strategic health sector plan, are to be achieved.
- The resource gap cannot be shouldered by the government alone, even if the goal is only to reach a level of US\$ 13 recommended for a basic package of cost-effective interventions. Hence, there is a need for some kind of cost sharing.
- There is a high level of government commitment to PHC as evidenced by: the focus on the development of lower level cost-effective facilities and a dramatic increase in health services coverage in the short period since independence; the focus on the needs of the overwhelming majority of the population living in rural areas thus redressing the inequity inherited from the colonial period; and the decentralization of decision making which also paves the way for the attainment of both allocative and operational efficiency.

With this analysis of the existing situation as a background, the user fee policy design and implementation issues will be examined in the following sections.

5.2. Analysis of the policy formulation: Process, Content, Context and Actors

The new user fee policy for health care which this study aims to evaluate was introduced in February 1996. At the hospital and health center levels, and even some health stations, this may not be regarded as a new introduction. In fact, it is a revision of a system that existed for a long time without being monitored and evaluated for its costs and benefits. In this section,

the new policy will be analyzed in terms of its content, context, process, actors and potential implications for efficiency and equity.

5.2.1. Content

5.2.1.1. Objectives of the policy

In the Eritrean user fee policy, the following are the implied objectives of the scheme as inferred from the documents reviewed:

- “to upgrade the overall medical services” (Eritrea Profile newspaper 1996).
- “recoup some of the costs of health care since the government is incurring substantial costs in providing free health care” (MOH 1995a).
- “To sensitize the public to appreciate the fact that free health services are actually paid for by the government and avoid the spirit of dependency” (*ibid*).

When asked what the major objective of the user fee policy in Eritrea is, the majority of the 50 health professional and support staff respondents in the provider survey said that it was improving the quality of services. The responses are presented in Table 5.1.

Table 5.1: Respondents’ views of user fee policy objectives

Response	Number	Percent
Improve quality	20	40.0
Improve accessibility in under-served areas	12	24.0
Generate revenue	8	16.0
Improve health status	8	16.0
Others	2	4.0
Total	50	100.0

The above responses reflect the respondents’ personal views. When asked whether or not they knew the officially stated user fee policy objectives, 50 percent (25/50) said that they did not know what the policy is aiming to achieve.

5.2.1.2. Level and structure of fees

Fees are charged per visit. The registration and consultation fees are graduated according to the level of health facility, and discriminate between referred and non-referred patients. The inpatient hotel charges, however, are not differentiated by level of hospital.

Assuming a strict referral system, if the entry point facility is taken as a health station, then a patient who will be referred hierarchically to the highest tertiary hospital is charged for registration and consultation a sum which is greater than or at best equal to a patient who has bypassed. This can be discerned from Table 5.2.

Table 5.2: Fees paid by referred and bypassing patients

Entry facility	level	Total fee paid if referred to (if bypassing)			
		Health center	Sub-zone hospital	Zone hospital	Tertiary hospital
Health station		8.00 (5.00)	13.00 (10.00)	19.00 (11.00)	26.00 (16.00)
Health center		-	10.00 (10.00)	16.00 (11.00)	23.00 (16.00)
Sub-zone hospital		-	-	16.00 (11.00)	23.00 (16.00)
Zone hospital		-	-	-	18.00 (16.00)

As can be seen from the above fee schedule, if there is a need for a higher level of care, then a patient who starts at the appropriate facility and goes to the higher ones via the referral chain, is likely to be penalized for his compliance. If the non-fee monetary and non-monetary costs (e.g. transport costs, time costs and delays) are added to the fees, the costs borne by patients complying with the rules become relatively high.

Out of the 100 outpatients surveyed at the central referral hospital, 70 percent bypassed the nearby health stations and health centers and sought care directly at the highest level. Another point worth-noting about the structure and level of fees relates to the inpatient hotel costs charged per day at the sub-zone, zone and tertiary hospitals. The rate is the same across-the-board.

The Price-setting for different services did not have uniformity. Sections within the same department (e.g. laboratory) had different techniques of costing their services (MOH 1995b).

The fee schedule does not discriminate between demographic groups. Children under-five, except for preventive services such as immunization, are not entitled to care at discounted fee

per visit, or fees for diagnostic services are all the same for an adult or a child. The schedule also does not make provision for different geographical regions.

With regard to the levels of fees, though the prices were low as compared to the actual costs of producing the services, the extent of the increase over the previous fee levels was very high, as can be observed from the following table.

Table 5.3: Comparison of fee levels

Service	Previous fee level	Fee proposed in policy	Percentage increase
Registration and consultation at the referral hospital			
with referral	2.00	7.00	250.0
without referral	2.00	16.00	700.0
Inpatient (per day), referral hospital			
with referral	1.50	9.50	533.3
without referral	1.50	19.00	1,166.7
Health center	1.00 - 2.00	5.00	150.0 - 400.0
Health station	none	3.00	-

Source: MOH (1995a, 1995b)

From the above Table it can be seen that most of the consultation and inpatient prices have increased more than three-fold. The increase in the price of diagnostic tests was, however, relatively small.

5.2.1.3. Exemptions and waivers

The policy includes exemptions for services such as child immunization and antenatal care, and diseases such as TB and STDs. Most of the conditions in the official exemptions list were also recommended by the health professionals surveyed. Their responses also included chronic diseases requiring a protracted period of treatment. The complete responses are presented in Table 5.4.

Table 5.4: Conditions for exemption as mentioned by sampled respondents

Condition for exemption	Number	Percent
Tuberculosis ¹	35	21.5
Diabetes mellitus	35	21.5
Hypertension	26	15.9
STDs including HIV/AIDS ¹	20	12.3
Malaria	12	7.4
Asthma	7	4.3
Psychoses ¹	7	4.3
Diarrheal diseases	7	4.3
Any emergency condition	7	4.3
Epilepsy	5	3.1
Malnutrition	2	1.2
Total	163 ²	100.1 ³

¹ included in the four conditions exempted

² because of more than one response

³ because of rounding-off

Table 5.4 indicates that, of the chronic conditions, hypertension and diabetes mellitus are given prominence. These are not included in the exempt conditions list in the policy.

Children under-five and sick expectant mothers are not entitled to free or discounted price curative care. Responses in the provider survey to the question “*which demographic groups need to be exempted?*” showed concern about these groups and the aged. Table 5.5 presents the responses.

Table 5.5: Demographic groups for exemption

Demographic group	Number of responses	Percent
Children under-five	30	31.9
Aged people	28	29.8
Pregnant women	23	24.5
Health workers and their dependents	10	10.6
Students	3	3.2
Total	94 ¹	100.0

¹ because of more than one response

The policy does not exempt old people, but the respondent health professionals and support staff have put a relatively high weight on the provision of free care to the old. What is more interesting and contrary to the current practice of delivering free health care to health professionals, the respondents have attached a relatively low weight to such exemptions.

According to the waiver system stated in the health financing policy guideline, people who are unable to pay are required to present a certificate from their local administrative bodies stating

that they are indigent in order to get a waiver from payment. It is, furthermore, stated that the local administration that issued the waiver certificate will be responsible for settling the bills.

Interviews with key informants at the hospital, health center and health station surveyed revealed that some times people who apparently are poor and unable to pay, seek care in the facilities without having an ‘indigency certificate’. This is said to cause problems to the health workers and administrators. Some have mentioned that the workers sometimes, out of a caring concern, personally pay for the patients while at times administrators/heads of facilities do grant them a waiver.

To the question “*which socio-economic groups must get fee waivers*” the surveyed workers responses were as follows:

Table 5.6: Socio-economic groups to be granted fee waivers

Socio-economic group	Number of respondents	Percent
Poor	32	56.1
Unemployed	8	14.0
Daily laborers	8	14.0
Farmers without oxen	5	8.8
Factory workers	3	5.3
Housemaids	1	1.8
Total	57	100.0

The above responses categorize those who should be entitled to fee waivers by income (though not explicitly stated), employment status and occupation.

5.2.1.4. Fee retention

The policy, does not have an explicit stance on retention. However, at present the whole fee revenue collected is transferred to the Ministry of Finance. About 54 percent (27/50) of the surveyed health workers said that the facility should not retain the fee revenue collected. Of those who were of the opinion that fees should be retained, the majority (two-thirds) said that a maximum of 30 percent should be kept at the collecting facility. They recommended that retained fees be used for the purchase of drugs, linens, improving the quality of food for inpatients and other consumable items.

5.2.2. Context

The policy was formulated against a background of a macro-economic policy which fosters the development of the market system and with explicit statements about cost sharing in health care. A policy of administrative decentralization was also contemplated at the national level, thus making it easier for adopting decentralization within the health system which may also create a favorable organizational environment for administering the user fee policy.

On the other hand, the number of health facilities, particularly those at the primary level, has been increasing rapidly. The demand for recurrent costs by the growing number of facilities is high and may be burdensome to the government, thus making it desirable to introduce a cost-sharing scheme to assure sustainability of services.

The economy has been growing in real terms over the past few years. This too, creates a favorable climate for setting fees. However, it was noted that agricultural production was declining.

5.2.3. Process of policy formulation, implementation and actors

The policy was publicized in the mass media before its implementation according to interviews conducted with the relevant authorities in both the electronic and print media. However, whether or not there was adequate coverage cannot be inferred from the available information.

The minutes of the policy drafting committee indicate that information was disseminated among health workers, staff of local government bodies, local assemblies and other government organizations. What is striking is that of the 50 health workers surveyed, 70 percent stated that they were not informed about its formulation.

As to the actors in the policy formulation, it is not possible to infer from the accessible documents whether all stakeholders had an input or not. Of the surveyed workers, however, 6 percent (3/50) said that they were consulted about it.

Prior to implementation, necessary material and human resources were made available to the facilities. Cash collectors were hired and safe-boxes made available to safeguard the collected revenue until it is transferred to the local treasury office. Furthermore, on-going training of

concerned staff was conducted on issues related to financial management and other accounting procedures.

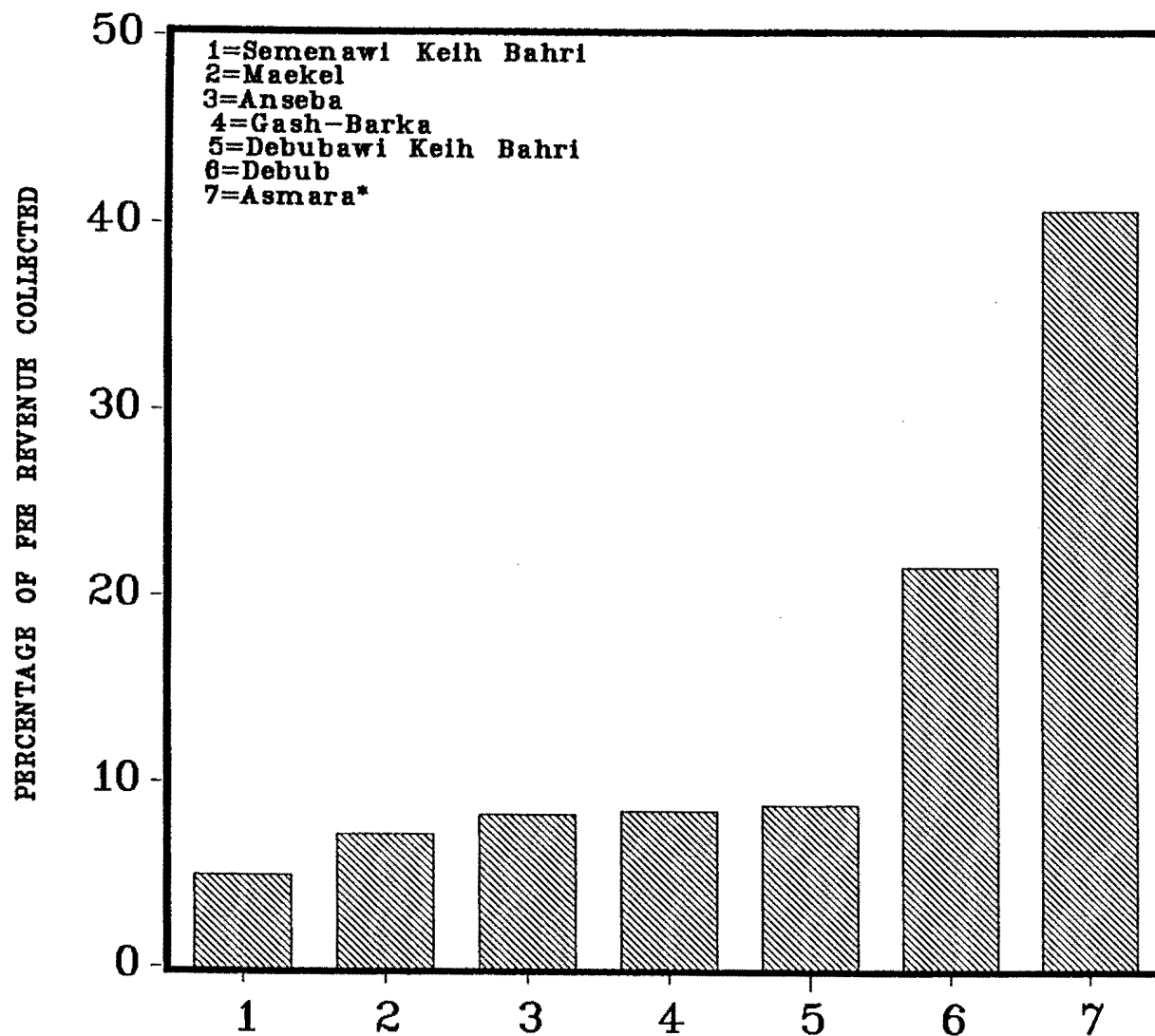
5.3. Effect of User fees

5.3.1. Revenue generation

In 1996, fee revenue of Birr 8,340,811 was collected in all MOH health facilities. The actual government recurrent expenditure for the same period was Birr 58,242,030 giving a cost-recovery ratio of 14.3 percent. The target for revenue collection for 1996 was around 10 million Birr. The actual collection represents an 83 percent achievement of target. The fee revenue collected in 1995 was Birr 3 million, and the target for 1997 is in the order of Birr 11-12 million. In 1993, with levels of fee which were not updated, Birr one million fee revenue was collected. This represented a 6 percent cost-recovery ratio (World Bank 1994b).

Most of the revenue collected in 1996 was from hospitals, particularly those tertiary level referral hospitals located in the capital city. The revenue collection for 1996 disaggregated by zone is presented in Figure 2. A lion's share of the revenue (40.7 percent) is collected by the tertiary referral hospitals in the capital city, Asmara. Asmara is located in Maekel zone. However, in figure 2 only the tertiary referral hospitals are included in "Asmara" for they are meant to serve the whole population of the country. The country's largest central referral hospital, Mekane Hiwot, accounted for about 31 percent of the total revenue collected in 1996.

Figure 2: Zonal distribution of fee revenue collected in 1996 (percentages)



* located in Maekel Zone; however, the tertiary referral hospitals are meant to serve the whole country

Reviewing the revenue generation in the health facilities selected for detailed study will provide a better understanding of the situation at the micro level. Mekane Hiwot hospital recouped about 41 percent of its recurrent costs in 1996. Table 5.7 presents the performance for the years 1994-July 1997.

Table 5.7: Revenue, expenditure and cost-recovery of Mekane Hiwot hospital, 1994-97

Year	Fee revenue in Birr (a)	Recurrent expenditure in Birr (b) ¹	Cost-recovery ratio (Percentage) (c), $c = a/b$	non-salary recurrent costs (d)	Partial cost-recovery ratio (e) $e = a/d$
1994	1,064,989	4,688,569	22.7	1,404,947	75.8
1995	1,254,176	5,889,347	21.3	1,439,551	87.1
1996	2,542,887	6,235,300	40.8	1,461,897	173.9
1997 ²	2,142,274	3,451,402	62.1	n.a	n.a.

Source: Mekane Hiwot hospital finance division

¹ recurrent costs are actual, not budgeted

² only for six months

n.a. = not available

The hospital's cost-recovery ratio has increased dramatically after the introduction of the new user fee scheme in 1996. Cost-recovery ratios with the non-staff recurrent costs as a base are high, as can be seen in the above table, because personnel costs account for a high proportion (well above 70 percent) of the hospital recurrent expenditure.

In the health center and the health station studied, revenue generated for the period 1996- July 1997 was as follows:

Table 5.8: Fee revenue for Semenawi Asmara health center and Godaif health station

Year	Fee revenue collected in Birr	
	Semenawi Asmara health center	Godaif health station
1996 ¹	24,905	8,900
1997 ²	30,635	11,100

Source: respective health facilities

¹ for ten months

² seven months for the health center and eight months for the health station

The table above shows that performance in fee revenue collection is high in 1997 as compared to 1996, the year when updated fee levels were introduced. In 1996, the mean monthly collection of fee for the health center and the health station respectively was Birr 2,491 (SD = 719) and Birr 890 (SD = 386). In contrast, for the first half of 1997, it was Birr 4,377 (SD = 781) for the health center, and Birr 1,388 (SD = 195).

Revenue collection for 1996 in the various health facilities in Asmara and Hamassien provinces (before the new administrative restructuring) indicates a very high variation. The high-performer health stations reported revenue collection of more than Birr 15,000, while the low-performers reported an amount of less than Birr 1,000 in 1996. For the health centers, the high and low figures were in the order of Birr 32,000 and Birr 20,000 respectively. Table 5.9 presents some of the high and low figures in revenue collection in Asmara and Hamassien provinces in 1996.

Table 5.9: Fee revenue collected, Asmara and Hamassien provinces, 1996

Name of health facility	Fee revenue collected in Birr
Edaga Hamus health center	31,955
Mekerka health center	27,966
Felege Hiwot health center	20,483
Mai Temenai health station	16,347
Nefasit health station	15,474
Mai Habar health station	4,354
Semenawi Anseba health station	650
Shiketi health station	1,713

Source: Finance Section, Maekel Zone Health Department.

The cost-recovery ratio in the health centers and health stations in the two provinces cannot be calculated due to lack of necessary data. The expenditure statistics kept at the zonal office lacks some vital information such as expenditure on drugs, and therefore, underestimates the actual expenditure. Also, for the two primary care facilities studied in detail it is not possible to calculate the cost-recovery ratio for the same reasons. They get their supplies, including drugs, from the zonal health department, where separate expenditure statistics for each facility are not available.

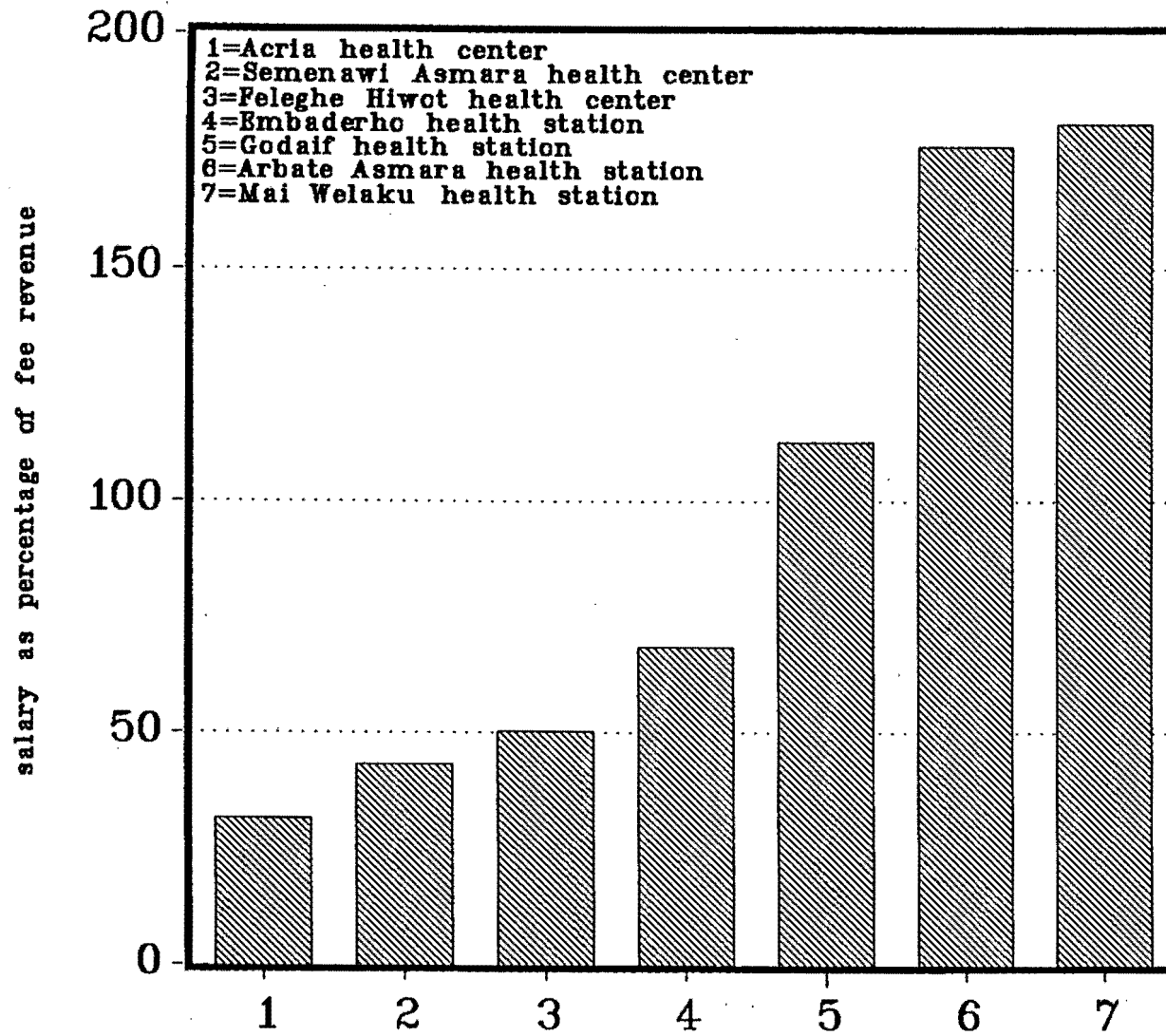
Crude estimations, however, can be made because statistics on expenditure on personnel are available. Experience tells us that salaries account for 60-75 percent of the recurrent expenditure of health facilities in developing countries (World Bank 1994a). Therefore, assuming that salaries accounted for two-thirds of the recurrent expenditure in 1996, a cost-recovery ratio of 12 percent is obtained for the MOH owned primary care facilities in Asmara - a figure which is below the national average figure. A partial cost-recovery ratio (fee revenue as percentage of non-salary recurrent expenditure) will be 35.2 percent.

In 1996-97, there were 188 cash collectors in the health facilities all over the country with a total annual salary bill of Birr 764,784 (a salary of Birr 339 per month per cash collector). The cost of stationery, receipt tickets and other supplies necessary for the fee collection was Birr 216,000 (personal communication, head of finance). The salary bill of the cash collectors alone accounted for 11.8 percent of the fee revenue collected during the year. If the newly proposed salary scale of Birr 859.00 per month is taken into account, the salary bill amounts to 25.8 percent of the collected fee revenue. However, it has to be noted that there is a short fall in the number of cash collectors. In 1996, the number of health stations, health centers and hospitals was 158, 43, and 15 respectively. Thus the present number of collectors represented about 87 percent of the required number.

When the scheme is fully in place, each health station and health center will require at least one cash collector. Figure 3 indicates that, without taking account of expenditure on stationery and other items directly related with fee collection, the fee revenue collected in some of the health stations cannot even cover the salary of the cash collector. For 1996 and 1997, taking the aggregate for all health stations and health centers in Maekel and Hammassien provinces (before new administrative restructuring) we get the following figures for cash collectors' salaries as percentage of the fee revenue collected (using the newly proposed salary scale):

- Health stations, 1996 :122.5 percent - which means revenue collected was short of collectors' salaries.
- Health centers, 1996: 39.1 percent
- Health stations in Maekel zone, January - June 1997: 68.9 percent
- Health centers in Maekel zone, January - June 1997: 42.1 percent

Figure 3: cash collector's salary as percentage fee revenue in 1986,
selected primary care facilities (salary=Birr 10,308 per annum)



The process of fee collection in the primary care facilities is simple. Patients' registration and collection of cash are made all at the same place. A receipt that is prepared centrally by the Ministry of Finance is issued to the patient by the cash collector. The receipt number is recorded on the patient's clinical card for counter-checking by the clinician.

At the central hospital, patients may have to pay at more than one station if they have diagnostic investigations. After paying for the registration and consultation, they pay in the laboratory and X-ray departments if diagnostic examinations are ordered. There are cash collectors assigned to each department. Inpatients pay a deposit of Birr 100-400 depending on their cases and class of ward (first class or ordinary class) that they are admitted to. On discharge from the hospital, they settle the bill. In cases of short-fall, they are made to pay the difference, and if the deposit is greater than the actual bill, they get a refund. The receipt issuing process followed in the outpatients department is followed here too.

Some times a problem is said to arise in the collection of fees from inpatients when the bill is more than the amount of money that the patient has deposited on admission. It is reported that there are times when patients say that they don't have money to pay for the difference. This poses critical problems of judgment to the hospital management where at times it has to write-off the debt. The problem is said to be on the increase, though the actual magnitude is not stated in figures (personal communication, hospital administrator).

For people obtaining care with a "sick report", the bill is sent to the respective employing organization. The employer deducts the fee from the salary of the individual and sends it directly to the central treasury. The hospital is notified of the payments made to the treasury office by a letter from the employer.

The accounting procedures used are stringent and convenient for auditing. Each of the receipts issued to patients is recorded in a format specifically designed for user fee accounting. The information on the total revenue recorded, the range of receipt numbers issued to patients and a copy of each receipt is sent to the treasury with a written notice of transfer.

5.3.2. Effect on efficiency

Data on the state of the referral system for the whole country is unavailable. The case of the central referral hospital indicates that, of the surveyed outpatients, only 27 percent came through the referral chain as compared with the majority who bypassed. The distribution on referral status for outpatients and inpatients at Mekane Hiwot hospital is presented in Table 5.10.

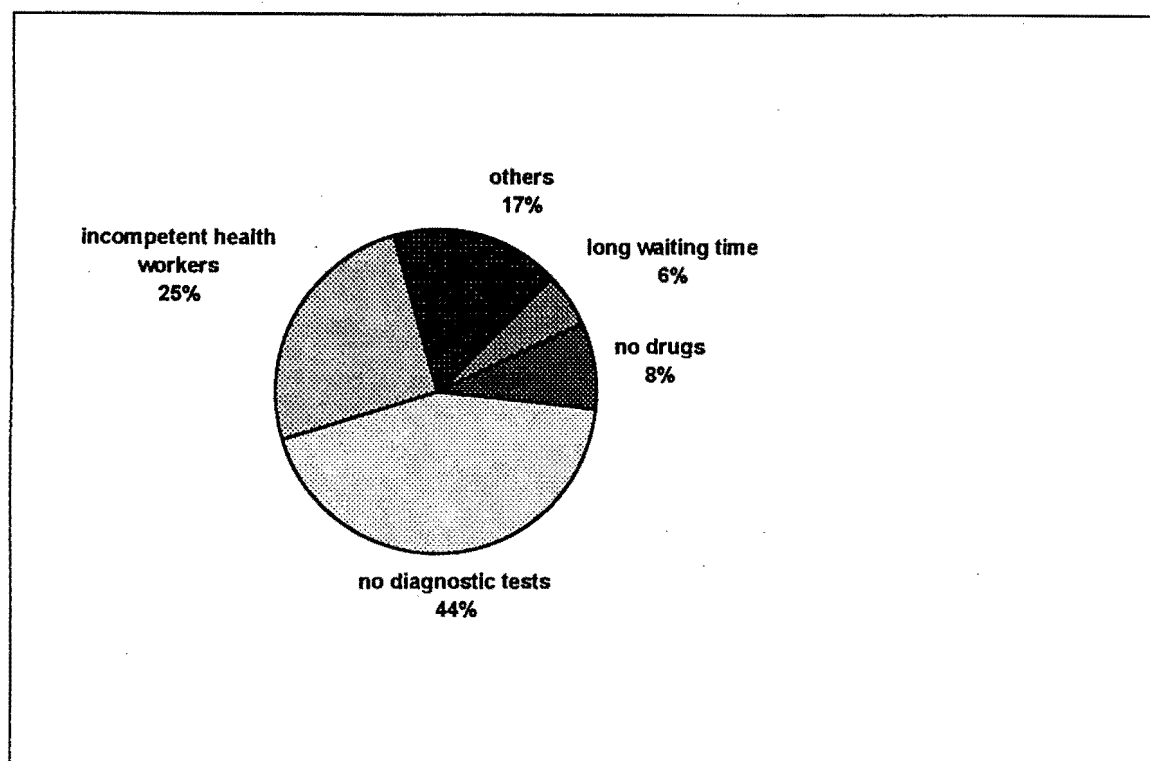
Table 5.10: Referral status of surveyed out- and inpatients, Mekane Hiwot hospital

Referral status	Outpatient		Inpatient	
	Number	Percent	Number	Percent
Referred	27	27.0	15	30.0
Not referred, live nearby	2	2.0	2	4.0
Not referred, bypassed	71	71.0	30	60.0
Not applicable	0	0.0	3	6.0
Total	100	100.0	50	50.0

The proportion of those who bypassed the lower level facilities and sought care at the tertiary hospital level for reportedly less serious health problems is sizable. The majority of the workers surveyed stated that there has not been an increase in the rate of referral since the revised fee structure was introduced. About 44 percent (22/50) responded that there was no remarkable increase in referral, as compared to 36 percent (18/50) who said there was an increase. The response of the remaining 20 percent (10/50) was in the category "I don't know". This finding is also reinforced by the hospital administrator's opinion that the problem of bypassing has not abated.

The exit interviews with outpatients indicate that out of the 71 patients who bypassed nearby primary level facilities, 93 percent gave reasons related to quality of services. The complete responses are presented in Figure 4.

Figure 4: Reasons for bypass



The majority of those under the response category “others” said that they did not know where to go first. Observations at the two primary care facilities surveyed showed that most of the patients encountered were mothers and children. The reasons for this, as suggested by some of the health workers and patients, were that these facilities used to be MCH clinics for a long time, and that some people are not aware that they are now polyclinics providing outpatient services for all and not only women and children.

Patients were referred to the tertiary level hospital from all levels of health institutions, including health stations, health centers and zone hospitals. None of the outpatients surveyed at the health center were referred from the lower level health stations.

The effect on provider behavior cannot be discerned clearly because payment of providers is not made on a fee-for-service basis. Providers are paid a fixed monthly salary. In the country as a whole, the service intensity for diagnostic tests has increased. In 1995, the number of laboratory and X-ray tests per patient was 0.42 and 0.02 respectively as compared with 0.46 and 0.04 after the new fee system. Whether this is a necessary increase or not cannot be discerned at this stage. However, it is unlikely to be due to motivation to increase revenue,

because clinicians are not paid on a fee-for-service or case-basis and the facilities are not retaining any of the fee revenue that they collect.

5.3.3. Effect on equity

To protect the economically vulnerable groups from the potentially adverse effects of user fees, the proper functioning of a waiver mechanism is indispensable. The equity implications will be discussed in relation to the health facilities surveyed in the capital city.

From the outpatients surveyed in the hospital, 26 percent did not make any on-the-spot out-of-pocket payment for the care they obtained. This included patients subject to exemptions, waivers and others, as presented in Table 5.11.

Table 5.11: Reasons for not making out-of-pocket payment

Reason	Number of respondents
Exemption	2
Waiver, has certificate	4
Waiver, has no certificate	2
Deductions from monthly salary	16
Others	2
Total	26

Patients eligible for a formal fee waiver (i.e. those with a certificate) represented 4 percent of all outpatients surveyed in the hospital. The fee waiver rate among the inpatients surveyed was 6 percent (3/50). The total rate for both out- and in-patients is 4.7 percent. In 1995, about 22 percent of patients in the hospital were said to have exemptions and waivers. The rate for 1996, however is not available. Waiver certificates are not accepted at the two primary care facilities.

Patients who got waiver certificates said that it took them 3-7 days to get it from the local administrative body, "Memhdar". In-depth interviews with patients have disclosed that the procedure of obtaining a waiver certificate is very strict. The above finding also reinforces this view of patients.

5.3.4. Effect on quality

To assess quality, various quality-of-service related questions were presented to all categories of respondents. Respondents were asked to rate the facility on particular features and then the overall quality on a scale that ranged from excellent to poor. The results are presented in Table 5.12.

Table 5.12: Perceived quality of service, Mekane Hiwot hospital (percentages)
(Inpatient, n=50; Outpatient, n=100)

Feature	Excellent		Good		Fair		Poor		Don't Know	
	OP	INP	OP	INP	OP	INP	OP	INP	OP	INP
Availability of drugs	6	14	21	50	-	14	2	6	71	16
Competence of staff	8	10	75	76	13	14	4	-	-	-
Attitude of staff to patients	10	4	63	70	23	20	4	6	-	-
Cleanliness	8	10	63	50	23	16	4	24	2	-
Condition of building	2	6	73	56	25	24	-	14	-	-
Availability of diagnostic services	10	20	46	50	13	-	4	-	27	30
Privacy during examination and treatment	29	20	54	56	7	18	6	-	4	6
Space between beds	n/a	-	n/a	70	n/a	20	n/a	10	n/a	-
Availability of linens and blankets	n/a	-	n/a	80	n/a	14	n/a	6	n/a	-
Availability and quality of food	n/a	4	n/a	50	n/a	24	n/a	6	n/a	16
Overall quality of service	8	-	73	84	17	16	2	-	-	-

n/a= not applicable

OP= Outpatient

Inp= Inpatient

- = none

The majority of inpatients and outpatients rated the various “*quality of care*” components as either excellent or good. However, when patients were asked to rate the waiting time at the hospital outpatients department, about 48 percent said it was too long or much too long. Only 21 percent of the health center respondents rated the waiting time as too long. It is expected that the majority of the outpatients would give the response “don’t know” with respect to drugs, because paying patients do not get drugs from the hospital pharmacy. They have to buy drugs from private pharmacies outside the hospital. About 92 percent of the respondents rated the overall quality of service at the health center as good or excellent, as compared with 81 percent for the hospital’s outpatient services and 84 percent for the inpatient services.

Less than half of the surveyed health professionals rated quality in both the hospital and the health center as good-to-excellent. With respect to the hospital, features rated as poor by a significant proportion of the respondents were: cleanliness of rooms, toilets, etc. (33.3 percent), building condition (40 percent), adequacy of bed space (36.7 percent), availability of adequate linen and blankets (33.3 percent) and availability and quality of food (30 percent).

The recommendation of most patients for quality improvement in the hospital was reducing the waiting time (29.2 percent). About 25 percent were of the opinion that quality was good and that they did not have any recommendation for further improvement. The corresponding figure for the health center patients was 62.1 percent. The prominent recommendations for quality improvement by the health center respondents were: reduce waiting time and increase the supply of drugs (10.3 percent each). However the magnitude of the problem of waiting time is not as large as it is in the hospital OPD.

On the inpatient side, areas recommended for improvement were: General cleanliness and condition of toilets (27.5 percent), repair of the building (17.2 percent) and staff attitude (17.2 percent). The workers' opinion about priorities for service upgrading is similar to that of inpatients. Major areas stressed were: quality of nursing care (26 percent), equipment and drugs (18 percent), staff-patient relationship (18 percent) and cleanliness and repair of building (18 percent).

Increasing fees without a commensurate increase in quality is a factor that counts against the acceptability and sustainability of a user fee scheme. Cognizant of this factor, the hospital did not charge the revised hotel costs. However, during the field work for this study, maintenance of the pediatric department was completed and the hospital started charging the new rate in the pediatric ward.

Quality improvements to potentially increase patients' willingness to pay. The reported willingness to pay (WTP) for the present quality of service obtained, and after quality improvements are made in the ways suggested by consumers, are presented in Table 5.13.

Table 5.13: WTP for services: with- and without quality improvement

service	WTP for present quality in Birr			WTP for improved quality in Birr		
	Mean (SD)	95 percent C.I.	n	Mean (SD)	95 percent C.I.	n
Hospital OPD-Registration and consultation	10.20 (6.20)	[8.90,11.50]	88	16.50 (9.90)	[14.30,18.70]	78
Hospital inpatient hotel charge per day	4.60 (2.80)	[3.70,5.50]	36	8.90 (5.60)	[7.00,10.80]	32
Health center outpatient fee	17.00 (16.90)	[12.20,21.80]	48	25.20 (4.35)	[18.30,32]	48

SD= standard deviation

n = number of responses

C.I.= confidence interval

For hospital outpatient registration and consultation, the if quality improvements mean WTP (with quality improvements as suggested by clients were achieved) was higher than the WTP for present services. However, the mean WTP with quality improvements is only roughly equal to what is presently charged to non-referred patients. The mean WTP of Birr 10.20 indicates that clients are not happy with paying the current fee of Birr 16.00. Given the present quality, the mean WTP for hospital hotel charges (Birr 4.60) is three times greater than what is being charged now for the “ordinary class” beds (note that the new fee level hasn’t been imposed here yet). The mean WTP for hotel charges with improved quality is about the same as the rate proposed in the policy for patients complying with the referral system. However, since most of the respondents are self-referred patients, their WTP does not coincide with the proposed level of Birr 19.00.

At the health center level, the mean WTP is more than threefold the current rate of Birr 5.00. The reason for WTP at the health center being more than that of the referral hospital is because the fee is inclusive of drugs and basic laboratory tests. With improved quality the mean WTP increased to Birr 25.20.

At this juncture it should be noted that willingness to pay does not necessarily imply ability to pay. While patients may value the service highly, they may not have the means to make the actual payments. Ability to pay (ATP) for the different services is far less than what patients are willing to pay. For example, the mean reported ATP for health center services was Birr 14.70. Only 25 percent of the respondents said that they are able to pay more than Birr 10.00.

5.3.5. Effect on utilization

The effect of user fees on utilization of services will be discussed in relation to the aggregate levels of out- and in-patient utilization for the whole country. Moreover, monthly utilization data obtained from Mekane Hiwot hospital and health centers and health stations in Asmara will also be analyzed using a linear trend model with a dummy variable added to it, to differentiate the period before and after implementation of the new fee policy. Effect on utilization by age and gender will also be examined to see if the policy had a differential effect on various demographic groups. Utilization of preventive services, for which there is no charge, will also be examined to see if fees had any effect on utilization of services with public health importance.

The 1995-96, outpatient statistics indicate that there was an overall decline in the utilization of outpatient services by about 3.4 percent. When disaggregated by different levels of care, the decrease was of a high magnitude in the referral hospitals. There was, however, an increase in the utilization of health station curative care services. The detailed data are presented in Table 5.14.

Table 5.14: Eritrea: in- and out-patient statistics, 1994-96

Outpatient Visits at:	1994	1995	1996	percentage change 1994-95	percentage change 1995-96	Average annual change 1994-96
Health station	1,338,576	1,542,567	1,594,469	15.2	3.4	9.1
Health center	587,410	675,712	632,893	15.0	-6.3	3.8
Hospitals, all	669,221	740,349	629,430	10.6	-15.0	-3.0
Referral hospitals	225,075	227,828	161,922	1.2	-28.9	-15.2
Other hospitals	444,146	512,521	467,508	15.4	-8.8	2.6
TOTAL	2,595,207	2,958,628	2,856,792	14.0	-3.4	3.2
INPATIENT						
Discharges, referral hospitals	24,782	26,317	21,419	6.2	-18.6	
Discharges, other hospitals	26,205	31,164	29,894	18.9	-13.7	
Discharges, health centers	9,057	11,980	12,701	32.3	6.0	
Total	60,044	69,461	64,014	15.7	-7.8	

Source: SEMISH, 1997

The above table shows that there was a decrease in aggregate facility utilization after the fee increases, which was more pronounced in the tertiary level hospitals. Multivariate regression analyses of monthly utilization data have shown that this was a statistically significant decrease in utilization (Weaver 1997).

In Mekane Hiwot hospital's outpatient department, there was a downward trend in attendance over the years 1994-1996. There was also a decrease of about 1.3 percent in the number of inpatients in 1996 as compared with 1995. Attendance statistics for Mekane Hiwot hospital, all health centers and health stations in Asmara and the two primary care facilities sampled is presented in Table 5.15.

Table 5.15: Patient attendance (first visit), Asmara, 1994-96

	1994	1995	1996	percentage change 1994-5	percentage change 1995-6	average annual growth 1994-6
Outpatient (MHH) ¹	56,602	50,920	37,915	-10.0	-25.5	-12.5
Inpatient (MHH)	17,262	20,221	19,959	17.1	-1.3	5.1
All HC ² (Asmara)	79,089	56,250	51,867	-28.9	-7.8	-13.1
All HS ³ (Asmara)	224,326	177,916	167,427	-20.0	-5.9	-9.3
Semenawi Asmara HC	15,221	7,711	6,942	-49.3	-10.0	-23.0
Godaif HS	5,265	4,025	4,678	-23.6	16.0	-3.9

Source: Respective health facilities; ¹ Mekane Hiwot hospital, ² Health center, ³ Health station

To assess the possible effects of user fees on utilization, the following model was estimated using micro-TSP version 7.0 (Church 1991, Pindyck and Rubbiefeld 1991):

Box 1: The regression model

$$Y = \beta_1 + \beta_2 T + \beta_3 D + \varepsilon$$

Where, Y= facility utilization, represented in the micro-TSP output as:

HOSPOPD= hospital outpatient service utilization

HCUTIL= health center curative service utilization

HOSPINP= hospital inpatient service utilization

SAHC= Semenawi Asmara health center curative care utilization

GODHS= Godaif health station curative service utilization

D= dummy variable, takes the value: D=0 for the period 1994.01-96.02, D=1 for the period after 1996.02, i.e. after policy implementation

T= time (months of the year), =0,1,2,...; 1994.01=0

ε = random error term

$\beta_1, \beta_2, \beta_3$ are coefficients

The estimated model indicated that there was a statistically significant drop in outpatient attendance in Mekane Hiwot hospital after February 1996, when the new fee policy was instituted (see figure 5 and micro-TSP regression output in box 2 and Appendix B). A drop in utilization was noticed long before the new fee policy came into effect. However, it was aggravated after implementation of the policy, signifying that the increase in fees made a significant contribution to the already declining levels of utilization. With respect to inpatient service utilization, there was an overall trend of increase in the years covered under the study, January 1994 - March 1997. However, the increase after February 1996 was significantly lower than the increase seen in the period before the policy, signifying that after fees were levied, growth in inpatient service utilization was retarded.

The model estimated for the health centers and health stations also showed that, over the period January 1994 - July 1997, utilization of curative care services dropped significantly (see figure 6 and box 2). However, the decrease after implementation of the fee policy was statistically significantly lower than that which occurred during the period before February 1996. This implies that the highly declining levels of utilization were slowly recovering in the period after the levy of fees, although the levels in the first three quarters of 1994 were not attained.

With respect to the two primary care facilities selected, model estimation revealed the following (see figure 7 and box2 and Appendix B):

- In Semenawi Asmara health center, there was a statistically significant decline in utilization over time. However, fees were found not to have a significant effect on the declining health center curative care utilization.
- As regards Godaif health station, again there was a significant drop in utilization over the period January 1994 - July 1997. However, it is observed that the drop was significantly lower after fees were instituted as compared with the period before. This implies that the trend of decline was being reversed.

BOX 2: TSP regression output

	HOSPOPD	HOSPINP	HCUTIL	HSUTIL	SAHC	GODHS
Sample range	1994.01 - 1997.05	1994.01 - 1997.03	1994.01 - 1997.07	1994.01 - 1997.07	1994.01 - 1997.08	1994.01 - 1997.08
Number of observations	41	39	43	43	44	44
β_1	4421.6356	1369.6646	6906.4152	19749	1415.1506	441.49250
β_2	4.6691535	15.405290	-112.67014	-252.48998	-39.833590	-5.1101695
β_3	-1453.7843	-187.24932	1295.4284	2990.8761	579.99710	150.64168
Standard error (β_1)	265.14480	54.019462	252.15389	659.85578	216.86425	36.515530
Standard error (β_2)	17.744701	3.6461371	16.692262	43.681599	14.264464	2.4018457
Standard error (β_3)	435.89737	87.050329	423.67502	1108.7055	368.41311	62.033277
T-Statistic (β_1)	16.676305	25.355022	27.389683	29.93007	6.5255137	12.090541
T-Statistic (β_2)	0.2631295	4.2250991	-6.7498428	-5.7802366	-2.7925051	-2.1276010
T-Statistic (β_3)	-3.3351527	-2.1510466	3.0575992	2.6976290	1.5743118	2.4284011
2-Tail Significance (β_1)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2-Tail Significance (β_2)	0.7939	0.0002	0.0000	0.0000	0.0079	0.0394
2-Tail Significance (β_3)	0.0019	0.0383	0.0040	0.0102	0.1231	0.0196
R-squared	0.457487	0.389076	0.638368	0.558132	0.198528	0.125983
Adjusted R-squared	0.428934	0.355135	0.620287	0.536039	0.159432	0.083348
F-Statistic	16.02220	11.46355	35.30491	25.26243	5.077930	2.954922
Prob (F-statistic)	0.000009	0.000141	0.000000	0.0000	0.010708	0.063264
Durbin-Watson stat.	1.149625	1.392871	1.390628	1.689678	1.935141	1.157424

Figure 5: Monthly out- and inpatient statistics, Mekane Hiwot hospital, 1994.01-1994.03/05

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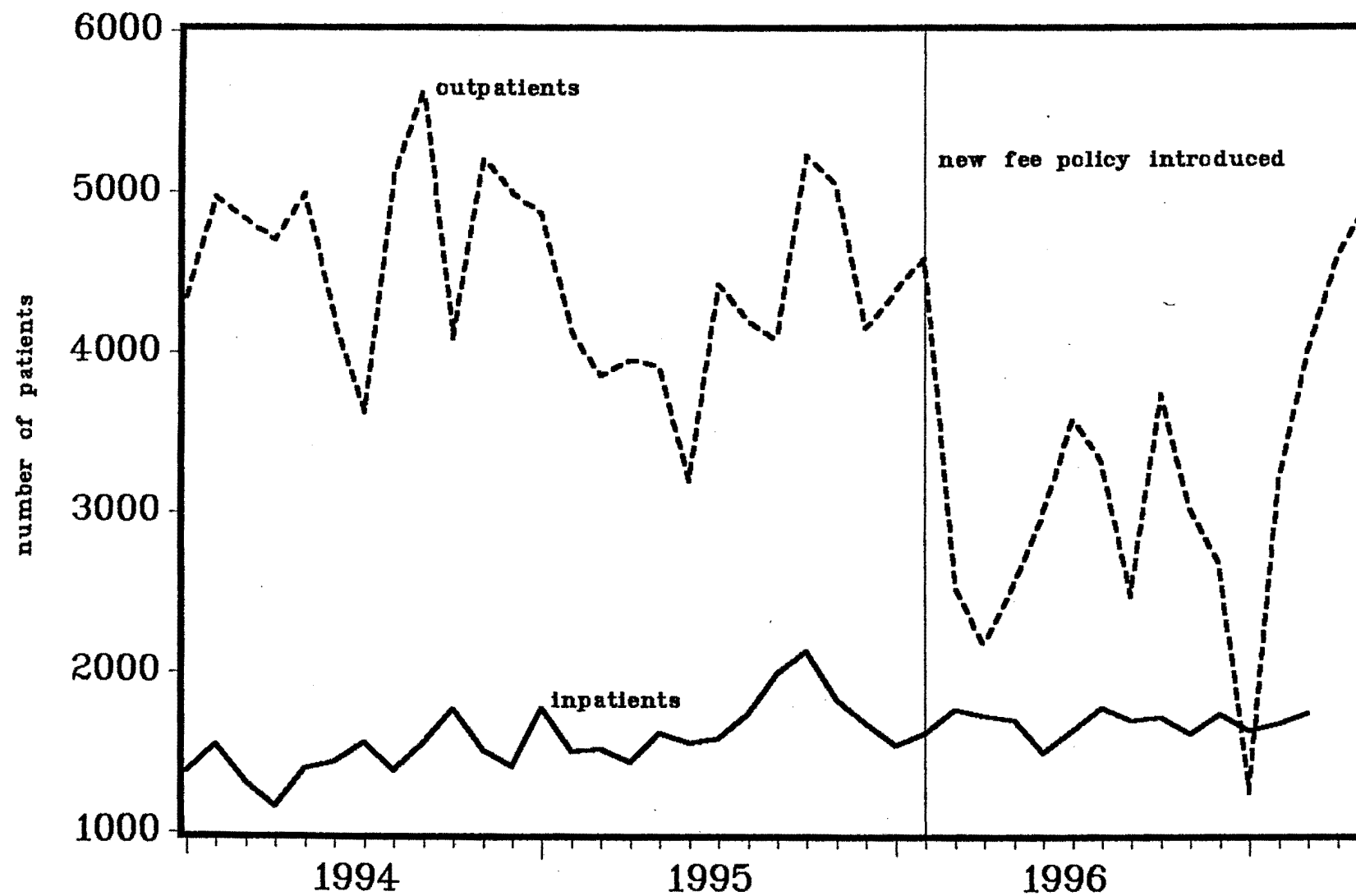


Figure 6: Monthly outpatient statistics, all health centers and health stations in Asmara, 1984.01-1997.07

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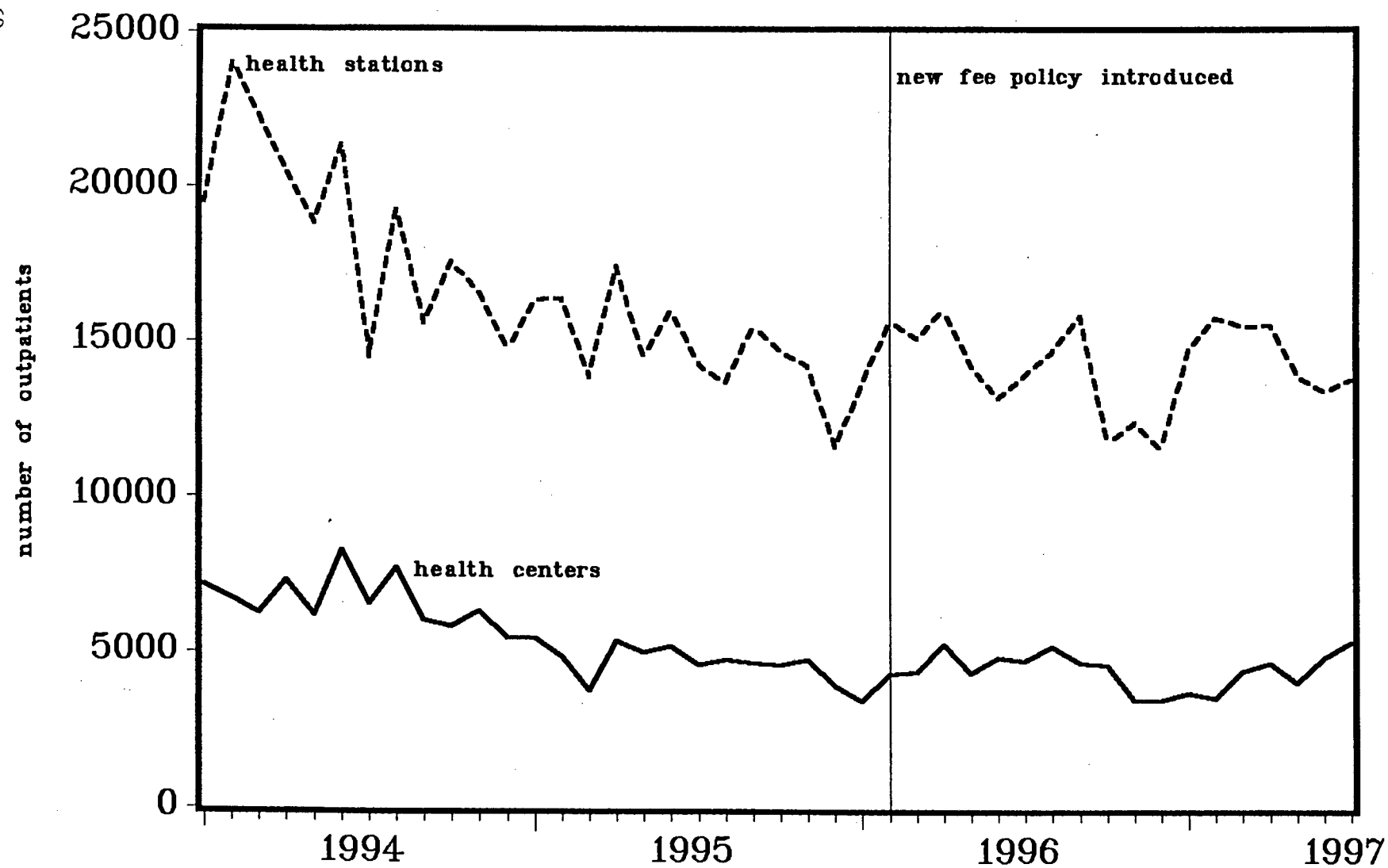
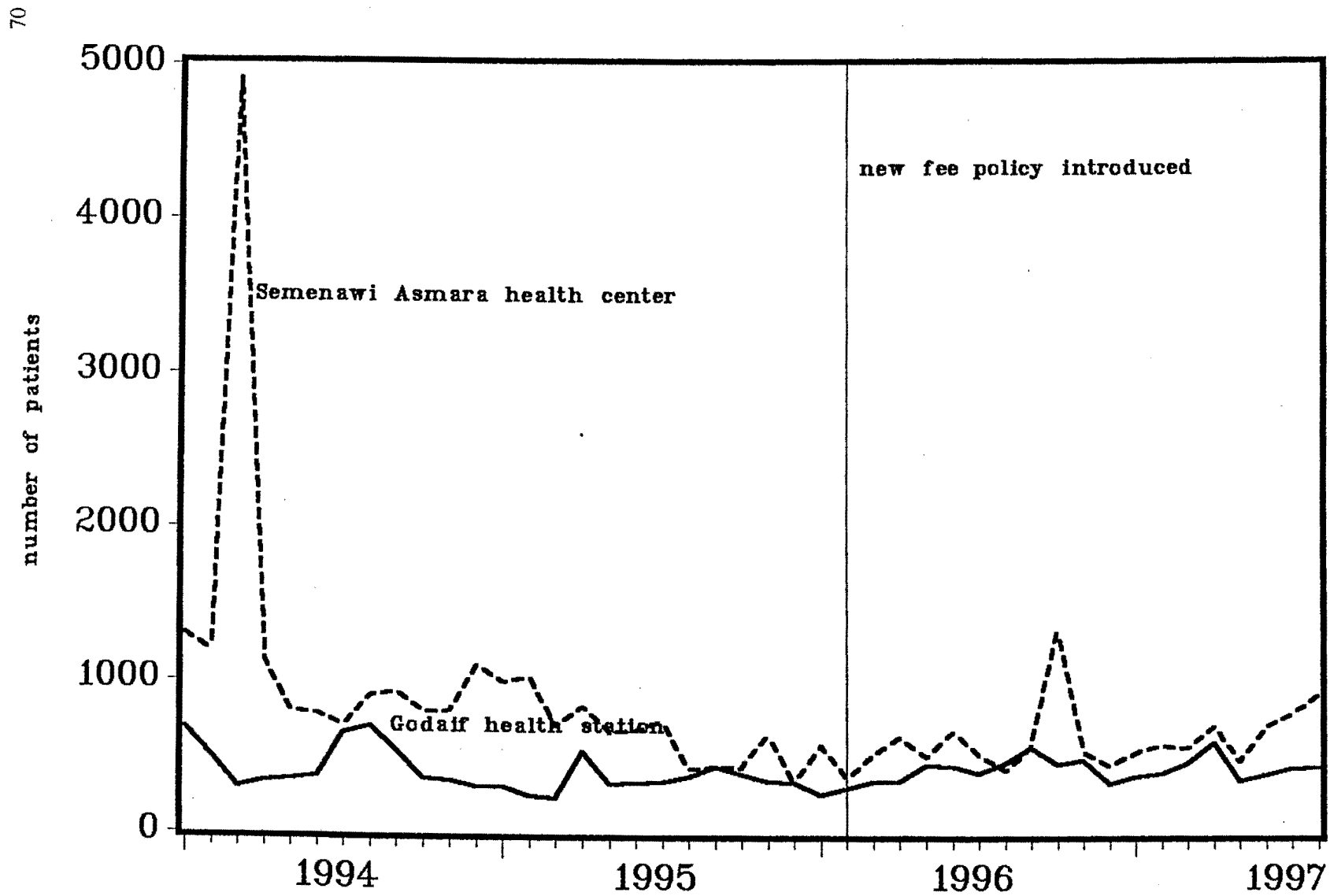


Figure 7: Outpatient (first time visits) statistics, Godaif health station
and Semenawi Asmara health center, 1994.01-1997.08



Another important issue related to the effect of fees on utilization is whether there was any change in the demographic composition or epidemiological profile of patients after the introduction of the new fee policy. This will help us identify groups whose utilization pattern has been seriously impaired. The age-sex distribution of patients over the period 1994-96 shows that there was no remarkable variation in the composition of patients who utilized the outpatient and inpatient services of Mekane Hiwot hospital. The age distribution is presented in Table 5.16.

Table 5.16: Age distribution of patients, Mekane Hiwot Hospital, 1995-96 (percentages)

Age (in years)	Outpatient		Inpatient	
	1995	1996	1995	1996
Less than one	5.1	6.7	7.3	7.4
1-4	10.5	10.0	8.0	8.6
5-14	12.7	13.1	6.8	6.7
15-44	52.0	51.5	63.5	64.8
45-64	15.5	14.7	8.9	7.4
65 and above	4.2	4.2	5.5	5.1

source: Mekane Hiwot hospital statistics section.

The above table indicates that the age composition of patients in the year after the fee policy was implemented is comparable with the year before the fee policy implementation. Thus the cutback in utilization observed seems to be evenly distributed across age groups. The gender composition of patients was also found to be stable. The epidemiological profile of out- and in-patients revealed that the major causes of outpatient consultation and hospitalization were more or less the same, with no striking change after fees were imposed. The leading causes of inpatient and outpatient morbidity in 1995 and 1996 are listed in Appendix C.

On the side of the preventive services for which there is no charge, the national statistics indicate that there was a sustained increase in the utilization of most of these services(see Table 5.17).

Table 5.17: Eritrea: Utilization of selected preventive services

Service	1994	1995	1996	percentage change 1995-96
Antenatal first visit	49,653	49,763	46,213	-7.1
Child immunization	22,989	23,254	33,998	46.2
Growth monitoring	158,780	173,691	216,230	24.5
Family planning-first visit	17,565	17,223	19,261	11.8

Source: SEMISH, 1997

Comparison of inpatient service statistics for the years 1995 and 1996 indicates fairly similar occupancy rates (except for the health centers), average length of stay and bed turn-over rate. However, mortality rates seem to have increased in 1996, most markedly in the health centers and tertiary referral hospitals (see Table 5.18).

Table 5.18: Eritrea: Inpatient service indicators

Facility	Occupancy Rate (percent)		Average length of stay (days)		Bed turn-over rate (patients per bed)		Mortality rate (deaths per 100 inpatients)	
	1995	1996	1995	1996	1995	1996	1995	1996
All facilities	52.4	52.4	8.2	8.7	23	22	2.6	2.9
Tertiary referral hospitals	72.7	79.4	12.7	13.1	21	22	2.2	2.7
Other hospitals	39.1	41.1	6.1	6.8	23	22	3.5	3.7
Health centers	32.6	23.6	3.9	3.9	31	22	0.9	1.4

Source: Computed from SEMISH data

As can be seen, in 1996 the institutional mortality rates seem to have invariably increased across the various levels of facilities, although these were more pronounced in the tertiary hospitals and health centers. It is possible that a delay in seeking treatment, caused by the increase in fees, could result in an increased inpatient mortality rate. However, it would be unsubstantiated to attribute these changes with confidence to user fee policy.

With the available data, an attempt was made to analyze the user fee policy in Eritrea from its inception through its implementation to its effects in the short period since its reinforcement. In the forthcoming discussion section, findings will be interpreted in more detail.

6. DISCUSSION

In the previous chapter, results of the analyses of primary and secondary data that relate to the various aspects of the user fees policy in Eritrea (its design, implementation and short-term effects) have been presented. In this chapter an attempt will be made to discuss the implications of the findings presented in the light of the country situation and the international literature.

6.1. Policy formulation

6.1.1. Policy objectives

The success of cost recovery and its potential can only be assessed in relation to what it is intended to achieve (Nolan and Turbat 1995). Thus, it may not be alarming to find a drop in utilization statistics if a policy's main objective was deterrence of unnecessary utilization. A policy with the goal of providing health services to widely dispersed populations can improve access for the under-served, but again it will not be surprising if one finds that efficiency was compromised.

Therefore, since the success of a user fee policy will be gauged in terms of its intended goals, it is essential that at the stage of policy formulation, the goals and the weight attached to them be stated explicitly and unequivocally. Required strategies and concomitant sectoral reforms will also to some extent depend on what is to be achieved ultimately, hence the need for having consensus on clearly stated objectives.

The objectives stated in the Eritrean user fees policy documents are not prioritized or classified as primary and subsidiary objectives according to their importance. The objective of creating cost-consciousness seems to give the impression that there is "unnecessary utilization" of services that needs to be discouraged. However, with a per capita visit of less than one per year, such a problem is minimal, if not non-existent. Reducing demand is (and should) not be the objective of the fee policy in Eritrea (MOH 1996b). In fact, the exact opposite is required.

Goals of a user fee policy should not be viewed in isolation from the ultimate goal of any form of health policy, which is to improve the health status of the population. Therefore any objective of a user fee policy should be formulated in such a way that, in the end, it promotes

this goal. An objective of sensitization, however, does not seem to have this motive, and probably could be executed by using alternative strategies such as information dissemination campaigns, without encountering the risk of bearing the potential adverse effects of user fees.

The Eritrean policy objective of recouping some of the health care costs, to alleviate the financial strain that the government faces by providing free or highly subsidized health care is similar to the case in many other Sub-Saharan African countries. Shaw and Ainsworth (1996) reported that out of twenty-seven African countries with some kind of national system of user fees in place, about one-third had revenue mobilization as their primary objective. An extensive survey on user fees in developing countries (Russell and Gilson 1995) indicated that *raising revenues* was the overriding objective identified in an overwhelming majority of the countries. Revenue raising has an implicit objective of financial sustainability. This may also be related to the third objective of "improving services". Explicitness, however, is lacking from the statement of objectives in the Eritrean policy. Like many other policies in Sub-Saharan Africa (Nolan and Turbat 1995), the central feature of the "*standard model*," namely the potential for user fees to give providers a direct incentive for greater efficiency and patients an incentive to use care appropriately, is missing from the official objectives.

The financing reform in Eritrea, among other things, should be seen within the context of conditions such as low access to primary care services, low per capita utilization of services, poor indicators of health status, skewed distribution of health care resources in favor of the urban areas, overcrowding at the referral hospitals and a poorly functioning referral system. Objectives of the user fees policy should, therefore address the above mentioned problems explicitly and contribute to the attainment of efficiency and equity in health care resource use.

6.1.2. Level and structure of fees

Fees in Eritrea are levied on services that do not fall under the category of public goods. These are curative care services, in which case the benefits largely accrue to those obtaining the service. Certain principles need to be noted when determining a fee structure (World Bank 1994a):

- Fees charged should as much as possible reflect the type of service provided and its cost. Private benefits such as curative care should be priced at or near cost, and services with major externalities or high cost-effectiveness should be provided free or at reduced cost.
- Groups with higher incomes should pay a much larger proportion of the total costs of health services provided to them.
- Low-income households should be able to obtain basic health care at little or no cost.

User fees charged in Eritrean public sector health facilities are graduated according to the level of the health facility, thus to a certain degree attempting to reflect the differences in the cost of services provided at each level. Fees are lower at primary care facilities where the cost per outpatient contact/treatment is less expensive relative to the hospitals. A cost study of some health facilities in Eritrea (Yoder 1995) revealed an average cost per outpatient/primary care contact of Birr 24.00, Birr 20.00 and Birr 11.00 at the provincial hospital OPDs, health centers and health stations respectively. The corresponding fee levels charged are: Birr 11.00, Birr 5.00 and Birr 3.00. A cost study was not done at Mekane Hiwot hospital. However, one may reasonably expect the average cost per outpatient to be the highest of all, for it is the country's largest hospital absorbing the lion's share of the health sector budget. Accordingly the outpatient fee for self-referred patients at this hospital is the highest (Birr 16.00). Inpatient hotel charges are, however, not graduated according to the level of the hospital. On the assumption that the perceived quality of care increases as the level of the hospital increases, the tendency is for people to opt for treatment at the apex of the system. This jeopardizes efficiency.

In setting fee levels, it is essential to have data on consumer demand (that is, willingness and ability to pay, use of services, *etc*), unmet need and reasons why this need isn't translated into demand, and cost data. However, there is no evidence that consumer demand studies were conducted prior to formulating the policy. A study addressing issues of consumer demand has been completed recently (World Bank, 1997). Though such information should have been available when the fee policy was designed, its availability at this time could help in making necessary changes in fee levels and structures.

Fees are not tiered according to the income levels of patients. Apart from exemptions, prices that discriminate among different income groups, that is charging low income groups lower

fees than high income groups, could also promote equity. However, in Eritrea, as in many other developing countries, assessing the income status of the individual patient might prove administratively difficult. For example, Zimbabwe, had a formal sliding scale fee structure in its four central hospitals, in which different inpatient per diem charges were assigned to each of seven categories of patient income. However this attempt to build equity considerations into hospital pricing has not been very effective because the administrative skills required to apply such a detailed and rigid fee schedule successfully are often absent (Hecht *et al.* 1992). In Zaire (the present Democratic Republic of Congo), most health zones have sliding fee scales (primarily in hospitals) that attempt to adjust for ability to pay. There are four price levels based on employment category, with the highest prices paid by enterprise employees, and the lowest price paid by students, children, retirees and the handicapped. The high price category may require fees of up to five times those for the low category (Griffin 1988). However, it is far easier to administer systems that discriminate among different parts of the country, that is, on a geographic basis. Under this system, facilities in predominantly poor rural areas have lower fees than those in relatively affluent localities (de Ferranti 1985). Given its administrative feasibility, and given the high probability of geographical income and morbidity and mortality differentials, it is worth considering price discrimination by area of residence. An MOH / World Bank survey (1997) on health status, utilization and expenditure in Eritrea has revealed the existence of income and mortality differentials in the two zones covered in the study (NSO 1995).

The Eritrean fee structure also does not discriminate among demographic groups. Children under-five are not entitled to health care for free or at a discounted price. The typical African child under five years of age is said to have about five episodes of diarrhea per year and a 14 percent risk of dying from a severe episode. S/he is also said to have about ten episodes of acute respiratory infections (ARIs) (Feachem *et al.* 1992). These are but some of the health risks faced by young children. Given their vulnerability and frequent need for health care, it appears reasonable to provide children under five with free curative health care, or care at prices lower than those paid by adults. In their extensive survey, Russell and Gilson (1995) found that children in the age group 0-2 years were exempted in most of the countries surveyed. In the Kenyan user fee system, children under-five are exempted from fees (Collins *et al.* 1996, Mbugua *et al.* 1995). In Ghana children paid less for outpatient services and inpatient accommodation (Russell and Gilson 1995). The National Health Plan for South

Africa (ANC 1994) makes provision for free health care for children under-six years of age, and this is currently in practice. Several hospitals in developing countries are, in fact, said to charge lower fees for children than for adults (Barnum and Kutzin 1993).

The Eritrean policy for charging fees for services with private benefits and exempting those with significant externalities is in compliance with the principles of pricing health services discussed above. Graduating fees according to hierarchy of facility is similar to those of many Sub-Saharan African countries. For example, in Zimbabwe, the fee schedule is structured in such a way that the basic outpatient charge for adults was Z\$ 5.00 in a central hospital, Z\$ 3.00 in a provincial general hospital and Z\$ 1.50 in a district hospital (Hecht *et al.* 1992). Fee structures in countries like Kenya, and Ghana are similar to that in Eritrea. However, in Kenya, dispensaries (the counterpart of health stations in Eritrea) do not charge patients (Nolan and Turbat 1995). Russell and Gilson (1995) also found that in 23 out of 26 countries, there were fee differentials between levels of the health system. There are significant differences in the types of fees charged between Sub-Saharan African countries (Nolan and Turbat 1995). For example, in Namibia, flat fees per episode which cover consultations, drugs and hospitalization are charged, and the lowest level facilities are used free of charge. In Mozambique, fees per episode with additional fee for drugs are charged; the charges are the same across levels.

Fee systems tiered according to level of facility provide some incentive for patients to seek care at the primary level first rather than go straight to a hospital outpatient department, or to go the district hospital rather than to the regional or national one, unless referred upward (Hecht *et al.* 1992). However, this is not a sufficient condition on its own to improve the use of the referral network (Kutzin 1995b). The level of fees and the quality of services at the lower levels are also important factors. The finding that a high proportion of patients at Mekane Hiwot hospital OPD were self-referred for reportedly minor conditions substantiates the fact that a mere “cascading” of prices according to facility level does not give proper signals that lead towards efficiency. In Kenya, graduating fees according to facility level has not been sufficient to bring about any significant shift in utilization to lower level facilities with the fee levels used (Collins *et al.* 1996).

In the capital city, Asmara, if properly followed, the chain of referral would be: health station → health center → central referral hospital (because there is no other general hospital for the city's population). If a patient's condition warrants referral to the hospital, then the sum total of what s/he pays at each level will be Birr 15.00 (Birr 3.00 at health station, Birr 5.00 at health center and Birr 7.00 at hospital). A patient bypassing the lower levels and seeking care directly at the referral hospital pays more or less the same (Birr 16.00). Thus the fee structure doesn't discriminate between the referred and the non-referred and is unable to send signals required for efficiency of resource use. When including other costs (e.g. transport costs, time costs, delays in treatment *etc*), that patients are likely to incur, the fee structure seems to penalize people complying with the referral system. This is similar to the system in Lesotho where, at hospitals, patients referred by their local health center are charged a lower fee, but the patients will already have paid at the lower levels and will pay the same total fee as someone who goes straight to the hospital (Nolan and Turbat 1995). Thus the structure should be designed in a manner which makes a more significant differentiation in the fees charged for the referred and the bypassing.

Inpatient per diem charges are uniform across all levels of hospitals (Birr 19 for non-referred and Birr 9.50 for referred patients). It may not be expected to see striking differences in the hotel services of hospitals at different levels. This might be a possible reason why the fee levels are not graduated according to the hierarchy of hospitals. It coincides with those of other countries in Sub-Saharan Africa such as The Gambia and Swaziland (*Ibid*). However this might lead to a tendency by patients to bypass the lower levels and seek care directly at the highest level, because patients are likely to perceive quality as better at the higher level hospitals. Therefore, graduating the hospital per diem charges by level is expected to improve efficiency by sending signals to patients to use the lower level hospitals where available, and thus needs to be considered. If implemented, the difference in inpatient per diem charges between a bypasser and a referred patient, may be a reasonably good deterrent to bypassing.

Lack of consistency in setting prices for the various services and procedures indicates the possible absence of central level guidance on what should or should not be included in the prices. For example, prices for X-ray tests were only based on the cost of consumable items. With regard to laboratory tests, some prices were set on the basis of consumable items only, whereas others are said to have included labor and capital costs, though the methodology is

their utilization. This enables facilities to increase their cost-recovery without affecting utilization (Knowles 1995).

6.1.3. Exemption/Waiver rules

Exemption by condition (disease) and exemption by service type are the two types of exemption in the Eritrean user fee system. Diseases/conditions eligible for exemption are those that are of major public health importance with negative externalities. There are, however, certain conditions that are not stated clearly and are thus, open for misinterpretation. For example, the category “*mental illness*” in the strict sense comprises a wide range of conditions including minor and major ailments. The potential negative externality that may be produced by minor mental ailments is no more than that of any other condition which is ineligible for exemptions. This needs to be clearly stated to avoid creating a loophole that may result in the misuse of exemptions.

In addition to the above, the health personnel surveyed emphasized the need to exempt diabetes mellitus and hypertension. Though not stated in the policy documents, communication with the relevant personnel at Mekane Hiwot hospital indicated that, these conditions are *de facto* exempt. Diseases such as diabetes mellitus and hypertension are likely to result in preventable complications that would seriously impair an individual’s capacity to provide for him- or herself and dependents (e.g. paralysis due to hypertension). Thus, exempting these conditions yields important internal benefits to the individual and external benefits in the form of savings in support costs that would have to be borne by the families, communities and government programs (de Ferranti 1985).

The exempted services list includes immunization programs, mother and child health services, health education and emergency care for the first twenty four hours. Immunization, mother and child health programs and emergency care have significant positive externalities. Health education has public good characteristics, and therefore, charging fees is ruled out. Mother and child health programs include a vast number of activities, but some (e.g. delivery services, sick child care) were found to be non-exempt in the health facilities studied. To avoid misunderstanding, it is better to provide a breakdown of the actual services to be exempted rather than use a collective term. Charging for deliveries should be reconsidered in certain

geographical localities. Fees charged for deliveries are reported to be a deterrent in some areas of Africa to women who are considering whether to give birth at home or in a health facility (de Ferranti 1985). In Eritrea, given the alarmingly high levels of maternal mortality, exempting basic delivery services is worth considering as preventing the death of a mother has far-reaching positive externalities.

The health professionals surveyed strongly suggested that children under-five, the old and pregnant women be granted exemptions for curative care. The public health importance of exempting the “aged” is not clear. The respondents may, however, have associated it with the decrease in income levels in old age, and thus it is better considered with waivers. Contrary to what is actually practiced, the respondents didn’t place a significant weight on exempting health workers and their dependents. The current practice entitles any employee of the MOH to free care. His/her dependents are also provided with services at half price.

Granting exemptions to any employee of the MOH and his/her dependents doesn’t seem to have any public health importance. It is not to be accounted for by professional hazards or increased risks of contracting diseases that the health professionals face, since non-clinical staff are also provided with free care. Therefore, this issue needs to be revised for it brings about inequity. In many Sub-Saharan African countries government employees are/were exempted (e.g. Ghana, Kenya) (Bennett and Ngalande-Banda 1994, Collins *et al.* 1996). This lowers the potential income that could be realized from fees. In Kenya, however, exemption for civil servants was reversed when re-introducing the cost-sharing scheme in 1991 (Collins *et al.* 1996). Eligibility of the non-poor (MOH employees and other civil servants) is said to be an indication of the ineffectiveness of characteristic targeting in promoting equity (Gilson *et al.* 1995).

Charging the local administration issuing the indigency certificate for the health care costs of the indigent seems an innovative method that could minimize leakage, if used properly. However, it may bring with it certain untoward effects. Firstly, if the local administrations are responsible for settlement of the bill, they may be tempted to issue a small number of waiver certificates, and consequently, equity may be endangered. Secondly, if local administrations raise their funds from local taxes, then those in poor areas will have very few resources, and as a result will issue few waiver certificates. This will, in the end, lead to problems of equity.

Since the waiver rule is an important component of the user fee system (and health financing in general), the MOH must be actively involved in sorting out the above mentioned issues and ensuring that the waiver system is in place and functioning properly.

There is no clear definition of “indigency” in the Eritrean policy documents. This is similar to the situation in many Sub-Saharan African countries. For example, the Kenyan user fee policy states that waivers are granted when patients *cannot afford to pay*, and in Ghana it is stated that those *who are destitute* are qualified for exemptions (Russell and Gilson 1995). Of the countries with national user fee systems, only Zimbabwe had a formal national waiver policy for the poor with an explicit and uniform procedure for identifying those to be exempted. In Zimbabwe an income ceiling was specified at the national level and those below the income level are granted a waiver (Nolan and Turbat 1994, Russell and Gilson 1995). Most of the other countries referred to in the literature provided for waivers for the poor, but offered no explicit criteria for identifying those who are to get a fee waiver (Nolan and Turbat 1994, Willis and Leighton 1995 Russell and Gilson 1995).

Implementing income-based means testing as in Zimbabwe may be difficult given the lack of reliable data on household incomes, as is the case in many African countries. It is also costly to administer. Therefore an alternative (easier and less costly, but crude) means test that determines entitlement to benefits on the basis of criteria that are said to be related to income such as type of housing, education, employment *etc* (Willis and Leighton 1995), needs to be explored.

About 56 percent of the health personnel surveyed in the Asmara facilities suggested that the “poor” be granted fee waivers. However, they didn’t define who the poor are by their income levels. The remaining responses included the unemployed, daily laborers, farmers without oxen etc.. All of these responses imply “low income” people. If studied carefully, these characteristics can be used as predictors of the household income and thus as simpler screening criteria for granting fee waivers. Targeting subsidies at low-income occupational groups and the unemployed could be an alternative method of characteristic targeting to reach the poor (Russell and Gilson 1995). Huber (1993) in her study in Kenya suggests that, although individual variables may not be good enough predictors of income, groups of variables might be significant. Therefore, given the administrative difficulties that are likely to

occur in implementing direct targeting, the above mentioned characteristic targeting is worth considering. However, it would be necessary to conduct a study to identify a group of variables that may serve as sensitive and specific proxy indicators of indigency.

6.1.4. Fee retention

One of the primary motivations of the user fee scheme in Eritrea is to improve the quality of health care delivered. One way of achieving this is to retain part or all of the revenue collected at individual facilities for use in the institutions themselves (McIntyre and Khosa 1996). Retention of fees could be a strong incentive for providers to increase collection efforts (Creese and Kutzin 1994, Barnum and Kutzin 1993, Hecht *et al.* 1992, Vogel 1988). Patients would also be encouraged to use the facility if they perceive that there is a direct link between their payments and improved quality of health care (Hecht *et al.* 1992, Vogel 1988). Government commitment to and endorsement of hospital (or health facility) revenue collections for the benefit of the facility itself are key to making user fee systems work (Lewis 1993). In Kenya, the policy of allowing facilities to keep 75 percent of the revenue generated was said to have provided sufficient incentive to collect fees and National Hospital Insurance Fund claims (Collins *et al.* 1996).

The theory of public finance argues that all government revenue should go to one central government authority such as the Ministry of Finance, and that central government expenditure decisions, at the margin should not be based upon sources of revenue, but upon areas where there is the highest social rate of return (Vogel 1988). The problem with the theory is that it ignores collection incentives, and is more appropriately applied to government tax revenues than to government sales (*ibid*). User fees should not be regarded as tax revenue, and the fact that the motivation is to mobilize resources for quality improvements should not be overlooked. This implies the need for revenue retention within the MOH. However, it should be noted that a totally decentralized system of financial control at the point of collection may result in inappropriate or regressive revenue use (Russell and Gilson 1995). Facilities located in predominantly poor areas may not be able to raise as much revenue as those in relatively affluent areas, and consequently may not be able to improve services. Therefore, retention of the total amount collected at the facility level might not be desirable. Pooling at least some proportion of fee revenue at district, provincial and central level (MOH) may promote geographical equity by allowing cross-subsidization (*ibid*). Facilities should,

therefore retain an agreed upon percentage of the collected fee revenue and transfer the remaining to the Zone health department and the MOH. For example Ghana's system allocates 50 percent of the collected revenue to the Ministry of Finance, 25 percent to the MOH and 25 percent to the collecting facility (Vogel 1988). Kenya's system allocates 75 percent to the collecting facility and 25 percent for district level primary and preventive health care (Collins *et al.* 1996). In their study of 26 countries Russell and Gilson (1995) found only seven countries where some of the fee revenue collected could not be retained at the facility level.

The crux of the issue is that, fee revenue should be extra-budgetary and should not displace the budget normally allocated to the facility from the Ministry of Finance. If there is a guarantee that the Ministry of Finance will plough the revenue back into the health sector centrally, transferring revenue to the Ministry may not be a problem. But seen from an administrative perspective, it is simpler to allow the facility to retain its share and transfer the rest to the appropriate departments.

A little more than half of the health personnel surveyed stated that facilities should not retain the collected fee. Discussions with key personnel, however, revealed that their suggestion for non-retention is on the condition that the Ministry of Finance will increase the budget allocated. It seems that they are also of the opinion that fee revenues should not displace the normal budget.

With the retention of fee revenue at facility level, staff's skills in financial management need to be upgraded. The short-term in-country training that is being given to the staff of the finance and accounting sections of the health departments/facilities needs to be intensified, and should also aim at upgrading the financial management skills of the health personnel who are involved in financial issues. Furthermore, clear guidelines should be given from the center regarding the use of fee revenue and the procedures to be followed in authorizing expenditure. In Kenya, retained funds were not used for capital works or staff, instead they were used for areas of critical need such as supplies and maintenance (Collins *et al.* 1996). In the Russell and Gilson (1995) study, of the 19 countries which allowed revenue retention at facility level, 14 had guidelines on how to spend this revenue. The retained revenue was mostly used for the purchase of drugs, building maintenance, purchase of equipment and staff incentives. Of the health personnel surveyed in the Asmara facilities, those who were in favor of facility retention

were of the opinion that about 30 percent of the collected fee should be retained to be used for the purchase of drugs, supplies and improvement of the quality of food. The proportion recommended for retention is roughly equal to what was retained at facility level in Ghana, but lower than those of countries reviewed by Russell and Gilson (1995) and Kenya (Collins *et al.* 1996).

In summary, because of the intimate relationship between quality and utilization, and given the fact that one of the major motivations for instituting user fees is quality improvement, retention of a certain proportion of fees at the collecting facility and some equity-based reallocation of remaining revenue must be considered. As Griffin (1988: 36-37) has aptly put it,

“... user fees are prices [not taxes] and they should be kept at the facility where they are collected. ... When central governments demand that health facility receipts be sent to the treasury to be pooled with all other funds, they are actually collecting a small tax on health care in a very inefficient manner. It is an inefficient collection technique because the health professionals who are supposed to collect the tax have every incentive not to do so. ... The treasury would be better advised to hire a tax collector to go into the health facilities and extract taxes directly from patients. At least the tax collector's profession would have some connection with the assigned function, which is not the case with the medical personnel.”

6.2. Context

In Eritrea, the user fee policy was launched against the background of a macro-economic policy which is market-oriented, and has a clear stance on cost-sharing for public sector health services. Furthermore, a concurrent move towards administrative decentralization was also in progress. These government policies are necessary to overcome obstacles to health financing reform (Leighton 1995) and are essential conditions for positive efficiency and equity impact of financing reforms (Gilson and Mills 1995). Thus, the policy was launched at an opportune time as far as the enabling environment is concerned.

In the past six years since independence, there has been a tremendous increase in the number of health facilities. In particular, the number of health stations and health centers more than doubled. On average, each US\$ 100 capital investment in the health sector generates annual operating costs of US\$ 30 (World Bank 1994a). This implies that the parallel increase in recurrent costs required to run the facilities properly is immense and may probably strain the

central government budget. Hence there is a need for cost-sharing through user fees or other means.

During the years after independence, the economy has been growing in real terms. This is a favorable condition for the implementation of a system of cost-sharing, because it potentially increases the population's ability to pay for health services under cost recovery schemes (Willis and Leighton 1995). This will especially be true if the increase in income is associated with a more equitable distribution. However, the decrease seen in production in the agricultural sector sends signals to policy makers to consider a possible price discrimination, where lower prices are set, or free care is provided in areas where agriculture is the dominant means of earning a living.

Furthermore, the existence of the tradition of charging for health services, even if it was a token amount, is a favorable contextual factor for the implementation of the new policy. A considerable capacity related to financial management and accounting was already in place paving the way for a successful adoption of the new policy.

6.3. Process of policy formulation and implementation and actors

There is some evidence that the policy was publicized prior to its implementation as can be inferred from the local newspapers. However, the fact that the overwhelming majority of the health personnel surveyed were unaware of its objectives, despite being in close physical proximity to the "center" for policy making and the mass media, is a possible symptom of an inadequate information dissemination campaign. Disseminating information widely among the general public and health care providers regarding the expected objectives and operation of the new fee system greatly contributes to the success of a cost-sharing scheme (Willis and Leighton 1995, Shaw and Ainsworth 1995, Collins *et al.* 1996).

Users of health care are likely to be more receptive to paying when they are well-informed about fee exemptions, charges and other issues affecting their use of services (Shaw and Griffin 1995, Willis and Leighton 1995). Therefore launching an information campaign before introducing or raising fees, explaining why reforms are necessary and how the system will function, is an important component of the pre-implementation period. In Eritrea, as is the case in most Sub-Saharan African countries, where there are high rates of illiteracy and

Table 6.1: Cost-recovery ratios, selected countries in Sub-Saharan Africa

Country	Cost-recovery ratio (percentage)	Year
Ghana	5.0 - 6.0	1990, 1991
Kenya	2.1	1993
Lesotho	9.0	1991/92
Mozambique	< 1.0	1992
Swaziland	4.6	1988/89
Zimbabwe	3.5	1991/92

Source: Creese and Kutzin 1995, Nolan and Turbat 1995

In 1993, with fee levels which were not updated, a cost-recovery ratio of 6 percent was reported in Eritrea (World Bank 1994b). The increase in 1996 over 1993 does not parallel the rate of increase in the fee levels, which on average increased more than three-fold. Factors such as a fall in utilization levels, increased exemptions, escalation of recurrent costs, and inefficient collection procedures are likely to result in a decrease in the potentially realizable revenue. The factors responsible for the mismatch in the growth of the cost-recovery ratio and the rate of increase in fees in Eritrea, cannot be singled out from the available data. This calls for strengthening of the financial information system so as to closely monitor the user fee scheme.

The targeted revenue level for 1997 is unlikely to achieve a cost-recovery ratio of more than that of 1996. An observable factor which may result in the escalation of recurrent costs is the high salary increment which has been implemented recently. Thus, at best, one may expect a cost-recovery ratio similar to that of 1996.

In 1996, about 40.7 percent of the total revenue was collected by the tertiary hospitals in the capital city. The capital city is located in *Maekel* zone. If the revenue collected from the primary care facilities is included with the above figure, then revenue collections in the capital city amount to roughly half of the total. The differences in fee revenue between zones could, *inter alia*, be related to variations in the number and level of health facilities and utilization behavior, which is likely to be affected by the socio-economic conditions of each zone.

With respect to Mekane Hiwot hospital (the largest hospital in the country), the cost recovery ratio increased significantly after the implementation of the policy. A cost recovery ratio of about 41 percent is noteworthy, compared with those of most hospitals in developing

countries with user charges, which on average recoup less than 15 percent of recurrent expenditure (Barnum and Kutzin 1993). It is said to be unusual to recover more than 20 percent of hospital expenditure in developing country hospitals (Mills 1990).

However, the current level of cost-recovery in this hospital is likely to be lower than what could potentially be realized. Possible reasons for this are:

- Firstly, not all prices proposed in the new fee schedule were implemented for various reasons. For example, inpatient hotel costs were charged at the previous price levels. The reason given for this was that quality improvements were not made (personal communication, hospital administrator).
- Secondly, the amount due to be collected from patients who obtain care on a credit basis, that is the so-called “*sick report*”, is directly transferred to the treasury office from the individual worker’s employer. Since this does not appear on the hospital’s revenue statement, the above cost-recovery ratio is likely to be an underestimate.
- Thirdly, waivers are granted to some patients (especially inpatients) who claim that they are unable to pay. The responsibility of granting a waiver falls upon the hospital management which in the absence of clear guidelines must undertake an on-the-spot means test. In such a situation the possibility of leakage is increased, and thus affects the revenue collection negatively.

Several studies present partial cost-recovery ratios, which compare autonomous revenues to non-personnel recurrent costs (Barnum and Kutzin 1993). Some of the reasons for this are: firstly the explicit goal of some countries is to have hospitals recover the non-staff recurrent costs through fees; and secondly, in these countries, personnel expenditures are made centrally (*ibid*). Computation of the partial cost-recovery ratio (denominator: non-salary recurrent costs), for Mekane Hiwot hospital yields a figure of 173.9 percent in 1996 as against 87.1 percent in 1995. The level attained after updating the fee levels in 1996 is striking by the standards of the developing countries. In Kenya, cost sharing revenue in 1993/94 was estimated to be about 37 percent of the total treasury-funded non-staff recurrent expenditure at provincial hospitals (Collins *et al.* 1996). Although the current level of achievement is impressive, there still exists room for higher performance if the above mentioned reasons for not realizing the total potential revenue are addressed.

In the two primary care facilities sampled (Semenawi Asmara health center and Godaif health station), there was a significant increase in the fee revenue collected in the first half of 1997 over that of 1996. This increase in fee revenue is probably attributable to increased efficiency of the collection system. An increase in revenue from increasing the intensity of services is ruled out on the grounds that the primary care facilities charge a flat registration fee regardless of the quantity of services delivered. An increase in utilization is also ruled out, because the health center's statistics indicate that there was a fall in curative care utilization (see Table 5.15).

Available revenue data for primary care facilities in Asmara and Hamassien (before new administrative restructuring) reveal a very high variance in revenue collection. Given the assumption that facilities have a standard catchment population (MOH 1996a), the variance experienced calls for further investigation, to identify the causative problems and take appropriate remedial measures. Among other things, possible reasons for the variance could be:

- Firstly, even if there is a standard catchment population (for example, about 10,000 for a health station), the distribution of the population may not be the same. Where facilities are located in areas with a high population density, the population to be served may be located in close proximity to the facility, unlike facilities in areas where the population is sparsely populated. Differences in distance and its associated costs are likely to result in differences in utilization, which in turn affects revenue collection.
- Secondly, the socio-economic conditions of the communities may be different, thus affecting their utilization behavior and the number of waivers granted.
- Thirdly, the presence or easy accessibility of alternative sources of care and perceived quality of care may also affect utilization and thus, result in wide fluctuations in fee revenue collection across facilities.

In any case, further probing will be required. This finding also brings to the attention of policy-makers the need for designing the scheme with a built-in flexibility to accommodate the realities of different provinces or districts. The administrative decentralization already in progress might create a conducive climate for adapting the user fee scheme to local conditions.

The cost-recovery ratio for Asmara and Hamassien Health stations and health centers for 1996 cannot be calculated for lack of expenditure data. The partial cost-recovery ratio for 1996 which was of the order of about 35.2 percent, is much higher than that of the Kenyan health centers (a partial cost-recovery ratio of 20 percent) (Collins *et al.* 1996).

The net resources raised through user fees for the purpose of health care delivery consists of total revenue minus the administrative and other costs of collection (Hoare and Mills 1986). In 1996-97 collection costs amounted to about 23.2 percent (using the new salary scale), giving a net yield of about 77 percent of what is collected. However, actual net yield will be lower than the above figure, because collection costs are expected to include costs other than salaries of cash collectors. What is worth noting is that, the net yield after deducting the salary of the cash collector only was negative in some health stations. This implies that the collected fee revenue couldn't even cover the salary of the cash collector.

Thus, with the current level of fees charged and utilization levels at some of the health stations, the revenue collected may not be worthwhile. The issues that need to be examined in this regard are whether or not to:

- increase fees so as to attain a significant positive net yield;
- introduce geographical exemptions; or
- avoid payments at the health station level totally.

Increasing fees may lead to a further cutback in utilization in some areas which already have underutilized health facilities and are unable to collect revenue that can cover the cash collector's salary. Avoiding payments across-the-board in all health stations may also lead to a loss of some of the net yields that are obtainable from some facilities, especially those located in relatively well-off areas. Thus, apparently, the preferred option is introducing geographical exemptions, where the health stations with a negative net yield will deliver services free of charge. If this measure is not feasible, then some ways must be devised to make the health workers collect the fees, without having to hire a cash collector, in low revenue generating facilities.

The simplicity of the fee collection at the primary level facilities is desirable, given the skill levels of staff at this level. The issuance of receipts centrally prepared by the Ministry of

Finance and the accounting procedures followed do not seem to leave room for fraud and embezzlement. It is also said that there are serious penalties for financial irregularities, such as charging a fine of Birr 10,000 for missing receipts (Weaver 1997).

A point that deserves attention, and if not rectified may increase the likelihood of leakage of fees from the system, is the step of counter-checking the payment status of patients. At the primary care facilities, it is left to the clinicians to check whether or not the patient has paid. Direct observation at the sampled facilities has shown that due to various reasons (workload, getting absorbed with patients' conditions, etc.), clinicians do not seem to regard it as a necessary component of their job. Therefore to avoid any loopholes, effective means of counter-checking must be instituted in the system. In addition to the issuance of receipts, some other conditions deemed necessary for successful fee collection are (Vogel 1988):

- Careful training of the care-giving staff, ensuring that treatment is not rendered unless a receipt or certificate of indigence is produced by the patient.
- Periodic spot-checks by someone in an accounting or administrative capacity to make sure that the rules are being carried out by all staff.
- Periodic audit of the financial transactions and flow of funds.

Therefore, to avoid the slightest possibility of financial irregularities the above procedures need to be observed properly.

At Mekane Hiwot hospital, there appear to be occasional problems in fee collection from inpatients. If patients stay for a long time or undergo expensive treatment, the amount that they deposit on admission may fall short of the total amount to be paid on discharge. Increasing the deposit may adversely affect utilization, and for a person in dire need of care, it might be ethically unacceptable. A solution could possibly be found to this problem if a strong relationship is established with the zonal health departments and through them with the local health facilities and community administration bodies to trace the person and make him/her pay the debt on an installment basis. This can to some extent minimize leakage of revenue.

6.4.2. Efficiency

Although data on the referral system for the whole country are unavailable, the case at the central referral hospital will be discussed. The majority of the patients sought care at the

highest level after bypassing the nearby lower level facilities. The finding that the majority of the surveyed patients rated their illness from mild to moderate, and that the hospital's outpatient statistics show a significant number of conditions that could be managed at the lower level facilities (e.g. Upper respiratory infections, diarrheal diseases tooth infections) (see Appendix C), indicates that efficiency is compromised. A poorly functioning referral system is a sign of allocative inefficiency, wherein patients crowd hospitals for services that could be provided in a less expensive setting (Kutzin 1995).

Fees are graduated according to level of facility. However, as discussed previously the levels do not seem to be creating disincentives against direct hospital utilization sufficiently. This is similar to the case in Kenya (Collins *et al.* 1996). Similarly, a study in Lesotho (Matji *et al.* 1996) concluded that there was no evidence that the functioning of the referral system improved, in terms of the number of outpatients seen at health centers, after a graduated fee system was introduced.

Although the functioning of the referral system is not satisfactory and indicates that there is more need for creating financial disincentives, the drop in utilization at the central hospital and the increase at the primary care facilities in the capital city is suggestive of the attainment of some degree of efficiency gains. The case of the Kasongo district in Zaire (Criel and Balen 1993) was similar to this. The implementation of user fees simultaneously reduced utilization of the district hospital as a first-line source of service, and increased attendance at health centers. This was attributed to the presence of financial disincentives against direct hospital utilization.

The above discussions highlight that a graduated fee structure is a necessary but not a sufficient condition to bring about effective functioning of the referral system and consequently efficiency. The case of Eritrea, like that in Kenya demonstrates this. Therefore, to curtail bypassing of the first-levels of care which are deemed to be cost-effective, there is a need to penalize the bypassers more by increasing charges at the referral hospital. However, in doing this, policy-makers must make sure that the primary care facilities are adequate in quantity and quality to handle the shift of demand from the tertiary hospital. This will greatly contribute to efficiency in resource use.

Most of the surveyed hospital outpatients reported that they bypassed the nearby health facilities due to the absence of diagnostic tests (44 percent) and incompetence of health workers (25 percent). These relate to perceived quality of service and must be addressed properly (as will be discussed in detail in the forthcoming topic on “quality”), so as to bring about efficiency in the utilization of resources.

The fact that none of the health center outpatients were referred from the lowest level facilities, namely health stations, is not striking given the absence of any perceptible differences between the health center and health station in terms of their staffing and the services that they provide. Observation has revealed that the two levels are manned by health personnel at the same professional levels, except that there are fewer staff at the health station. Both facilities were found to provide more or less the same services. Thus unless remarkable differences between facilities at different levels are created, the referral process will be hampered and there will be allocative and operational inefficiencies. There will be direct referrals from the health stations to the hospital. In fact, the case of the referral hospital demonstrates this. Of those patients who used the referral route, some were referred from the health station level.

Overall, there seems to be a small degree of efficiency attained after implementing user fees as manifested by the drop in utilization of the central referral hospital and increase in the primary care facilities in Asmara. However, as discussed previously, there is a long way to go in order to achieve efficiency of use of scarce resources.

6.4.3. Equity

To address the potentially negative impact of user fees on equity, it is necessary to have a workable built-in safety-net to protect the poor. The low rate of fee waivers seen in the hospital survey is in line with those of other African countries. In most countries in Sub-Saharan Africa, waivers granted appear to be rare. For example, in Ethiopia it was reported that about 5 percent of patients were granted waivers (Nolan and Turbat 1995); in Kenya, after the re-introduction of the user fee policy in 1991, less than one percent of all patients received an official waiver due to poverty (Collins *et al.* 1996). In Eritrea, whether or not the 4 percent who presented indigency certificates represented those who really deserve it (i.e. true positives) cannot be determined because of a lack of reliable data on the income of

patients and the absence of an official yardstick in the user fees policy document, against which to compare patients' incomes or other proxy indicators. The fact that 2 percent of patients were found to have been granted waivers without certificates might be explained by the occasional granting of waivers by the hospital management.

The time taken to get an indigency certificate from the local administrations time may be considered long for a person who is in distress and requiring urgent medical attention. Furthermore, acquisition of the indigency certificate may have opportunity costs, such as foregone income for those relatives of the patient who are trying to get the certificate for him/her. This is likely to be detrimental to equity as well as cost-effectiveness. A patient is being denied access to health care at the right time because of his/her inability to pay. This may also have opportunity costs in terms of foregone income for the patient who might have been treated as early as possible and started his/her normal duties. Efficiency is compromised because the patient will arrive at the hospital late, at which time the condition may be in an advanced stage and requiring more resources to reverse it.

Thus an efficient system must be established to grant official waiver certificates to the indigent at the right time. Furthermore, since it is the local administrations that issue the official waivers, a prospective means test should be considered. The local administrations may already have screened the population in their respective zones for various purposes, and this could be taken as a proxy for targeting the medically indigent (Barnum and Kutzin 1993). To this end, the local administrations may have a list of the medically indigent ready in their offices, and issue the certificate without a delay when the need arises. Alternatively those who qualify for it may be granted a certificate in advance with a reasonably limited validity period, as a person's income status may change over time. An example of the latter is found in Thailand (Mills 1991) where cards are handed out by village headman and the Ministry of Interior staff, entitling the holder to health care for three years. However, in using such a waiver system, care should be taken to control any possibility of misuse (e.g. the card being used by another person). Also the period of validity should not be too short as it may be administratively costly, and it should not be too long as income status may change over time (*ibid*). In Eritrea, the current practice of granting waiver certificates valid for a period of only three months seems too short, thus increasing the administrative burden.

Fee waivers are not accepted at the primary care facilities studied. This could be on the assumption that fees at these levels are affordable to everyone. To the extremely needy, non-acceptance of the waiver certificate at the primary care level may have high opportunity costs (e.g. lost employment) due to long queues and waiting times at the hospital's outpatient department. This may possibly compel needy patients not to seek care until the condition becomes life-threatening. This needs careful thought, since it may negatively impact on the goal of equity and may also result in allocative inefficiency due to people bypassing the primary level facilities.

Exemption of employees under the MOH and their dependents is common practice in some other countries in Sub-Saharan Africa. In Ghana in 1986, most statutory exemptions were granted to MOH employees and their dependents (Shaw and Ainsworth 1995). In Kenya, civil servants, health workers and their dependents were exempted from payments (Russell and Gilson 1995). However, after re-introduction of fees in 1991, exemptions of civil servants were removed, for there was no clear public health benefit (Collins *et al.* 1996). Similarly, In the Eritrean case, exemption is not related to professional hazards, as it is not restricted to health workers who have direct contact with patients. Non-clinical administrative and other support staff are also entitled to exemption. The justification for exempting the MOH employees and their dependents remains obscure and needs to be revisited in the light of its implications for equity.

6.4.4. Quality

The quality of services at the hospital and health center surveyed, as perceived by patients, was acceptable. However, strikingly, nearly half of the hospital outpatients rated waiting time as long or much too long. This may, on the one hand, be an inconsistency of responses resulting from factors discussed under the study limitations section (section 1.4.2). On the other hand, it could also be an acceptable response, because people may see waiting time as the direct result of the time that the health personnel will in turn devote to them (that is high waiting time associated with high treatment time) (Akin *et al.* 1986).

Quality rating by health personnel was somewhat different from that of patients. There are likely to be differences in quality rating between the two groups. The health personnel could probably be emphasizing the technical aspects of quality. However, to address the issue of

quality, the focus should not only be on the technical aspects. A fair mix of the views of providers and consumers must be taken. A longitudinal study in Zaire (Haddad and Fournier 1995) demonstrated that improvements in the technical quality of services was not enough to compensate for the additional financial barriers created by the increased cost of services. At the local level, interpersonal components of quality served to increase the level of utilization of some health centers.

Most patients' recommendation for quality improvement at the hospital and health center was to reduce waiting time, though the magnitude of the response at the health center was lower. At the hospital level, this could possibly be reduced significantly if the referral system is observed strictly and the hospital devotes its time to those patients with complicated illnesses. At the surveyed health center, the lengthy waiting time seemed to be due to delays in beginning the outpatient services until a session of health education is conducted. The health education session requires the presence of a reasonably adequate number of participants. Thus, it is uncomfortable for patients who arrive early, for they have to wait until the required number of participants is reached. Since, for reasons of efficiency, it is desired that a greater proportion of outpatients seek care at the primary care facilities first, such factors that influence perceived quality negatively must be addressed properly. In this case, for example, the health education messages could be transmitted by using tape-recorders without having to keep patients for a long time.

Patients seem to be willing to pay more if quality improvements are made. This is in line with findings from the Central African republic (Weaver *et al.* 1996) where the majority of the population studied were willing to pay the estimated costs of quality improvements or even more. In the present survey, though the ability to pay of patients was found to be less than their willingness to pay, there seems to be room for increasing the health center charges, at least in the capital city. The mean reported ability to pay for the health center services was about three times the current rate. This is not unexpected, given that the registration and consultation fee is inclusive of treatment and basic laboratory tests.

Overall, a point that should be borne in mind is that the above discussion on quality has tried to highlight possible ways and means of improving quality so as to increase revenue generation without affecting utilization negatively. It has not discussed whether changes in the quality of

services have been brought about as a result of implementing user fees. Perceived quality pre- and post-implementation of fees cannot be gauged as the study design does not allow for such analysis, and must be considered as a limitation of the study.

6.4.5. Utilization

The statistics have indicated that the aggregate level of utilization in 1996 decreased by about 3.4 percent as compared to levels in 1995. Overall, over the years 1994-96 utilization increased by about 3.2 percent. However, an increase of 14 percent achieved in 1995 over 1994 was reversed in 1996, the year when the new user fee policy was implemented. The decrease in utilization was more pronounced at the tertiary level hospitals in the capital city. At the level of the health stations, there was an increase of 3.4 percent in 1996 over 1995. This increase may probably be due to a shift of demand from the higher levels of care which showed a drop in utilization. However, it is also possible that this could perhaps be a result of an increase in the number of health stations.

There are difficulties in establishing a causal link between change in policy and change in indicators in cross sectional and longitudinal study designs (McPake and Kutzin 1997). The establishment of a causal relationship between the fee levels and health facility utilization requires an intervention study to be conducted, where the effect of confounding factors is controlled. This type of design, however, could not be employed because of the limited scope of the present study. Nevertheless, by examining any changes in the key variables that affect utilization, the variables of fees and utilization could be related, though not in an absolutely conclusive manner. Facility utilization is a function of many variables: price of service, other prices, income, socio-demographic characteristics of the individual/household, access, perceived quality, *etc.* Apparently, after February 1996, no major policies that affect the factors influencing utilization were decreed, except the user fee policy. There was also no remarkable increase in the number of health institutions in the capital city. Some of the above variables are also unlikely to change over such a short period of time (*i.e.* between February 1996 and the end of that year). Hence, with all the necessary precautions, changes in the levels of utilization will be related to the increase in the price of services.

In Mekane Hiwot hospital, the drop in utilization in 1996 as compared with that of 1995 was marked (25.5 percent). Regression analysis has shown that outpatient services utilization at the

hospital showed a statistically significant decrease after February 1996. Similarly, a statistically significant drop in inpatient services utilization was seen.

The decrease in the utilization of the country's central referral hospital may be desirable in the light of achieving cost-effectiveness. It could be regarded as an achievement of the policy towards a rational and efficient use of resources. Given that most of the hospital's clients are from localities within the hospital's vicinity where access to primary care services is not a problem, the drop in utilization may not be alarming.

In the primary care facilities (all health centers and health stations) in Asmara, although there was a fall in utilization over the time period covered in the study, the decline after the implementation of the policy was lower compared to the pre-fee levels (See regression output in Box 2). This implies that there was a relative increase in utilization that the rate of decline was reversed. This is not counter-intuitive, because the relatively high increase in hospital fees is likely to shift demand for health services to the lower levels, whose prices are relatively affordable.

The relative increase after February 1996 in the utilization of primary care facilities, which are regarded as cost-effective is in the desired direction, as it is a step towards a rational use of resources. The case of the Kasongo district in Zaire (Criel and Balen 1993) had some similarities with that in Asmara. In the Kasongo district, the implementation of user fees simultaneously reduced utilization of the district hospital and increased attendance at the health center. However, it should be noted from the previous discussions that, in the Eritrean case, most outpatients of the hospital were self-referred who rated their sickness as less serious and who bypassed the nearby facilities because of a perceived poor quality. Although there is a move in the right direction, the desired level of efficiency has still not been achieved.

There was no change in the demographic composition of out- and inpatients at Mekane Hiwot hospital after February 1996, indicating that the cutback in utilization was evenly distributed across age and sex groups. Similarly, the epidemiological profile of out- and inpatients and hospital service statistics were all found to be stable. The utilization of preventive services which are delivered free, has shown an increase in some cases and a decrease in others. It would be very difficult to attribute these changes to the implementation of user fees because of

not being able to control for other influencing variables. For instance, immunization campaigns are occasionally undertaken, and these may increase levels of utilization of services. In addition Yazbeck and Leighton (1995), in their study in Niger, demonstrated that the introduction of cost-recovery with quality improvements increased the utilization of preventive services.

6.5. Summary

In the discussion section, an attempt has been made to interpret the findings of the study in perspective. The impact of user fee policy with respect to the generation of revenue, effects on efficiency, equity, quality and utilization of services to date have also been highlighted with their possible explanation. In the forthcoming section, conclusions will be drawn from the discussion and on the basis of the conclusions, appropriate policy recommendations will be forwarded.

- Inpatient per diem charges (hotel charges) are the same across all levels of hospitals. This may possibly result in bypassing of the lower level hospitals, and consequently compromise efficiency, because patients' perception of quality is likely to increase with the increase in the level of the hospital. However, the difference in charge between the referred and the bypassing is substantial and could be a significant deterrent.
- The task of fee setting seems to have been decentralized by department (e.g. X-ray, Laboratory *etc.*). This might be a good approach as it promotes participation of the various concerned groups. However, it has to be conducted within central level guidelines. The available evidence, however, suggests that central level guidance was minimal. This can be inferred from the fact that some departments set the fees based on expenditure on consumable items, others partially included the labor costs, and still others included the capital costs. The methodology for calculating the capital costs was also not explicit, thus, casting doubt on the consistency of the methodology used across various departments.
- The rate of increase in fees during the launching of the fee policy in February 1996, as compared to the previous levels was substantial and abrupt. Such an unprecedented high rate of increase is likely to be less acceptable to consumers. Furthermore, the policy does not make provision for updating fees periodically in line with the consumer price index.
- The policy makes provision for exemption of diseases (conditions) and services that have a high public health importance. However, some are open to multiple interpretation. The exempt condition "*mental illness*" is vaguely worded. It is not clear if it also includes minor ailments whose external benefits do not exceed those of other non-psychiatric conditions. The exempt services under the category "*Mother and Child Health Services (MCH)*" are still open to misinterpretation. For example the delivery service is part of this category, but in practice it is not exempt. So in implementing the policy, it is possible to see different health facilities under similar conditions having different practices as a result of exemption categories that are stated equivocally.
- The majority of the health professionals surveyed have shown concern about children under-five, expectant mothers and the elderly. They suggested that that these groups should be entitled to free curative care. Moreover, they have strongly suggested that

patients with chronic diseases (particularly hypertension and diabetes mellitus) who need a protracted period of treatment and are likely to experience complications with externalities be treated freely. These diseases are in practice exempt, though the policy's list of exemptions does not include them.

- The policy does not entitle MOH employees and their dependents to free care or price discounts. However, in practice MOH employees get free care and their dependents have the benefit of getting care at half price. The public health justifications for this exemption are obscure.
- The policy's statement on fee waivers to protect the poor is not clear, as the task is entirely left to the Ministry of Zonal administration. From the study at Mekane Hiwot hospital, it may be concluded that the screening process is stringent, hence there is possible under-coverage. Sick people must wait for a considerable number of days to prove their indigency. This is tantamount to denying access to health care at the right time, hence a threat to equity. Certificates for fee waivers are not accepted at the primary care level. Thus, the extremely needy must go directly to the highest level hospital even if the condition does not warrant it. This is likely to hamper the goals of equity and efficiency.
- Fees are totally reverted to the Ministry of Finance. From the available data it is not possible to make a conclusive inference as to whether or not the Ministry of Finance is ploughing it back into the system. Responses of the majority of the surveyed health professionals, however, indicate that there has been no change in many of the indicators of quality of care after the implementation of the new fee policy. This suggests that the collecting health facilities are not benefiting from the fee revenue. Thus, it appears that charging fees is becoming more of an instrument of fiscal policy rather than an instrument of health policy.
- There was a favorable enabling environment for the launching of the policy. The government's macro-economic policy had a clear stance on cost-sharing for public sector health facilities. Furthermore, an economy growing in real terms, the administrative decentralization underway, and the fact that the policy is an update of a pre-existing

scheme implying the existence of the requisite capacity, are other contextual factors that count on the positive side of the policy.

- The available evidence suggests that there was inadequacy of publicizing the policy, prior to its implementation. The finding that the majority of the health personnel surveyed didn't know the objectives of the scheme substantiates this claim. This is likely to have posed obstacles to achieving the objectives of the scheme.
- Implementation was not phased-in. In Eritrea, this may not be a problem as the policy was an update of a system that was already in place.
- The revenue generating potential of the system as a whole is impressive. The cost-recovery ratio in 1996 is very high compared to that in other Sub-Saharan African countries. In 1997, however, with the current fee levels, the same cost-recovery ratio may be expected at best, as there is an escalation of recurrent costs partly due to a high salary increment. Revenue generating potential at the country's central referral hospital is remarkable by the standards of most hospitals in developing countries. Overall, the revenue generation at the level of the hospitals and health centers is viable. At the level of health stations, however, it does not seem worthwhile. In some of the health stations, it cannot even cover the salary of the cash collector.
- The few people who came to the tertiary referral hospital with a referral slip, were referred from all levels of facilities, including the lowest level units. This is a further indication of the non-functioning of the referral system. None of the patients surveyed at Semenawi Asmara health center were referred from its satellite health stations. A prominent factor accountable for this is the absence of any perceptible difference in the services provided at the two types of facilities and the professional levels of the personnel staffing them. Hence as indicated above, if there is a need for referral, the health station staff are likely to refer their patients to the higher levels (bypassing the health centers).
- Counter-checking of the payment status (i.e. whether a patient has paid or not) at the primary care level seems to be lax. The clinicians are supposed to do it. However, observation has revealed that they are not serious about it; their concentration seems to be

focused on the health condition of the patient. The absence of a strict counter-checking mechanism is likely to create loopholes for the leakage of revenue, thus jeopardizing the revenue raising potential of the system.

- An occasional problem in settling health care bills reportedly arises at Mekane Hiwot hospital's inpatient department, when the initial amount of money that the patient has deposited is less than the bill. This is likely to lead to abuses of waivers by both patients and the management.
- The drop in the utilization of the tertiary referral hospital and the relative increase in attendance at the primary care facilities in the capital city (although the trend of decline was not reversed totally) is suggestive of the attainment of some degree of efficiency gains. However, the required level of efficiency is not yet reached, as many of the patients attending the hospital's OPD are non-referred patients with reportedly minor ailments, who bypassed the nearest primary care facility or even a provincial hospital.
- The surveyed patients have shown the willingness to pay more for improvements in quality. However, their reported ability to pay was found to be less than their willingness to pay. The mean reported ability to pay for the health center services is about three times the current fee level of Birr 5.

In the following section policy recommendations will be forwarded and areas that need more research highlighted.

7.2. Policy Recommendations

On the basis of these findings, the study forwards the following policy-relevant recommendations:

- The objectives of the user fee policy need to be stipulated clearly and prioritized according to their importance so as to design strategies appropriate to the ranking of the objectives.

- Fees should be set in such a way that they discriminate between income groups. Given the constraints of income data, this may be done through geographic or characteristic targeting. People in areas that are regarded as relatively poor need to be charged lower fees than those in relatively well-off areas.
 - Fees should discriminate between children (under-five) and adults. Given their higher vulnerability for ill-health, children should pay a lower price as compared to adults. Furthermore, this price discrimination needs to be considered to the extent of exemption.
 - Fee levels should give strong signals to patients to use the appropriate levels of care. The cumulative total that a patient using the referral network pays and the amount that a bypassing patient is charged should have a remarkable difference, so as to penalize the latter and reward the former. This needs to be done by adjusting the fees of bypassing patients in the upward direction.
 - An unprecedented high increase in fee levels should be avoided. Instead, small periodic increases are recommended. Fees need to be price-indexed and adjusted accordingly.
 - Inpatient per diem charges need to be differentiated by level of hospital so as to take account of patients' perceptions of quality differences.
 - During setting or updating fees, there should be involvement of the various functional departments of the MOH, under central level guidance, so as to have consistency in the methodology of pricing the services. The center should issue a framework within which the departments must act.
 - Price uncertainty should be avoided by adequately publicizing increases in fees in the different media and fora.
- Exemptions and waivers
 - There should be a clearly stated list of conditions and services for exemption. Statements open to multiple interpretation, which consequently may lead to differences in exemption practice, need to be avoided.

- Given the alarmingly high maternal mortality levels in the country, the exemption of expectant mothers (particularly for delivery services) needs to be considered for its far-reaching externalities.
 - Diseases such as hypertension, diabetes mellitus and other chronic diseases that require a protracted or life-long treatment, should be included in the exemptions list. These diseases have consequences not only for the individual and the household, but also for the community and the health program resources.
 - The practice of exempting MOH employees and their dependents needs to be revisited as it abrogates the goal of equity.
 - In collaboration with the Ministry of Zonal Administration, clear fee waiver procedures need to be designed. As user charges are an instrument of health policy, the task should not be entirely entrusted to another department.
 - To avoid delays in issuing indigency certificates, a prospective means test should be employed to identify those who qualify for waivers at the different levels of care. Community organizations can play a vital role in identifying the poor.
 - As income-based means testing might be difficult, a MOH sponsored collaborative study needs to be undertaken to develop proxy indicators of the *medically indigent*. Community organizations, the Ministry of Zonal administration, other community-based service-giving organizations, and academics from the University of Asmara may be included in the study.
- Retention:
 - Negotiations need to be conducted with the Ministry of Finance in order to retain the fee revenue within the health system.
 - Retaining the total fee revenue at the point of collection may exacerbate existing inequities between different geographical areas, hence it is not advisable. An agreed percentage should be allocated to the collecting facility and the remainder should revert to the Zonal Health Bureau and the MOH.
 - For those who don't use the appropriate referral chain, fee levels in Mekane Hiwot hospital need to be increased to full cost recovery so as to promote cost-effectiveness and efficiency in the utilization of scarce health sector resources. However, before doing so,

the MOH must make sure that the primary level facilities are adequate in their quality and capacity to absorb the shifting demand.

- To avoid the abuse of waivers in the inpatient department of Mekane Hiwot hospital for patients whose initial deposit falls short of the bill, it is recommended that a strong relationship be established with the local administrations of the localities from where patients are coming. The administrations should trace the whereabouts of the patient and make her/him settle the bill by installment.
- In the capital city, Asmara, there seems to be a greater willingness and ability to pay for the primary care services (namely health centers), hence there is scope for increasing fees. This may not be counter-intuitive given the fact that the fees are inclusive of treatment and basic diagnostic tests.
- The health management information system must incorporate a workable financial information system so as to routinely monitor the functioning of the user fee policy or any other form of health care financing.

7.3. Recommendations for further research

The following areas are recommended for further probing:

- The cost recovery ratio of the system can be increased in one or both of the following ways: controlling the escalation of recurrent costs and/or increasing fees. To decrease the recurrent costs of the health care system, it is necessary that efficiency studies be conducted, areas of wastage be identified, and appropriate efficiency-inducing measures be instituted. On the other hand fee increases may be facilitated by developing an insurance system, and therefore the feasibility of such a system needs to be studied.
- The traditional risk-sharing mechanisms in community mutual-assistance associations, such as “*equub*”, “*Mahber*” etc, need to be tapped for developing community insurance schemes. This needs to be studied carefully, as there may be promising potential in such schemes.

- A study on the population's perception of quality of health care is worth undertaking as it plays a vital role in the selection of care provider, and may be a crucial factor in the success of cost recovery schemes.
- A study of ability and willingness to pay and the equity implications of user charges in a representative national sample needs to be conducted so as to be able to undertake proper targeting and avoid undesirable effects of the scheme.
- It is also recommended that a study that can help to single out predictors of indigency be undertaken. Given the fact that the majority of the population are out of the monetized sector, this may help in developing appropriate and workable tools for targeting.

7.4. Summary

The study has tried to document the functioning of the user fee scheme in Eritrea, but with a limited scope. An attempt has been made to analyze the policy document and the interim effects of the scheme in the capital city. Though its findings have a limited generalizability, being a pioneering study undertaken to document the existing situation, it is believed to pave the way for further studies in the area of health care financing.

APPENDIX A
INSTRUMENTS OF DATA COLLECTION

APPENDIX A.1.

HEALTH ECONOMICS UNIT
UNIVERSITY OF CAPE TOWN

QUESTIONNAIRE FOR COLLECTING DATA FROM HEALTH WORKERS

Dear respondent:

This questionnaire is designed to collect data for the purpose evaluating the user fee policy for health care in Eritrea that was launched in February 1996. The views of health professionals are of paramount importance in assessing whether the scheme is meeting its intended objectives or not and institute some remedial measures where necessary. Therefore your input in this regard is highly appreciated. Please extend your cooperation by expressing your views to the questions asked. We assure you that the information that you provide will be treated as confidential. The numbers attached at the top are for the purposes of follow up during filling in the questionnaire and will be removed before the analysis.

Thank you for your cooperation.

SECTION A : ABOUT THE RESPONDENT

1. To which professional group do you belong?
(Write appropriate number in the box)

- 1 = Medical doctor
- 2 = Nurse
- 3 = Auxiliary nurse/health assistant
- 4 = Pharmacist
- 5 = X - ray technician
- 88 = Others (Specify)

2. Place of work

- 1 = Health Station
- 2 = Health centre
- 3 = Hospital

SECTION B : USER FEE POLICY QUESTIONS

3. Are you aware of the user fee policy objectives in Eritrea?

- 1 = Yes
- 2 = No

4. In your opinion, what do you think is the most important objective of the user fee policy in Eritrea (Choose only one)

- 1 = generate revenue (income)
- 2 = improve quality of services
- 3 = improve accessibility to underserved areas
- 4 = improve the health status of the population

88 = Others (specify) _____

5. Were you consulted about the policy before its design ?

- 1 = Yes
- 2 = No

6. Where you informed about the policy after its design?

- 1 = Yes
- 2 = No

7. Have you ever attended Seminars /workshops on the user fee policy

a) at the stage of design

1 = Yes

2 = No

☐

b) at the stage of implementation

1 = Yes

2 = No

☐

c) after implementation

1 = Yes

2 = No

☐

8. Are you facing more, less or the same amount of job-related problems now, compared with what you did before the implementation of the new fee rate in terms of :

a) Prescribing necessary treatment

☐

1 = more

2 = less

3 = same

4 = not applicable

b) Ordering necessary diagnostic tests

☐

1 = more

2 = less

3 = same

4 = not applicable

c) Keeping inpatients for the required necessary time

☐

1 = more

2 = less

3 = same

4 = not applicable

d) giving appropriate nursing care for the desired time in the desired manner

☐

1 = more

2 = less

3 = same

4 = not applicable

e) dispensing the prescribed treatment

☐

1 = more

2 = less

3 = same

4 = not applicable

f) Performing requested diagnostic tests

☐

1 = more

2 = less

3 = same

4 = not applicable

9. Have you witnessed the following conditions after the introduction of the new user fee rate?

a) decreased waiting time for patients

☐

1 = yes

2 = No

3 = don't know

b) better/rational use of resources (diagnostic tests and prescribed medicines)

☐

1 = yes

2 = No

3 = don't know

c) increased availability of essential drugs

☐

1 = yes

2 = No

3 = don't know

d) increased service (treatment) time for clients

☐

1 = yes

2 = No

3 = don't know

e) improved care (medical , nursing, etc) time for clients

☐

1 = yes

2 = No

3 = don't know

f) increased availability of essential diagnostic examinations

☐

1 = yes

2 = No

3 = don't know

g) increase in the number of clients coming with a referral slip

☐

1 = yes

2 = No

3 = don't know

10. In your practice, do you encounter clients who, because of inability to pay could not obtain the necessary service?

☐

1 = Yes

2 = No

11. If your answer to question "10" is "YES", how do you describe the magnitude of the problem?

☐

1 = mild

2 = serious

3 = very serious

12. In your opinion, do you think clients should pay for the health services that they obtain from your facility in the following areas:

a) Consultation

☐

1 = Yes

2 = No

3 = don't know

b) Drugs

☐

1 = Yes

2 = No

3 = don't know

c) Hospitalization

☐

1 = Yes

2 = No

3 = don't know

☐

d) diagnostic tests

1 = Yes

2 = No

3 = don't know

(If your answers to question 11 are "YES", answer 13 and 14. Otherwise go to question 15)

13. What do you think about the level of fees ?

☐

1 = Low

2 = right level

3 = high

14. Which groups of clients do you think should be provided services free of charge?

a) disease categories (which diseases do you think should be treated free of charge?)

b) Socio-economic groups (e.g. income groups)

c) Demographic groups (age groups, gender, occupational groups etc)

15. Do you feel that your facility /institution should be permitted to retain some of the fee revenue collected?

1 = Yes

2 = No

(If your answer to 15 is "YES" answer questions 16 and 17; otherwise go to 18)

16) What percentage of the fee revenue do you think should be retained by your facility?

17) For what purposes should the revenue kept at the facility level be used?

18. How do you rate the quality of Service in your department in the following areas.

	Excellent	Good	fair	Poor	don't Know
Availability of drugs					
Competence of staff					
Attitude of staff to patients					
Cleanliness of rooms, Toilets etc.					
appearance of buildings - well painted, good repair					
availability by laboratory Services					
Availability of x-ray services					
Privacy during examinations and treatment					
availability of adequate bed space					
availability of adequate bed linen and blankets					
availability and quality of food					
overall quality of Services at this facility					

19. What one thing would you most like to see improved about services at this facility ?
(Only one)

20. Are there any other specific issues that you feel should be taken into consideration in developing user fee policy for Public Sector health Services?

21. What will be your recommendations to the Ministry of Health concerning the user fee policy?

*Thank you for your cooperation in
completing this questionnaire.*

Appendix A.2.

**HEALTH ECONOMICS UNIT
UNIVERSITY OF CAPE TOWN**

**ERITREA USER -FEE POLICY STUDY
SCHEDULE FOR FACILITY EXIT INTERVIEWS**

A) Type of Health facility

1. Health Station

☐

2. Health Center

3. Hospital

B) Name/Location of health facility

Note to the interviewee

This interview schedule is designed to collect data for the purpose of evaluating the user fee policy for health care in Eritrea that was launched in February 1996. The views of the consumers of health care services are of paramount importance in assessing whether the Scheme is meeting its intended objectives or not and institute some remedial measures where necessary. Therefore, your input in this regard is highly appreciated. Please extend your cooperation by expressing your views to the questions asked. We assure you that the information provided will be treated as confidential.

Thank you for your Cooperation

Note to the interviewer : questions are to be asked to the caretaker if client is under fifteen.

Interviewer : _____

Date of interview _____

SECTION B : ILLNESS AND HEALTH SERVICE UTILIZATION

8) Are you referred to this facility by another health institution? (Ask if the patient came with a referral slip)

☐

- 1 = Health Post
- 2 = Health Station - governmental
- 3 = Health Center - governmental
- 4 = Private for profit facility
- 5 = Private not for profit facility
- 88 = Others (specify) _____

10) If the answer to question 8 is "No", I by passed the nearby health institution what is the one most important reason for not using the nearby Health facility ? (Do not Prompt)

☐

- 1 = long waiting time
- 2 = no drugs
- 3 = no diagnostic (laboratory, X-ray)
- 4 = incompetent Health Workers
- 88 = Others (specify) _____

11) How sick do you (s/he) feel? Would you say you (s/he) felt :

☐

- 1 = not sick
- 2 = mildly sick
- 3 = moderately sick
- 4 = severely sick

12) How would you rate the waiting time at this facility?
(the waiting time is the interval between arrival and exit)

☐

- 1 = Short
- 2 = about average
- 3 = too long
- 4 = much too long

SECTION A: SOCIO - DEMOGRAPHICS

1. Age of ill person (in years) :

1 = less than one year

2 = 1 - 4

3 = 5-14

4 = 15-44

5 = 45-64

6 = 65+

2. Gender of ill Person :

1 = Male

2 = Female

3. If the ill person is under 15,
What is the relationship of the caretaker/respondent
to the ill Person?

1 = father

2 = mother

3 = brother/sister

88 = Others (specify) _____

4) How many minutes did it take you to get to this health facility?

_____ minutes

5) What mode of transport did you use to get to this health facility?

1 = foot

2 = motor vehicle

88 = others (specify) _____

6) Residential address of ill person (record the "Zoba" and Memhdar" only)

7) What type of work does the ill person do ?

1 = work for pay

2 = self employed

3 = Work at home, no pay

4 = unemployed

5 = sick/disabled

6 = studying /schooling

88 = Others (specify) _____

15) How much did you pay for the services? (fill in the following table)

Service	amount paid in Birr
registration and consultation	
Laboratory tests	
X-ray examination	
drugs	
Others (Specify)	

16) Where from did you (s/he) get the money to pay for the services?

☐

1= Personal savings

2 = borrowing

3 = Sold personal belongings

4 = got assistance from relatives, friends etc.

88 = Others (Specify) _____

17) Why didn't you (s/he) have to pay for the services? (This refers to on the spot payment)

☐

1= exemption

2 = waiver with a certificate

3 = waiver but no certificate

4 = deductions to be made from salary

5 = insured

88 = others (Specify) _____

(If answer to question "17" is waiver with a certificate answer 18 and 19, otherwise go to 21)

18. Where form did you (s/he) get the waiver certificate?

19. How many days did it take you (her/him) to get it?

20. Will you buy all the drugs prescribed to you? (If drugs are to be bought from private pharmacy) ☐

1 = Yes

2 = No

3 = don't know

21. What one thing would you most like to see improved about the services at this facility? (Do not prompt) ☐

1 = more drugs

2 = more qualified staff

3 = better staff attitude

4 = increase staff efficiency

5 = cleanliness

6 = building repair

7 = improve laboratory services

8 = improve X-ray services

9 = reduce waiting time

88 = others (specify) _____

22. Given the quality of Services that you obtained from this facility, how much would you be willing to pay for :

a) registration and Consultation?

Birr _____

b) drugs?

Birr _____

c) diagnostic tests?

Type of test

Willingness to pay in Birr

23) If the quality of Service rendered is to be improved in the way that you suggested, how much would you be willing to pay for :

a) registration and consultation ?

Birr _____

b) drugs?

Birr _____

c) diagnostic test?

Type of test	Willingness to pay in Birr
_____	_____
_____	_____
_____	_____

24) What is the estimated average monthly income of your household?

a) Salaries and wages of all household members Birr

b) income from other sources (e.g. agricultural production, transfers, etc.) Birr

25) To which income group do you classify yourself ?

1 = low

2 = middle

3 = high

4 = don't know

26) Based on the monthly income and personal savings of your family, how much would be able to pay for :

a) registration and consultation Birr _____

b) drugs Birr _____

Type of test	Willingness to pay in Birr
_____	_____
_____	_____
_____	_____

Thank you for your Cooperation

Appendix A.3.

**HEALTH ECONOMICS UNIT
UNIVERSITY OF CAPE TOWN****ERITREA USER FEE POLICY STUDY
SCHEDULE FOR INPATIENT INTERVIEWS**Ward N^o : _____

Type of Ward:

Pediatric ☐

Medical (Adult)

Surgical (Adult)

Maternity

To the interviewee :

This interview Schedule is designed to collect data for the purpose of evaluating the user-fee policy in Eritrea launched in February 1996. Your opinions are of paramount importance in assessing whether the scheme is meeting its intended objectives or not and institute some remedial measures where necessary. Therefore your input in this regard is highly appreciated. Please extend us your co-operation by expressing your views to the questions asked. We assure you that the information provided will be treated as confidential.

Note : Interviewer, please ask the questions to the caretaker if client is under fifteen.

Interviewer: _____

Date of interview: _____

Section A Patient identification (from record)

1) Name : _____

2) Age :

1= less than five years

2= 5 - 14 years

3= 15+ years

3) Sex :

1= Male

2= Female

4) Residence address :

5) Occupation :

1= work for pay / wage

2= self - employed

3= work at home, no pay

4= unemployed

5= sick, disabled

6= studying / schooling

7= others (specify)

6) Estimated average household income :

♦ Salaries and wages (of all household members)

♦ Income from other sources (agricultural production, transfer)

7) To which income group does client classify himself ?

1= low

2= middle

3= high

SECTION B : Illness and Service Utilization questions:

8) How sick do you (S/he) feel ? Would you say you (S/he) felt

1= not sick

2= mildly sick

3= moderately sick

4= severely sick

9) Referral Status :

1= referred

2= No referral - living nearby

3= not referral - bypass

4= not applicable

10) If referred, level of referring institution:

1= Health post

2= Health Station, governmental

3= Health centre, governmental

4= private for-profit facility

5= private not-for-profit facility

6= others (specify)

11) If the answer to question 9 is "no referral-by pass" what are the reasons for by passing the appropriate Health facility ?

1= long waiting time

2= no drugs

3= no diagnostics (laboratory, x-ray etc.)

4= incompetent Health workers

5= others (specify)

12) How would you rate the following features of this facility ?

	excellent	good	fair	poor	don't know
Availability of drugs					
Competence of staff					
Attitude of staff to patients					
Cleanliness of rooms, toilets, etc.					
Appearance of buildings - well painted, good repair					
Availability of laboratory and X-ray services					
Confidentiality/privacy during examinations and treatment					
Availability of adequate bed space					
Availability of adequate bed linen and blankets					
Availability and quality of food					
Overall quality of services at this facility					

13) How would you rate the waiting time to be admitted at this facility ?

would you say it was :

1= short

2= about average.

3= too long

SECTION C : Fees and Exemptions :

14) Do you expect to have to pay for the services you are receiving in this hospital ?

- 1= Yes
2= No
3= Don't know

☐

If "Yes" answer questions 15-18; if "No" go to 19.

15) How many Birr per day do you expect to pay ?

Birr _____

Don't know _____

16) How many Birr do you expect to pay for each X-ray ?

Birr _____

Don't know _____

17) How many Birr do you expect to pay for each laboratory test ?

Birr _____

Don't _____

18) From where will you (S/he) get the money to cover the cost ?

- 1= personal savings
2= borrowing
3= selling assets
4= assistance from friends, relatives, etc. .
5= others (specify)

☐

19) If answer to question 14 is "No" (i.e. if patient does not expect to pay out-of-pocket for the services S/he is receiving) what is The reason ?

- 1= exemption
2= Waiver, has certificate
3= waiver, has no certificate
4= deductions to be made from salary
5= insurance
6= others (specify)

☐

If answer to Q 19 is "2" i.e. "waiver - has certificate" answer 20 & 21 otherwise go to 22.

20) Where from did you (S/he) get the waiver certificate ?

21) How long did it take you (him/her) to get it ?

22) How much would you be willing to pay, given the quality of service that you are receiving from this facility ?

- I) Hotel costs (per day) : Birr _____
- II) X - ray examinations : Birr _____
- III) Laboratory test : Birr _____
- IV) Drugs : Birr _____
- V) Operation (if patient had one, state type to operation from clinical card) : Birr _____

23) If the quality of Service rendered is to be upgraded from its present state :

a) How much would you be willing to pay for

- I) Hotel costs Birr _____
- II) X-ray examinations Birr _____
- III) Laboratory test Birr _____
- IV) Drugs Birr _____
- V) Operations (if patient had one, state type of operation from clinical card.) Birr _____

b) How much would you be able to pay for :

- I) Hotel costs Birr _____
- II) X-ray examinations Birr _____
- III) Laboratory tests Birr _____

I) Drugs

Birr _____

V) Operations, deliveries, other therapeutic operations (if patient had one, state
type of operation from clinical card)

Birr _____

Thank you for your Co-operation.

Appendix B.1.:Mekane Hiwot Hospital Monthly OPD morbidity statistics,1994-97

	1994			1995			1996			1997		
Month	New	Repeat	Total	New	Repeat	Total	New	Repeat	Total	New	Repeat	Total
January	4,328	4,972	9,300	4,856	9,873	14,459	4,373	6,258	10,631	1244	1019	2263
February	4,957	12,167	17,124	4,118	9,635	13,753	4,585	6,005	10,590	3180	401	3581
March	4,814	10,872	15,686	3,846	9,830	13,676	2,535	4,880	7,415	3978	555	4533
April	4,687	8,706	13,393	3,947	6,174	10,121	2,150	4,280	6,430	4576	508	5084
May	4,987	8,675	13,662	3,905	9,520	13,425	2,540	4,089	6,629	4894	467	5361
June	4,195	7,245	11,440	3,178	6,839	10,017	2,971	2,674	5,645			
July	3,611	7,549	11,160	4,425	4,942	9,367	3,581	2,053	5,634			
August	5,088	7,805	12,893	4,185	5,637	9,822	3,310	2,320	5,630			
September	5,651	9,512	15,163	4,065	4,835	8,900	2,467	1,962	4,429			
October	4,081	11,081	15,162	5,225	5,735	10,960	3,733	2,367	6,100			
November	5,218	10,210	15,428	5,033	4,985	10,018	3,009	2,038	5,047			
December	4,985	9,995	14,980	4,137	4,639	8,776	2,661	2,190	4,851			

Source: Mekane Hiwot hospital statistics division

Appendix B.2.: Mekane Hiwot Hospital monthly inpatient statistics, 1994- March 1997

Month	1994	1995	1996	1997
January	1,361	1,763	1,530	1,624
February	1,527	1,492	1,605	1,672
March	1,300	1,506	1757	1732
April	1,155	1,426	1,712	-
May	1,382	1,602	1,690	-
June	1,425	1,541	1,483	-
July	1,546	1,568	1,624	-
August	1,369	1,727	1,765	-
September	1,543	1,987	1,686	-
October	1,758	2,124	1,708	-
November	1,497	1,818	1,601	-
December	1,399	1,667	1,726	-

Source: Mekane Hiwot hospital statistics division.

Appendix B.3.: Monthly outpatient morbidity statistics, Asmara Zone health centers and health stations, 1994-97

Month	1994		1995		1996		1997	
	Health station	Health center	Health station	Health center	Health station	Health center	Health station	Health center
January	19,432	7,116	16,297	5,407	13,579	3,383	14,727	3,643
February	23,971	6,688	16,328	4,803	15,608	4,227	15,729	3,480
March	22,207	6,183	13,796	3,704	15,050	4,291	15,496	4,327
April	20,451	7,253	17,378	5,292	16,027	5,199	15,490	4,596
May	18,763	6,138	14,456	4,973	14,185	4,257	13,868	3,963
June	21,469	8,209	16,002	5,121	13,161	4,767	13,349	4,784
July	14,439	6,486	14,195	4,551	13,894	4,656	13,772	5,258
August	19,352	7,656	13,621	4,708	14,641	5,120		
September	15,532	5,945	15,479	4,600	15,807	4,605		
October	17,509	5,768	14,648	4,551	11,674	4,547		
November	16,527	6,261	14,168	4,708	12,343	3,409		
December	14,674	5,386	11,548	3,868	11,458	3,406		
Total	224,326	79,089	177,916	56,250	167,427	51867		

Source: Statistics division, Asmara Maekel Zone Health Department

Appendix B.4.: Outpatient (first time visits) statistics, Semenawi Asmara Health center (SAHC) and Godaif health station (GHS), 1994-July 1997

	1994		1995		1996		1997	
Month	SAHC	GHS	SAHC	GHS	SAHC	GHS	SAHC	GHS
January	1,292	670	978	293	566	243	519	365
February	1,172	483	1,011	233	350	285	567	381
March	4,943	282	679	216	506	329	547	451
April	1,116	325	820	519	617	334	694	580
May	785	335	643	308	486	440	458	341
June	768	355	655	318	657	430	690	378
July	684	638	717	327	500	382	775	416
August	889	683	408	359	400	449	900	423
September	916	524	423	426	560	551	-	-
October	783	343	419	375	1344	447	-	-
November	785	334	640	329	526	469	-	-
December	1,088	293	318	322	430	319	-	-

Source: Respective health facilities.

APPENDIX C**CAUSES OF MORBIDITY AND MORTALITY**

Appendix C.1.: Leading Causes of Outpatient Morbidity, Mekane Hiwot Hospital 1995

Diagnosis	Number	Percent
Diseases of the digestive system	13,431	24.7
Disease of the respiratory system	11,313	20.8
Infectious and parasitic diseases	8,776	16.1
Injury, poisoning and other consequences of external cause	4,662	8.6
Diseases of the genito-urinary System	4,561	8.4
Diseases of musculo-skeletal and connective tissue	2,612	4.8
Diseases of the circulatory system	2,415	4.4
Diseases of the ear and mastoid	2,361	4.3
Endocrine, nutritional and metabolic disease	2,204	4.1
Symptoms and signs of abnormal clinical and laboratory finding	2,062	3.8
Total, all causes	54,397	100.0

Source: Mekane Hiwot hospital, statistics division

Appendix C.2.: Leading causes of hospitalization, Mekane Hiwot hospital 1995

Diagnosis	Number	Percent
Normal delivery	4,717	23.5
Abortion	2,048	10.2
All accidental causes	2,532	12.6
Pneumonia, all types	1,848	9.2
Malaria	1,613	8.0
Gastro-enteritis and colitis	958	4.8
Respiratory tuberculosis	859	4.3
Diseases of the genito-urinary system	783	3.9
Diseases of the circulatory system	738	3.7
Ear, Nose and Throat (ENT) disorders	228	1.1
Total, leading causes	16,324	81.3

Source: *ibid*

Total discharges= 20,043

Appendix C.3: Leading causes of outpatient morbidity, Mekane Hiwot Hospital 1996

Diagnosis	Number	Percent
Dental caries (teeth and supporting structures)	7,301	19.2
All upper respiratory infections	3,313	8.7
All obstetric-gynecologic conditions	2,628	6.9
Pneumonia, all types	2,000	5.3
Diarrhea, all types	1,742	4.6
Ear, nose and throat disorders	1,645	4.3
All helminthic and parasitic diseases	1,624	4.2
skin disease	1,476	3.9
Tuberculosis, all types	1,194	3.2
All accidental causes	1,153	3.0
Diseases of the urinary system	1,168	3.1
Total, leading causes	25,244	66.4

Source: *ibid*

Total visits =37,915

APPENDIX C.4.: Leading causes of hospital mortality, Hiwot Hospital , 1995

Diagnosis	Number	Percent
Diseases of the circulatory system	78	13.0
All accidental causes	64	10.7
Pneumonia, all types	62	10.3
Gastro-enteritis	60	10.0
Diseases of the liver	51	8.5
Septicemia	49	8.2
Diabetes mellitus	26	4.3
Kwashiorkor and marasmus	26	4.3
Malaria	16	2.7
Total, Leading causes	494	82.3

Source: *ibid*

Total deaths= 599

Appendix C.5.: Leading causes of hospital mortality, Mekane Hiwot hospital, 1996

Diagnosis	Number	Percent
Pneumonia, all types	56	8.3
Accidents	55	8.1
Heart failure	44	6.5
Hypertension	43	6.4
Septicemia	42	6.2
Tuberculosis	41	6.1
Gastro-enteritis	30	4.4
Diseases of the liver	27	4.0
Diabetes mellitus	26	3.8
Kwashiorkor and marasmus	23	3.4
Total, leading causes	387	57.2

Source: *ibid*

Total, all causes= 676

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APPENDIX B
UTILIZATION STATISTICS