

UNIVERSITY OF NAIROBI

DEPARTMENT OF ECONOMICS

MASTER OF ARTS RESEARCH STUDY

**EQUITY IN HEALTH CARE FINANCING AND EXPENDITURE
IN KENYA**

BY

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requirement for the Degree of Master of Arts in Economics**

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Declaration

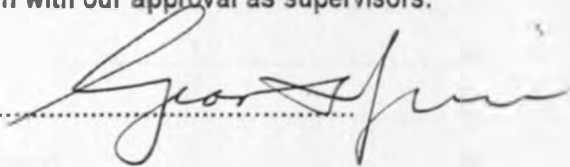
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List of Tables

Table 1: Public Health Expenditure in Kenya,(1997-2002,Kshs.million,Nominal prices).....	5
Table 2: Public Health Expenditure as a % of GDP in Kenya (1997-2002,Nominal Prices).....	6
Table 3: Public Health Expenditures in Kenya as a % of Total Government Expenditure (1997-2002,Nominal Prices).....	6
Table 4: Comparison of Public Health Expenditures and Health Indicators,2001.....	7
Table 5: Comparison of Health spending between Private and Public Sources,2001.....	7
Table 6: Annual Average Growth Rates of Real GDP in Key Sectors,(1964-2003).....	11
Table 7: Human Development Indices in Kenya,2003.....	13
Table 8: Trends in Overall Poverty in Kenya(%), 1992-2004	14
Table 9: Rural-Urban Disparities in Health Indicators	44
Table 10: Regional Inequalities in Health	46
Table 11: Health Facilities and Outpatient Mobidity per Province	49
Table 12: Household Per Capita Health expenditure	49
Table 13: Trends in Ministry of Health Curative and Preventive Programmes Budget.....	57

List of Figures

Figure 1	Framework for Equity in Health care Financing and Expenditure.....	39
Figure 2	Per capita incomes by Province (Kshs).....	42
Figure 3	Flow of Funds between Financing Intermediaries and Provinces.....	46
Figure 4	Ministry of Health Actual Expenditure Kshs Million, by Province, 2001/2002	50
Figure 5	Per Capita Health Expenditure- Province (Kshs).....	50
Figure 6	Curative and Preventive Programmes MoH Spending,2001/2002 (millions of Shillings).....	55
Figure 7	Trends in Actual Government Per Capita Health expenditure/budgets by province.....	56
Figure 8	Per Capita health Expenditure – Central province.....	57
Figure 9	Per Capita health Expenditure – Coast province.....	57
Figure 10	Per Capita health Expenditure – Eastern province.....	57
Figure 11	Per Capita health Expenditure – North Eastern province.....	58
Figure 12	Per Capita health Expenditure – Nyanza province.....	58
Figure 13	Per Capita health Expenditure – Rift Valley province.....	58
Figure 14	Per Capita health Expenditure – Western province.....	59

Dedication

ACKNOWLEDGEMENTS

I would like to dedicate this work to both my parents, Mr.Lare Okungu and Mrs.Lucy Okungu.

My parents, Mr. Lare Okungu and Mrs. Lucy Okungu, have been my greatest source of inspiration and support throughout my life. Their love, wisdom, and encouragement have guided me through every challenge and triumph. I am deeply grateful for their unconditional support and for the values they have instilled in me. This work is a testament to their influence and the love they have poured into me.

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Abbreviations and Acronyms

CBS	-	Central Bureau of Statistics
ERSWEC	-	Economic Recovery Strategy for Wealth and Employment Creation
ESAC	-	East and Southern Africa Countries
GDP	-	Gross Domestic Product
GoK	-	Government of Kenya
HDI	-	Human Development Index
IMR	-	Infant Mortality Rate
KDHS	-	Kenya Demographic Health Survey
MMR	-	Maternal Mortality Rate
MoF	-	Ministry of Finance
MoH	-	Ministry of Health
MTEF	-	Medium Term Expenditure Framework
NGO	-	Non-Governmental Organisation
NHA	-	National Health Accounts
NHIF	-	National Health Insurance Fund
NSHIF	-	National Social Health Insurance Fund
NRE	-	National Resource Envelop
OECD	-	Organization for Economic Cooperation and Development
PAHO	-	Pan American Health Organization
SSA	-	Sub Saharan Africa
UNDP	-	United Nations Development Programme
U5MR	-	Under-Five Mortality Rate
WHO	-	World Health Organization

Abstract

Health care financing studies in Sub-Saharan Africa, Kenya included have tended to focus on single modes of financing at a time, such as user fees, insurance, government budget, donor funding, or on financing-related issues such as equity and quality of care. Relatively few studies have been conducted to analyze total national health financing or expenditures from all sources and to relate them to their various uses. Not only has less attention been paid to the equity in health care financing and expenditure in Kenya, but also very little research has been done to establish the extent to which public health care financing allocation is equitable. Yet the extent to, and the speed with which the public health sector can redress inequities in health care financing and expenditure can significantly reverse the declining health indicators.

It is argued that the National Health Accounts (NHA) framework is a useful framework for answering basic health financing questions and for highlighting policy issues which may otherwise not be evident using more narrowly-focused approaches. NHA tracks finances from sources to users in the health system as a whole as well as within disease- or intervention-specific sectors (i.e., HIV/AIDS, reproductive health). This study uses the broader framework of National Health Accounts (NHA) to analyze national health expenditures in Kenya and attempts to examine whether the health care resources are equitably allocated to different regions. The study uses data on health status and other socio-economic characteristics to develop distributional estimates of who makes the payment under each financing mechanism, and who receives the benefits of government health subsidies.

The results show that there are considerable inequities in the distribution of health care resources in Kenya. The study reveals that a large percentage of the population could not afford the basic health care package in 2001/2002. It was noted that actual expenditures fall below budgetary allocations. The current resource allocation formula is not in favour of poorer provinces. Thus relative resource allocation to such provinces should be given even greater priority given the large disparity in Human Development Indices.

A key factor that has contributed to the slow progress towards equity has been the decline in annual real per capita government budget to the health sector. In some relatively disadvantaged provinces, such as Nyanza and Western provinces, the current resource formula is resulting in allocations, which are below their current spending levels. In order to ensure that budget changes are translated into real equity-promoting resource shifts within provinces and within districts, certain issues need to be urgently addressed. In particular efforts to redistribute financial resources should be accompanied by initiatives to develop all facets of capacity at decentralised levels.

Table of Contents

List of Tables	II
List of Figures	III
Dedication.....	IV
Acknowledgement	V
Abbreviations and Acronyms	VI
Abstract	VII
CHAPTER 1	1
1. INTRODUCTION.....	1
1.1 Overview of Equity in Financing and Expenditure	1
1.2 Health care Financing and Expenditure in Kenya	2
1.2.1 Health care Financing	2
1.2.2 Health care Expenditure	4
1.3 Statement of the Problem.....	8
1.4 Objectives of the Study.....	8
1.5 Justification of the Study.....	9
1.6 Organisation of the Paper.....	10
CHAPTER 2.....	11
2. ECONOMIC PERFORMANCE	11
CHAPTER 3	16
3. LITERATURE REVIEW	16
3.1 Concepts of Equity.....	16
3.1.1 Meaning of Equity	19
3.1.2 Equity in Health Care Financing	19
3.1.3 Equity in provision of Health Care	21
3.1.4 Equity of Health Outcomes	21
3.2 Review of Previous Studies	24
3.3 Summary of Reviewed Literature	34
CHAPTER 4.....	36
4. CONCEPTUAL FRAMEWORK.....	38
4.1 The framework of National Health Accounts.....	36
4.2 Method of Analysis	41
4.3 Nature, Type and Source of Data	43
CHAPTER 5.....	45
5. RESULTS.....	45
5.1 Distribution of Funds for the Financing of Health Services.....	45
5.2 Inequalities in the Distribution of Benefits.....	51
5.3 Financing Between Levels of Care.....	53
5.4 Trends in Regional distribution of Benefits.....	55
5.5 Intra-Provincial Distribution of Health Expenditures/Budgets.....	56
CHAPTER 6	60
6. CONCLUSION AND POLICY RECOMMENDATION.....	60
References.....	67

CHAPTER 1

1. INTRODUCTION

1.1 Overview of Equity in Financing and Expenditure

Equity in the design and in the provision of health care services is an important goal for ministries of health worldwide. Within a health system inequities in access to health care have an important impact on the overall level of health status of a population. It has been argued that the provision of basic health care is important for mitigating the impact of poverty in rural areas (Alailima and Mohideen, 1983; Meerman, 1979). It is also sometimes argued that public financing and provision of health services is desirable as it represents an indirect means of redistributing material resources within a society. In addition to the objectives of equal health outcomes and equal access, policy makers are concerned with the redistributive impact of government health expenditures. Health systems and health reforms are often judged both in terms of their implications for the distribution of access and outcomes, and in terms of the distributive burden of financing.

Although much of the pattern of equity found in a particular health system is a function of the pre-existing patterns of social and economic equity, as they are found outside the health system itself, the structure and organisation of the delivery and financing of health care itself can play a significant role in determining the pattern of equity in financing and in access to health services.

The WHO's 1978 Alma –Ata Declaration on primary health care voiced an international commitment on equity in access to health care. This commitment crystallized during a period of widespread economic growth. During the 1980s however, the pursuit of the equity goal has proved elusive as a result of economic recession experienced worldwide. Although health care financing goal and equity is a stated concern of policy makers in most developing countries, many demonstrate considerable inequity in their health care financing. This is in contrast with developed countries, where utilization of health services tends to be more equitably distributed across all income groups, and public spending better targeted on poorer households.

Health care financing policy has a significant impact on the structure and organization of health care delivery system. Available evidence show that increased health care spending greatly improves the health status of the population. The priority given to health care will increase as a country's economic growth increases. This is because the increase in the level of funding to the health sector depends largely on the rate of economic growth and the efficiency of taxation. This has raised issues such as: "What is the right amount for a country to spend?" or "How much of the nation's GNP or GDP should be devoted to health care?" Existing evidence reveal that low income countries spend about 5 per cent of their national GDP on health care whereas high income countries spend upto 15 per cent or more. Kenya spends 5.1 percent of its gross domestic product (GDP) on health. This is comparable to other countries in sub-Saharan Africa, which average 5.7 percent, but well below the high-income OECD countries' average of 9.8 percent.

World Health Organization (WHO) has emphasized the importance of the equity aspect as a policy objective when reforming health care systems, especially when attention has been focused too greatly on efficiency considerations. In Europe, WHO has placed equity in health services as a central goal to be achieved in progress towards health for all in 2000 (Whitehead,1992).However,this has not been achieved. In the Americas, Pan American Health Organization (PAHO) has stressed the importance of the concept of equity both in health status and in distribution of health services in its work in the region (PAHO, 2001).WHO's own framework for assessing health sector financing reform options has emphasized the importance of collecting adequate and systematic data on the equity of health care systems (Kutzin,1995). Fairness in financing occurs to the extent that individuals pay for medical care based on medical needs rather than their ability to pay. Large and unexpected medical care costs affect a large proportion of the population, as most diseases are not easily predictable at the individual level.

1.2 Health Care Financing and Expenditure in Kenya

1.2.1 Health care Financing

Over the past two decades, the government of Kenya has been making concerted efforts to improve health status both in rural and urban areas. At independence in 1963, the principle of free medical services for all Kenyans prevailed. However, the policy could not be sustained because of the inability

of the government to continue financing free health care. Moreover, poor economic conditions meant that the government could not sustain the provision of free health care in public facilities and to bridge the financing gap, the government introduced a cost-sharing scheme in public health facilities to generate additional revenues to supplement the government budget (Mwabu,1996); Mwabu et al., 1995; and Collins et al.,1994).Cost sharing revenue constitutes around 8 per cent of the non-wage recurrent budget financing of the Ministry of Health and about 21 per cent of the wage recurrent budget of the MoH (excluding Kenyatta National Hospital), (MOH,2002). However, the government 's equity principle that all Kenyans have access to basic health care services has not functioned satisfactorily, posing serious challenges to accessibility to health care by the poor in an environment of growing poverty.

The financing of public sector health services is still heavily dependent upon donor funding. The donor funding which constitutes an important source of funding in the country, accounts for over 90 per cent of the development budget. The other source of finance is general tax revenue and user fees. The latter also generates some income, but this revenue is utilized at the facility level and is thus, not quite a reliable source of finance for public health services.

Health insurance is another source of health care financing in Kenya. Health insurance is provided by both private and public systems. The private sector which accounts for about 54% of the total health sector funding is by far the largest source of health funds. The proposed mandatory national social health insurance is a pro-poor financing mechanism unlike user fees and out-of-pocket health expenditure and is strongly encouraged by the international development agencies as a strategy of sharing costs and risks of health care across the whole population. Kenya's National Hospital Insurance Fund (NHIF) contribution level is based on income –2 % of the salary up to a set maximum of Ksh.320 (US\$ 5) per month. This is incomparable to the contribution rate of other countries like Tanzania and Germany whose rates are 6% and 13-15% respectively. In view of its limited coverage and inability to ensure maximum benefits to its members, among other inadequacies, proposals for the transformation of NHIF into the National Social Health Insurance Fund (NSHIF) are underway.

The budget allocation to priority activities/programmes, i.e to behaviour change, treatment and care for the infected and affected, and mitigation of socio-economic impacts, was 18%, 55.5%, and 6.1%, respectively, in 2002/03 compared to 12.3%, 58.3% and 4.3%, respectively, in 2000/01. Although the

government has been allocating substantial budgetary resources to the health sector as compared with similar income countries, the general health status of Kenyans continues to deteriorate, Owino et. al., (2000). Several reasons have been identified for the problems facing Kenya's health care system. These vary from misallocation of resources to inefficiencies in the delivery system. Health problems in the country have also been aggravated by high incidence of infections and communicable diseases on one hand and modern diseases like Cancer and HIV/AIDS on the other hand. The former is generally associated with malnutrition, unhygienic sanitation, illiteracy and ignorance. Further, rapid population growth and significant number of people below the poverty line and large rural and urban unorganized sectors makes it even more difficult for health services to keep pace with health needs. Financial burden on consumers also arises from the fact that drugs and medical technology have become expensive. With inadequate management of public facilities, consumers of health care have been forced to visit private facilities and incur large out of pocket expenditure for care that could otherwise have been available at little or no cost at government facilities, Mwabu, *et.al.*, (1995).

1.2.2 Health care Expenditure

In 1999, Kenya adopted a new approach to budgeting, the MTEF, which provides a framework for implementation of the National Resource Envelope (NRE) and forms the basis of the three year rolling plan, with the first year based on the 2001/2002 annual estimates. The MTEF enables the government to make projections on total revenue and expenditure plans for the next two years. Each GoK ministry is required to prepare a rolling three-year budget plan (in line with the MTEF framework) when preparing its expenditure estimates, based on ministerial priorities and costs established in its sector reviews and consistent with its allocation of the sectoral ceilings. In this framework, the first year of the planning period is translated into detailed annual estimates, while the other two years provide indicative medium-term expenditure ceilings.

The health expenditure as a proportion of GDP is estimated at around 8 per cent. This is inadequate for the provision of needed health services. Owing to the poor performance of the economy, the proportion of government budget allocated to the health sector has continued to decline in real terms. In absolute terms, nominal health care expenditures increased from K£ 54 million in 1980 to K£ 461

million in 1997, representing a 9 fold increase in approximately 17 years. However, in real terms (1982 prices), the increase was only two fold with health care expenditures rising from K£ 70 million in 1980 to K£ 171 million in 1997. As a proportion of real government budget, real public health expenditures on health have declined from about 10% in 1980 to around 6% in 1997.

Total health expenditure in per capita terms in 1996 was estimated to be about US\$ 14.8, out of which the Ministry of health accounted for US\$ 6.2 per capita. Both Recurrent and Development expenditures represented only 1.5 per cent of the GDP while per capita total health spending was approximately Ksh.500 (US\$ 6.2). The per capita expenditures have continued to decline over time, from US\$ 14.8 in 1996 to around US\$ 6.5 in year 2003. This indicator is not expected to improve considering the current poor performance of the economy. The government contribution to the health sector is currently estimated to be about 8.3% (Republic of Kenya, 2003b) of the government budget. Compared to other sub-saharan countries of the same income levels (GDP), Kenya's per capita health spending from all sources, reflects high levels of spending. Low income countries like Kenya, spend as little as US\$11 per person annually, of which US\$ 6 comes from budgetary resources that includes donor contributions. The balance of about US\$ 5 mainly comes from out-of-pocket expenditures. This falls short of the World Health Organization's recommended US\$ 34 per capita, and even below the government's commitment to spend 15 per cent of total spending following the Abuja Declaration of 2001.

The total recurrent expenditure for the MoH increased from Kshs.8,797 million in 1997/98 to Kshs.14,359 million in 2002/03 financial year. Growth in health expenditure as a percentage of GDP (market prices) shows similar trends, although lower than the growth in the GDP (see table 2).

Table 1 provides a summary of public health expenditures in current prices.

Table 1: Public Health Expenditure in Kenya (1997-2002, Kshs.million, Nominal prices)

	1997/98	1998/99	1999/2000	2000/2001	2001/2002	2002/2003
Recurrent	8,797	8,584	9,159	10,665	12,682	14,359
Development	843	368	604	900	916	1,153
Total	9,640	8,952	9,763	11,565	13,598	15,512

Source: World Bank: Republic of Kenya: Report on Social Expenditure Review, 2004.

Table 2: Public Health Expenditure as a % of GDP in Kenya (1997-2002, Nominal Prices)

	1997/98	1998/99	1999/2000	2000/2001	2001/2002	2002/2003
Recurrent	1.4%	1.2%	1.2%	1.4%	1.3%	1.5%
Development	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Total	1.5%	1.3%	1.3%	1.5%	1.4%	1.6%

Source: World Bank: Republic of Kenya: Report on Social Expenditure Review, 2004.

Table 3 shows the extent of government's commitment to health care financing. Recurrent expenditure as a percentage of the total government expenditure has been relatively stable at around 8 per cent, except for the financial year 2000/01.

Table 3: Public Health Expenditure in Kenya as a % of Total Government Expenditure (1997-2002, Nominal Prices)

	1997/98	1998/99	1999/2000	2000/2001	2001/2002	2001/2003
Recurrent	8.3%	8.3%	8.4%	8.0%	9.0%	8.9%
Development	6.9%	3.6%	8.5%	5.4%	8.5%	8.1%
Total	8.1%	7.9%	8.4%	7.7%	8.9%	8.5%

Source: World Bank: Republic of Kenya: Report on Social Expenditure Review, 2004.

Table 4 below presents data on public health expenditure per capita health expenditure and key health indicators in Eastern and Southern Africa countries. The table shows that there are discrepancies between the per capita health spending and health indicators. The table shows that despite a number of countries in the region spending US\$ 12 as recommended by World Bank, they have not been able to provide a basic package of health services to the population, as evidenced by the poor health indicators.

Table 4: Comparison of Public Health Expendures and health indicators,2001.

ESAC Countries	Public Health Expenditure as a % Govt. Exp	Per capita Exp. US\$	IMR(Per 1,000)-1998	MMR(Per 100,000-1998)	U5MR(per 1,000 live births-2001)	Life Expectancy @ birth 1998(years)
Kenya	8%	19.4	78	1,300	122	48.9
Mozambique	5%	8.9	125	980	197	44.8
Ethiopia	6%	4.3	116	1,800	172	48
Uganda	5%	12.3	79	1,100	124	46.4
Rwanda	3%	12.7	96	2,300	183	40.7
Zambia	10%	20.9	112	780	202	36.8
Tanzania	9%	10.5	104	1,100	165	43.3
Malawi	10%	12.7	114	580	183	36.3
S.Africa		283	56	340	71	49
Average ESAC (E/S.Africa)						43.8
Average OECD	15.1		6			

Source: Kenya NHA report ,2003

Table 5: Comparison of Health Spending between Private and Public Sources, 2001

Country	Public	Private
Kenya	6.2%	10.5%
Mozambique	2.0%	2.1%
Ethiopia	1.7%	2.3%
Uganda	2.5%	4.4%
Rwanda	1.3%	5.0%
Zambia	8.9%	6.9%
Tanzania	2.5%	5.4%
Malawi	4.3%	4.2%
South Africa	133%	150%

Source: World Bank Reports, 2004

In table 5, Kenya's situation is compared with that of other developing countries having roughly similar per capita incomes. Relative to per capita income, Kenya ranks among the higher health spenders. What is remarkable is the very low share of public spending and very high expenditures by the private sector. Owing to the high poverty level in the country, only less than 20 per cent of the population make regular use of the services in the private health facilities, suggesting that an increasing proportion of the population are reliant on public services even as the public sector continues to receive a declining share of health funds.

1.3 Statement of the Problem

Although equity in public sector health care resource allocation has spawned a major debate in attempts to understand the causes of health sector inequities in developing countries, less attention has been paid to the equity in health care financing and expenditure in Kenya. Some of the health care reforms in Kenya relate to alternative financing mechanisms e.g. user fees, National Social Health Insurance Fund (NSHIF), public/private mix and management (e.g. decentralization of decision making to districts and the proposed NSHIF). The extent to which, and the speed with which the public health sector can redress inequities in health care financing and expenditure can significantly reverse the declining health indicators. The level of care, particularly the extent to which primary care services are prioritised are of importance from an equity perspective as much of the morbidity and mortality is attributable to potentially preventable diseases (McIntyre et al., 1995). Studies have shown that excess suffering and premature death could be reduced at relatively low cost through primary care interventions, such as increased coverage by preventive programmes and improved access to basic health care (World Bank 1993, 1994).

Thus to address equity more successfully in the financing of health care, the policy makers need to have a clear knowledge of any inequities in public health financing and expenditure. So far, very little research has been done in Kenya to establish the extent to which public health care financing allocation is equitable. This study seeks to fill this knowledge gap.

1.4 Objectives of the Study

The general objective of this study is to examine the financing and allocation of health care resources in Kenya by examining whether health care resources are equitably allocated to different geographical regions. The specific objectives of this study are:-

- To examine equity in health care financing and expenditure in Kenya.
- To determine whether allocation of expenditure between and within provinces is guided by health care needs.
- To recommend policy implications based on the study findings.

1.5 Justification of the Study

Across the globe, there has been a growing consensus that large and avoidable gaps in health status among individuals and groups are morally unacceptable. These concerns originate from the belief that health care is a basic right and its receipt should be based on need rather than on one's ability to pay. The primary motivation of this study is to find out whether the scarce resources in the health sector in Kenya are being equitably utilised. Studies done in Sub Saharan Africa indicate wide inequities in health care financing and expenditure and utilization of health resources on items that favour high-income groups (Barnum and Kutzin 1993; World Bank, 1994).

Access to health services in Kenya today is limited not only by the reduction in public sector supply, but also by the loss of free services, since the government introduced a cost-recovery policy in 1989. The increased supply of private services serves only the better off, since the prices are unaffordable to the majority of the people. The study is a basis for making cross-national comparisons, which ensure equity and will also enable policy makers to appropriately allocate resources.

Decentralization as one of the central components of health programmes has been promoted internationally, and a critical element in any decentralized structure is the mechanism through which resources are channeled from national levels to the peripheral units. The allocation of resources and utilization within decentralized systems is recognized to be one of the most important influences over the impact on equity (Collins and Green, 1994; Russell and Gilson 1995; Kolehmainen-Aitken and Newbrander, 1997).

This raises important questions for the health sector about if and how to protect and promote health system equity within a system where resource use decisions are decentralized, and even lie outside the health sector. Clearly, in all decentralized structures, including those that lie solely within the health sector, it is critical that health ministries develop ways of shaping resource allocation flows to equitably meet health needs. In addition where the Ministry of Health is at an arms length from key resource allocation decisions, it is also critical to evaluate existing patterns of resource allocation in order to

contribute to policy debates about the merits of the overall governmental resource allocation approach.

To the best of our knowledge, there are no studies on equity in health care financing that have been carried out in Kenya.

1.6 Organisation of the Paper

The paper is organized as follows: Chapter 1 sets the background, problem statement, justification and objectives of the study. Chapter 2 provides an overview of the country profile, and highlights the key socio-economic and demographic factors. Chapter 3 presents a review of the literature. Chapter 4 provides the conceptual framework related to equity in health care financing and expenditure using the National Health Accounts (NHA) framework while chapter 5 discusses the main findings of the study. The final chapter summarises the findings and makes recommendations on further steps that can be taken to promote health sector equity in financing and expenditure in Kenya.

Table 1: Kenya's Economic Growth and GDP by Region (2010-2015)

Year	2010	2011	2012	2013	2014	2015
GDP (KSh)	1,100,000,000,000	1,200,000,000,000	1,300,000,000,000	1,400,000,000,000	1,500,000,000,000	1,600,000,000,000
Manufacturing	150,000,000,000	160,000,000,000	170,000,000,000	180,000,000,000	190,000,000,000	200,000,000,000
Services	950,000,000,000	1,040,000,000,000	1,130,000,000,000	1,220,000,000,000	1,310,000,000,000	1,400,000,000,000
Agriculture	100,000,000,000	100,000,000,000	100,000,000,000	100,000,000,000	100,000,000,000	100,000,000,000
Construction	50,000,000,000	60,000,000,000	70,000,000,000	80,000,000,000	90,000,000,000	100,000,000,000
Trade	150,000,000,000	160,000,000,000	170,000,000,000	180,000,000,000	190,000,000,000	200,000,000,000
Health	100,000,000,000	110,000,000,000	120,000,000,000	130,000,000,000	140,000,000,000	150,000,000,000

CHAPTER 2

2. ECONOMIC PERFORMANCE

After making initial gains soon after independence, the economy started a downward trend during the early 1980s and by the late 1990s, the situation was worse. Between 1964–1973, Kenya's real Gross Domestic Product (GDP) grew at an annual average of 6.5 per cent. Since then the economy witnessed a steady decline upto 1994, when the GDP grew by only 0.2 per cent (see Table 6). Reasons for this poor performance included oil shocks, poor implementation of economic policies mismanagement, and weak institutions of governance (Republic of Kenya, Welfare Monitoring Survey, 2003). However, the favorable impact of economic liberalization and the emergence of global economy from recession, led to a much improved GDP growth rate of 3.3 per cent and 4.8 per cent in 1994 and in 1995 respectively. The positive trend was however short lived as the economy experienced a reversal in 1997, due to the government's noncommittal stand to reforms, and several weather related shocks such as the 1998 El Nino floods (World Bank, 2003).

Table 6. Annual Average Growth Rates of Real GDP in Key Sectors, (1964-2003)

Sector	1964-73	1974-79	1980-89	1990-2000	2001/02	2002/03
Agriculture	4.6	3.9	3.3	0.35	1.0	0.7
Manufacturing	9.1	10.0	4.8	1.85	1.0	1.2
Private household	3.5	14.5	10.0	7.56	-	-
Government services	16.9	6.5	4.9	1.71	0.8	1.2
Finance, real Estate, etc	9.8	12.4	6.7	4.65	0.9	1.1
Other services	-	3.3	4.2	1.75	-0.8	0.1
Gross Domestic Product	6.6	5.2	4.1	0.55	1.2	1.4

Sources: Compiled from CBS (1997a) and CBS (2001); Statistical Abstracts, various issues, Economic Survey, 2004.

It is evident that, during the period 1990-2001, the economic performance has been in a virtual recession. It has experienced a downward trend of its GDP growth rate from 2.4% in 1997 to a low of

1.2% per annum in 2002. This performance is far below that of other countries in the region. Indeed, the rate of growth has consistently been below the population growth rate of 2.4% (Republic of Kenya, 2003b). This has led to decline in per capita income from US\$ 271 in 1990 to US\$ 239 in 2002, (Kenya Economic Recovery Strategy for Wealth and Employment Creation 2003-2007). Unemployment (openly unemployed) currently stands at over 2 million or 14.6% of the labour force with the youth representing about 5% of the total (Economic Survey, 2004).

The situation has however, improved significantly. In 2004 Kenya's GDP was about US\$14 billion. Per capita GDP averages less than US\$400 annually. This adjusted in purchasing power parity (PPP) terms, per capita GDP in 2003 was about US\$1,000. The country's real GDP growth picked up to 2.3 percent in early 2004, compared with a slow 1.4 percent in 2003. Real GDP is expected to continue to improve, largely because of a recovery in agriculture and an anticipated disbursement of donor funds. The Kenya Central Bank forecast for 2005 is 3.3 percent GDP growth. This GDP composition by sector, is as follows: agriculture, 25.7 percent; manufacturing, 14.0 percent; trade, restaurants, and hotels, 13.8 percent; transport and communications, 6.9 percent; government services, 15.6 percent; and other, 24.0 percent. (CBS, 2004 – Economic Survey 2004).

According to the recent estimates of Human development Index (UNDP, 2005), Kenya's Human Development Index (HDI), which measures the socio-economic progress of a country, declined from 0.531 in 1990 to 0.474 in 2003. Life expectancy which also explains the fall in the HDI, declined from 62 years in 1991 to 47 years in 2003, while adult literacy stood at 73.6 per cent. Also, as a result of the sharp decline in economic performance, per capita income in constant 1982 prices declined from Ksh.3,813 in 1990 to Ksh.3,360 in 2003. In addition, the number of people openly unemployed stood at over two million or 14.6 per cent of the labour force, with the youth accounting for 45 per cent of the unemployed (World Bank, 2004). Kenya's poor economic performance, and increased poverty incidence has led to deterioration in health status of the people. This is despite the considerably improved health system with increased use to modern medicine as compared with other developing countries. This is summarised in Table 7.

Table 7: Human Development Indices in Kenya, 2003

Indicator (2003)	Value
HDI (2003)	0.474
Life expectancy (2003)	47.2
Adult Literacy rate (2003)	73.6
GDP per capita (2003)	1,037
Life expectancy index (2003)	0.37
Education index (2003)	0.66
GDP index (2003)	0.39
GDP Growth (2003)	0.2
GDP per capita rank –HDI rank 2003	7

Source: UNDP, 2005: Kenya Human development report 2005.

The above scenario has worsened the poverty levels in Kenya. The number of people living below the poverty line has risen from 48% of the population (11 million) in 1990 to about 60% of the population (17 million) in 2003. Available evidence also show that three quarters of the poor live in the rural areas while majority of the urban poor live in the slums and peri-urban settlements (UNDP, 2005).

Results from the Second Government Report on Poverty (Republic of Kenya, 2000) indicate that the proportion of the population living in poverty rose from 46.3 per cent in 1994 to 60 per cent in 2003. Poverty increased sharply during the early 1990s, declined during the mid-1990s, and rose steadily since 1997 (see table 8). Thus, an additional 2.7 million Kenyans were living below the poverty line in 2001, in comparison to 1997 (from 14.4 million in 1997 to 17.1 million in 2001). Rural absolute poverty situation was about 47 per cent in 1994, but by 1997, it had risen to 52.9 per cent. Urban absolute poverty, estimated at 29.3 per cent in 1994 increased to around 49 per cent in 1997 (see table 8). This is a clear indication that by 1997, the poor were worse off than they were in 1994, an indication of deepening poverty levels.

Table 8 shows that the prevalent of poverty in 1997 among the rural areas was highest in Nyanza province (64.6 per cent of population) followed by North Eastern province (64.2 per cent) and Western

province (60.8 per cent), while Nairobi province reported the least incidence of rural poverty (with about 31 percent). In urban areas, the incidence of poverty was highest in Kisumu (63.73 per cent), while the least incidence was reported in Mombasa (with urban incidence of about 38.32 per cent). The table further indicates that poverty levels have been increasing over time, albeit with fluctuations. In Nyanza province, for instance, the incidence of rural poverty rose from 47.4 per cent, 63.1 per cent and 64.6 per cent in 1992, 1997 and 2004, respectively.

Kenya also has a rather unequal distribution of income as shown by its Gini Coefficient of about 0.57 (World Bank, 2005). The Gini coefficient is a measure of inequality and is usually used to measure income inequality. The Gini coefficient is a number between 0 and 1, where 0 corresponds with perfect equality (where everyone has the same income) and 1 corresponds with perfect inequality (where one person has all the income, and everyone else has zero income). This figure indicates a wide disparity in the level of human development between regions, gender and rural-urban areas. Given the close correlation between family income levels and the utilization of health care services, and notwithstanding the fact that the poor are prone to get sick more often than the rich, tend to seek care less frequently, and an important proportion do not do so for lack of money, poverty, must be a central concern and priority for the government to address.

Table 8: Trends in overall Poverty in Kenya (%), 1992-2004

Region	1992	1994	1997	2000	2004
Central	35.9	31.9	31.4	35.3	43.9
Coast	43.5	55.6	62.1	69.9	57.6
Eastern	42.2	57.8	58.6	65.9	58.3
Rift Valley	51.5	42.9	50.1	56.4	47.9
North Eastern	-	58.0	-	73.1	64.2
Nyanza	47.4	42.2	63.1	70.9	64.6
Western	54.2	53.8	58.8	66.1	60.8
Nairobi	26.5	25.9	50.2	52.6	31.1
Rural	46.3	46.8	52.9	59.6	64.3
Urban	29.3	28.9	49.2	51.5	53.8
National	46.3	43.8	52.3	56.0	59.1

Source: Republic of Kenya, 1998: Economic Survey 1994, 1997, 2005.

According to the 1999 census, Kenya's population is estimated at 28.7 million. The population is estimated to grow at the rate of 2.5 per cent per annum. The 1979 census recorded a total population of 15.3 million while the 1989 census indicated the total population in that year was 21.4 million. This reflects an intercensal growth rate of approximately 3.3 per cent between 1979 and 1989. Apart from its negative effects on the capital formation capacity of the economy, the high population growth rate has grave implications for the ability of the government to provide essential services such as health care, education and other social services over the long term.

The 2003 Kenya Demographic Health Survey (KDHS) also shows a decline in almost all indicators of health. For instance, the life expectancy is on the decline and averaged 47 years between 1997 and 2002. Overall, morbidity and mortality remain high, particularly among women and children. In 1993 the infant mortality was 62 and increased to 74 in 1998. Under-five mortality also rose and stood at 122 per 1,000 births in 2002. Maternal mortality in Kenya has remained one of the highest in the world. The maternal mortality rate in 2002 was estimated to be 590 per 100,000. Maternal deaths represent 14 per cent of all deaths of women aged between 15- 49. Fertility rate declined from 8.1 in 1978 to 5.4 in 1992 and to 4.7 in 1998, (KDHS 1998, Economic Survey 2004). Even though Kenya committed itself to the Millennium Development Goals (MDGS) and the Abuja Declaration to reduce under-five mortality by two-thirds, and maternal mortality by three quarters, the evidence above shows that health indicators which were impressive after independence continue to worsen.

CHAPTER 3

3. LITERATURE REVIEW

3.1 Concepts of Equity

Achieving equity is a goal pursued by policy-makers across the spectrum nations. But what is equity in health care financing? How should it be defined? And how is it to be measured? Answers to these questions are far from self-evident. However, it is important to clarify the equity concepts underlying the analysis in this study. The equity goals of any health system are rarely established clearly or specified fully. The range of possible goals may include the outcome of equal health status, as well as equity in the distribution of benefits (such as equal access or utilization for equal need) and in the distribution of burdens (for example payment on the basis of ability to pay). A key element of equity debates has been how to define and judge the benefits of health care. Should they be seen as health status improvements, even though health care is only one input to health status? Should they be seen as reflected in levels and patterns of utilization, even though utilization cannot be coerced through policy action? Should they be seen as reflected in levels of access and if so ,what type of access (for instance,geographical,vs.financial vs. cultural)? Should horizontal or vertical equity goals guide the health sector decision-making and the analysis of health care financing and expenditure patterns.

The lack of a consistent definition on what constitutes equity with respect to health financing systems stems from underlying differences in the philosophical approaches, and notions of justice. Distributional objectives in health care can stem from two sources: equity or social justice on the one hand, and altruism or caring on the other. Gilson (1986) provides a summary of the various theories of social justice and discusses their applicability to health care. Libertarians, she notes, emphasize a respect for natural rights, focusing in particular on two of Locke's natural rights – the right to life (i.e. not to be unjustly killed) and to possessions. Utilitarians by contrast aim at maximizing the sum of individual utilities or welfare. Gilson suggests that 'allocation of medical resources on the basis of non-medical merits is widely regarded as repugnant ', but argues that the principle of 'distribution according to need' commands widespread support. The egalitarian viewpoint suggests that a state sector should predominate, with health care being distributed according to 'need' and financed according to 'ability to pay'.

Egalitarians emphasize fraternity or solidarity...collectivist philosophy of social justice which means people have certain "positive" rights such as the right to health care. This is different from altruistic motive, which leads people to prefer equity in health care and display willingness to sacrifice their own resources to achieve it. Under altruism Pareto Optimum redistribution may still be attained. As Culyer (1980) puts it: "...the source of value for making judgments about equity lies outside, or is extrinsic to, preferences...The whole point of making a judgment about justice is to frame it that it is (and can be seen to be) a judgment made independently of the interests of the individual making it.'

Most countries' policy makers are concerned with the alternative egalitarian approach to equity. Egalitarians would judge equity by assessing the extent to which health care is, in practice, distributed according to need, and is, in practice, financed according to ability to pay. The Libertarians viewpoint by contrast, points towards a mainly private health care sector, with health care being rationed primarily according to willingness and ability to pay. State involvement should be minimal and limited to providing a minimum standard of care for the poor. Libertarians would focus to the extent to which people are free to purchase the health care they want, subject (perhaps) to the provision that the poor and sick are adequately provided for. In practice, in most countries, health care is financed and delivered by a mixture of systems and there are traces of both ideologies in policy-making, with the emphasis often changing with changes of government (Wagstaff and Van Doorslaer, 2000).

The different motivations behind equity and caring have at least three important implications for health care policy. First decisions regarding health care provision prompted by considerations of social justice ought not to be influenced by cost. Justice requires that an equitable pattern of provision be ensured, irrespective of the sacrifice to the rest of society, (Culyer, 1990). Secondly, there is scope for conflict between efficiency and equity: an efficient, redistributive programme prompted by caring preferences need not be equitable, and vice versa (Culyer, 1990). Thirdly, the distributional 'rules' derived from the two approaches are likely to be different.

Whitehead (1992) noted that the term "inequity" has a moral and ethical dimension and refers to differences, which are unnecessary and avoidable, but in addition are considered unfair, and unjust. Health inequities are disparities in health or its social determinants that favor the social groups that are

already more advantaged. Inequity refers specifically to disparities between groups of people categorized according to social position. For example, individuals may be grouped by their income, or by characteristics of their occupations, education, or geographical location, or by their gender, race/ethnicity, or religious group. All these factors are strongly associated with different levels of social advantage or privilege as characterized by wealth, power, and /or prestige (Braveman et al., 2000). Pursuing equity in health and health care development therefore means reducing unfair and unnecessary social gaps in health and health care, while working efficiently to achieve the greatest improvements for all.

Egalitarianism also demands that differences in health status be equalized regardless of whether individuals are responsible for the differences. Authors such as Le Grand (1982) supports the notion of "equality of opportunity ". They assume that deviations in health are partly due to factors beyond the control of individuals and partly due to individuals free choices. Society should compensate individuals for disadvantages that are beyond their control, but not for self-inflicted deprivations in health. In reality however, it is difficult to determine how far individual responsibility extends. In a later study, Le Grand proposes that equality of opportunity be restricted to health care financing (Le Grand, 1987). Health care financing and not health care delivery, should be used to discriminate against individuals who do not fully exercise their opportunity for health. He suggests that smokers, for example, should be charged an annual premium to cover the expected costs of treatment and then should continue to receive the same treatment as non-smokers, even if their smoking behavior causes their illness.

Olsen (1997a) however consider egalitarianism "absurd" when applied to health, because it is concerned solely with the level of inequality between individuals and not with their absolute health status. For example, in a situation where two persons live in equally bad health would be preferred over situation B where one person lives in average health (which is better than bad) and the other person lives in good health (which is much better than bad). Although both persons are better off in situation B, it would not be socially desirable distribution of health. Thus, perfect equality in health requires a leveling-down in health of healthy individuals toward the health of the least healthy individual. He concludes that inequality – efficiency defined as health maximization is of no concern.

3.1.1 Meaning of Equity

Inequalities of health care are not the same as inequities of health care. This study adopts the egalitarian approach in defining equity. In pursuing equity, existing differences are taken into account explicitly, and measures adopted which will address these differences. The goal is to achieve a more just (i.e. equitable) distribution of health care resources. Specifically the equity principle of health care implies equal treatment for equal need.

Most studies on equity are theoretical and remote from practical implementation issues. However, equity considerations can be captured in three broad headings: equity in financing; equity in the provision of health care and equity related to health outcomes.

3.1.2 Equity in health care financing

Studies on equity in the finance of health care begins with the premise that health care ought to be financed according to ability to pay. There are three main approaches of explaining equity: vertical, horizontal and intergenerational. Vertical equity addresses the issue of progressivity in finance, i.e. payment according to ability to pay. The concept of vertical equity in financing is based on the principle of "equal sacrifice" in utility. Since the marginal utility of income declines as income rises, this principle calls for higher tax rates on higher incomes in order to ensure that the reduction in utility of the payers is equal. A key issue to be considered when addressing vertical equity is the precise form that the differential treatment of unequals should take. A progressive system is one, in which health care payments rise as a proportion of income as income rises, whereas a regressive system is one in which payments fall as a proportion of income as income rises. A proportional system is one in which health care payments account for the same proportion of income for everyone, regardless of their income.

Previous work on progressivity in the financing of health care has been based on tabulations of health care payments by various income groups. Measuring the progressivity of health care financing systems therefore, requires household level data on pre-tax income and health care payments with the latter usually broken down into 1) taxation 2) Social insurance contributions; 3) Private insurance premiums; 4) Out-of-pocket payments.

At best, these can indicate whether a system is progressive, regressive or proportional. A more illuminating approach to assessing the progressivity of health care financing systems is to employ progressivity indices. (Wagstaff et al., 1991). A variety of such indices have been proposed in the literature on tax progressivity (Lambert, 1989). Two such indices, Kakwani (1980) and Suits (1977) have been employed in studies of the equity issues in high income countries Wagstaff et al., (1991), but have not yet been applied to the studies of middle-or low-income countries.

Vertical equity in the provision of care can be interpreted as amount of health care those in greater need receive as compared with the amount of health care those of less need receive. It is much more problematic to measure and appropriately interpret and less informative than horizontal equity. It raises the question "What is the precise form that the differential treatment of unequals should take? - Should the relationship between need and treatment be proportional?"

Horizontal equity addresses the question of equal treatment of equals, denoting an equalization of the burden or the risk. Both interpretations require a definition of "ability to pay". Should this be measured by income? By income plus imputed income from physical assets such as the family's house? The latter may be preferable; however, data limitation has meant that the former has been used in the empirical work in most studies to date.

Horizontal equity is defined in terms of the extent to which those of equal ability to pay actually make equal payments, regardless of, for example, gender, marital status, occupation, place of residence. Practically, this implies that the differential risk of illness among different groups should be considered when designing finance systems. Mooney (1987) provides a concise hierarchy of horizontal equity goals that might be attempted through budgetary allocations. Horizontal inequity might arise for a number of reasons. In a tax funded system, horizontal inequity could occur through anomalies in the personal income tax system (e.g., certain tax relief). In a mandated social insurance system, different occupational groups may be eligible for different health insurance schemes or may face different contribution schedules. Although horizontal equity appears to be regarded by policy-makers in some developed economies as an important issue in the finance of health care, it does not seem to concern 'health' planners in developing economies, Hurst (1991).

3.1.3 Equity in provision of health care

Culyer and Wagstaff (1993) notes that equity in health care "entail distributing care in such a way as to get as close as is feasible to an equal distribution of health". Equity in delivery of health care is generally set on the premise that health care should be distributed according to need rather than willingness and ability to pay. Most studies of equity in the delivery of health care have been based on the concept of horizontal equity. Horizontal equity is taken in this context to mean that people in equal need of health care should receive the same treatment regardless of their income.

Most empirical work in the area of equity in delivery of health care has been to establish the extent to which the principle of horizontal equity has been achieved or violated. There are however, many factors, which influence the degree to which care is needed. First, illness is not a perfect proxy for need, as some people who are ill cannot be helped by health services. While it is assumed in most analyses of equity of delivery (given available data) that those in different degrees of ill health have different medical needs and that those in the same state of ill health have the same need, this is not necessarily the case. There are also cost variations in accessing services. These include travel costs and waiting times, all of which may vary with income, and with type of delivery system, as do the effects of these costs.

3.1.4 Equity of health outcomes

Equity in outcome suggests that all should have the same level of healthiness regardless of income, location, race and other factors. This entails that equity or inequity of a system be judged by the level of illness/ death among different groups of people (region, income, occupation, race, etc.) rather than access to care. Wagstaff and Van Doorslaer (2000) ,however cautions that it is "difficult to rationalize a concern about the distribution of medical care other than in terms of a concern about the distribution of health itself." Sen (2002) focusing on "capabilities" (the "real opportunities you have regarding the life you may lead") suggests that the guiding principle of equity be "equality of capabilities," that people should have access to healthcare whenever these services can improve their capabilities equally on the margin.

In discussing equity in the financing of health care, explicit definition of need is essential to make the equity principles of 'allocation according to need' operational for priority setting and geographical resource allocation. Three definitions have emerged in the literature, (Hurley, 2000). The first equates need for health care with ill-health and the degree of need with the severity of illness implying that the sickest have the greatest need. Some authors argue that this definition of need is problematic, however, because it ignores the limits of what is medically possible (Culyer and Wagstaff, 1993). If there is no effective treatment, no matter how ill a person is, it is questionable whether health care is need. There may be a need for other services such as medical research, care, or comfort.

The second definition of need acknowledges that need can be defined only with respect to a specific objective: X is needed to achieve Y". Need exists only if two conditions are met. First X must be effective in achieving, and second, Y must be an objective that society endorses as being worthwhile. Otherwise, "needs" are mere "wants" Culyer and Wagstaff (1993). Also X must not only be effective, but must also be the cost-effective way to achieve Y Hurley (2000). This definition of need gives no clear information on how much of X is needed to achieve Y. Thus the definition does not establish how much health care should be allocated and can provide only limited guidance on priority setting.

Culyer and Wagstaff (1993) provide an alternative definition of need: the expenditure required to exhaust capacity to benefit. It assumes that treatments will eventually meet the medical limits, and beyond this limit there is no need for health care. The definition of need as 'capacity to benefit' allows quantification of the amount of expenditure a person needs. The definition can however not provide guidance on priority setting if resources are too limited to completely exhaust each person's capacity to benefit. In that case, some needs would have to remain unmet. The degree of need could be measured by the amount of resources required to reduce them, if it is not possible to exhaust them completely. However, this could lead to counter intuitive priority-setting regimes.

Nord (1996) came up with an approach to incorporate the equity concept of allocation according to need (defined as severity of illness) into economic evaluation. If health outcomes for instance Quality of Life Adjusted Years (QALYs) are not equity weighted, economic evaluation follows pure efficiency objectives and is not concerned with how the health outcomes of a program are distributed across individuals. Priority is given to programs according to their cost per QALY. However, the sum of QALYs

generated by a program has implications for the resource allocation decisions in terms of equivalence of numbers of people treated. For example, saving the life of one healthy person will be equivalent to curing two people who both gain 0.5 QALYs. Such equivalence judgments are referred to as 'person trade-offs'.

Since many societies have a strong concern for giving priority to the worst –off, an intervention that prevents death and instead leaves a person with a considerable problem is valued on the order of ninety times more than an intervention that eliminates a moderate problem, assuming the same duration of the benefit Nord, (1996). The former intervention will justify costs on the order of ninety times higher per person helped than the latter.

Most equity policies are proposed in the context of decisions about population groups rather than individuals Williams and Cookson, (2000). At the individual level, one principle for decision making is the "rule of rescue" Hadorn (1991). Society and each individual have an ethical duty to do everything possible to help those in immediate life-threatening distress. This implies that the patient with the most serious condition is treated first irrespective of the costs of treatment. The rule of rescue is identical to the "allocation according to need," where need is defined as severity of illness. Thus, severity of illness of a patient or patient group establishes priority for health care expenditure irrespective of capacity to benefit from treatment.

Goddard and Smith (2002) implies that individuals should be given equal opportunities to use health services without regard to other characteristics such as their income, ability to pay, ethnicity, or area of residence. Equality of access is derived from a notion of equal opportunity and implies a willingness to devote resources to improving access to health care for some population groups. The assumption on the part of policy makers is that equal access may alleviate inequalities in health. This may not hold if health care is ineffective in improving health of the unhealthy.

In a system with voluntary health insurance, access is often considered to refer merely to whether or not the individual is insured. In tax financed health care systems, access is considered to refer to the presence of user charges. However, even if all citizens are insured or do not face any charges, there might be considerable variations in the personal costs of using services (e.g., travel and opportunity

costs of time), in information and communication skills, and in awareness of availability and efficacy of services, Goddard and Smith (2002). Hence equality of access is difficult to operationalize in health care systems where individuals make no monetary payments for service at the point of delivery.

3.2 Review of Previous Studies

Le Grand's study (1978) analyzed 1972 U.K. General Household Survey, and found that although the medical expenditure share of lower occupation class is higher than that of upper class, the expenditure share of lower class is still less than its share of medical need of total population. On the other hand, although upper class' share of medical expenditure is less than that of lower class, it is higher than its share of medical need of the total population. Hurst (1991) analyzed 1976 U.K. General Household Survey. His finding was similar to Le Grand's study, that the lower the income deciles, the larger the gap between the share of medical need and the share of medical expenditure, with the share of need greater than the share of expenditure. Such gap gradually decreases as income level increases and reverses when the share of expenditure exceeds the share of need.

Wagstaff et al., (2000) compared the extent of equity in the delivery of health care for U.K., the Netherlands, and Italy, they calculated concentration index of medical expenditure and illness, and the inequity index of health care (*HI*) for each country and found that all three countries had negative concentration index for both illness and medical expenditure. This implies that the poor are less healthy and use more health care than the rich. The inequity index of health care value for the three countries was all positive, which meant that health care utilization was more favorable to the rich.

Lairson et al., (1995) examined the extent of equity in the delivery of health care in Australia, he standardized medical expenditure by age, sex and health status, and then calculated the concentration index for standardized expenditure, which is another way of calculating *HI* value. Lairson et al., found that when using self-evaluated health status measure in calculating *HI*, the *HI* value for total medical expenditure, outpatient expenditure, and inpatient expenditure were all positive, meaning that distribution of health care utilization was more favorable to the rich. On the other hand, when using catastrophic or chronic disease status in calculating *HI*, the *HI* value for total medical expenditure, outpatient expenditure, and inpatient expenditure were virtually negative, meaning that distribution of

health care utilization was more favorable to the poor.

Some research engaged in the investigation of the differential of health care utilization across social groups have also been done. Yeh (1999) analyzed the 1997 Survey of Family Income and Expenditure data, and the results indicated that people with the least education used relatively higher outpatient and inpatient care in terms of frequencies and hospitalization stays. The pattern is similar with regard to occupation, that is, the lower status of the occupation, the higher level of health care use. The concentration index for outpatient visit and inpatient days were both regressive, however, the extent of regressivity was greater for outpatient care. The concentration index for total medical expenditure, outpatient expenditure, and inpatient expenditure were all progressive. Part of the reason that caused such a pattern is due to income's positive effect on medical expenditure.

Cheng et al., (2002) analyzed a sample of 25,000 household data, collected by the Bureau of National Health Insurance. They found that except for outpatient expenditure, total medical expenditure and inpatient expenditure are both relatively higher among the low income socio-economic group. They also found that the higher income group tend to use more outpatient care (expenditure), whereas lower income groups tend to use more inpatient care (expenditure).

Studies on the subject of equity are comparatively few in number. Implementing the principle of equity into health care programs has been fraught with practical difficulties, including the lack of financial resources. The early comparative studies of Maynard (1975) and Maxwell (1981), the work of OECD Schieber et al., (1990) and Ham et al., (1990), have done much to increase awareness of international differences and similarities in health care financing and delivery systems. As a result, little is known about the equity characteristics of alternative health care financing and delivery systems, and about the likely equity implications of reforms to these systems. This is despite the apparent importance attached to equity as a policy objective. In 1984, the 32 member states of the WHO European Region took a remarkable step forward in agreeing unanimously on 38 targets for a common health policy for the region. Not only was equity the subject of the first of these targets, but it was also seen as a fundamental theme running right through the policy as a whole. Indeed, McLachlan and Maynard (1982); Mooney (1986) claim that the public attaches greater importance to equity than to efficiencies in health care. This commitment though may vary across countries.

Mooney (1986) claimed that throughout the OECD countries, the public attached greater importance to equity than to efficiency in health care and the claim has frequently been repeated. Wagstaff and Van Doorslaer et al (1991) believed there was broad agreement among policy makers in at least eight of nine Western European countries that health care ought to be financed according to ability to pay, but delivered according to need.

Majority perspectives in the US however, do not give the same primacy to equity. Health services are thought and written about in the general context of consumer demand for commodities with a consequently greater trust in the role of markets to promote efficiency and less emphasis on equity. Enthoven (1988) typifies the majority viewpoint. The Irish Concept fit the European mould. Nolan (1993) saw the Irish perception of health care as "distinctive in terms of public attitudes as regards equity, with access to it "generally regarded as a basic right" and that equity concerns related not just to publicly funded health services but to "the overall use of health services, whether publicly or privately financed or delivered." With these views, it is not surprising that equity should be accorded primacy among objectives by policy makers, health administrators and many analysts. However, the measure of equity is via expenditure on health care and the connection between that and health outcomes are quite tenuous.

The fundamental concern about fairness has raised the question on how fairness is to be assessed. A study by Whitehead (1992), proposed that the criteria for assessing which health inequalities are unfair should include whether they are due to inherent biological variations, due to inherent biological variations, due to informal individual choices, or are potentially avoidable. A similar study by Starfield (2001) added that health inequalities must be potentially remediable and affect the health status of groups in a systematic way. Other studies by Andersson, and Lyttkans (1999), Williams (1997) and Lindholm, et al., (1998) have tried to quantify the concept of fairness, by measuring societal preferences for health equity. As a result, the ISEqH defines equity as "the absence of systematic and potentially remediable differences in one or more aspects of health across populations of population sub-groups defined socially, economically demographically, or geographically".

The WHO Report (2000) and its background papers presented an individually based rather than a group based approach to measuring health inequalities. However, individually based measures only capture the health status of individuals without regard to other characteristics. They do not provide the information that is necessary to determine whether or not such inequalities are inequitable.

Other studies have focused on the extent of health status inequalities which appears to be sensitive to the type of health measures used, Turrel and Mathers (2001) and the way in which the groups are defined, Kunst, et al., (1998): Manor, et al., (1997). However these studies did not assess on whether or not these inequalities are unfair or unjust. The extent of inequalities in access and use of health services tends to be sensitive to measurement issues as well including (1) whether or not access is adjusted for different health needs and (2) the type of medical care being studied (e.g. primary versus specialist versus hospital care. A study by Mooney, G. and S. Jan (1997) examined the possibility for incorporating vertical equity into care policy through distributive and /or procedural justice. The distributive justice focused on the distribution of health outcomes across individuals and groups within society. Procedural justice approach emphasized fairness with respect to processes such as access and financing rather than outcomes.

Another study on socio economic equity in health care in relation to need was conducted by Keskimaki, et al., (1995). The study found that low socio economic groups used more hospital services than did those in high socio- economic groups in all age groups and both genders. When use was measured in relation to need, lower socio-economic groups used at least as much in-patient care as the higher groups. Some of the literature also focuses on access utilization and financing of health services, Van Doorslaer, et al., (2000): Waters (2000). The extent of inequities in access and use of health services appears to be sensitive to measurement issues as well including (1) whether or not access is adjusted for different health needs and (2) the type of medical care being studied, (e.g. primary versus specialist versus hospital care).

In an attempt to explain disparities in health care, many authors have attempted to elucidate the pathways by which inequities in health come to be and are perpetuated. The most prevalent theory concerns the role of socio economic status, measured by education, occupation, and /or income. Other explanations involve social discrimination based on gender, or race/ethnicity. Proposed pathways

include the environment in which people live, such as their living conditions and the distribution of income in their country or state. Other hypothesized pathways involve the political and policy context including the extent of primary care, the geographical distribution and mix of health services, the fairness of health financing, social policies and political, social and economic relationships. Others have pointed out the importance of complex pathways acting in concert to propagate health inequities, Whitehead, et al., 2001: Kawachi, et al., 1999: Sacker, et al., 2001: Shi and Starfield, 2000.

A study conducted by Lui, Y., Hsiao, W.C., and K. Eggleston (1999) in China during its transformation from a command to a market economy showed a widening gap in health status between urban and rural residents, correlated with increasing gaps in income and health care utilization. Possible explanations for this trend included changes in health care financing and organization, dramatic reduction of insurance coverage for the rural population, decreased supply of health providers, increased financial barriers to access in rural areas and diminished publicly financed public health programs.

The failure of health reforms in many countries may be partly due to the lack of clear operational definitions of equity and efficiency. According to Vagero, D. (1994), the equity –efficiency debate confuses strategic goals (equity) with the implementation of those goals (efficiency).

Health reforms in the developed countries include trends towards using public finances and geographical redistribution of resources. In spite of these efforts, inequities in health appear to remain in most countries. In the developing countries, health reforms have included the introduction of user charges which are described as flawed because (1) they do not raise a significant fraction of overall revenue (2) exemptions intended for the poor do not always work and (3) other economic trends are likely to exacerbate poor health system coverage and performance.

In a three country study undertaken in Benin, Kenya, and Zambia in 1994/95, to evaluate the equity impact of Bamako Initiative Programs intended to introduce user financing in primary care clinics, it came out that in Benin the Bamako Initiative Programs intended to introduce user financing in primary care clinics, could be judged as successful in terms of its own limited equity objectives but the other two countries schemes had clear equity problems (Gilson, et al., (2000).

Inequalities in health status attributable to the distribution of income in society are inequitable because they are both systematic and potentially remediable. This can be one pathway through which health inequities may develop, Kawachi, Kenedy, and Wilkinson (1999), Whitehead, et al., (2001) provided a framework for describing and comparing individual and policy level pathways leading to inequalities in health among a vulnerable population (single mothers) in Britain and Sweden. The health of this population was generally poorer than that of the general population in both countries.

The UN methodology for National Accounts (NA)- approaching health expenditure through a subset of NA, the satellite accounts –was not answering some of the important questions for the health sector. The International Labour Organization (ILO) and WHO in the 50s and 60s led the movement to create standardized, comparable national health expenditure estimates (Abel-Smith, 1963). Organisation of Economic Cooperation and Development (OECD), recognizing the important role of health care financing in comparative health system analysis- has systematically developed and applied a common format, called the System of Health Accounts (SHA) for reporting national health expenditures. Today, the OECD annually compiles comparable health expenditure statistics for its member countries; for most countries, data cover over 30 years (OECD, 1998). In 1964 the United States adopted the NHA approach, which mainly added to the SHA method a more disaggregated "sources and uses" matrix. As a result of its comprehensiveness and high level of detail, the NHA approach is considered by many to be the gold standard for estimating health expenditures, particularly in countries with highly pluralistic health financing structures.

The current NHA approach, depicts source and purpose of financial flows. For the industrialized countries, primarily OECD members, comparing the level, composition, and trends in national health spending with other countries is often a starting point for national debates on health sector policies and reform (Hurst, 1992). In the last few years many developing countries and transitional economies have developed NHA with little effort (Berman et al., 1999). The collection and estimation of health sector expenditures has however, been a concern in these countries during the last 30 years. Still, there is widespread recognition of the need for reliable and comparable health finance statistics. Private sector spending is an object of particular concern.

In the early 1990s, a few studies covering the 1980s provided a first benchmark comparison of how much poorer countries were spending on health care and how those funds were organized in terms of public and private payers. Constrained by coverage and data problems, regional comparative studies were produced by McGreevey (1990) for Latin America, Griffin (1992) for Asia, Vogel (1993) for Africa, and Soares et al., (1995) for Latin America. In general, these studies gathered latest-single-year data from available international statistics and country reports, and provided cross-national comparisons. They estimated total and per capita national health spending and the composition of total spending in terms of public and private financing intermediaries. Estimates of the uses of funds were sometimes possible showing, for example, public spending in terms of providers (hospital and non-hospital services). These studies suffered from serious data limitations. No estimates of the composition of health spending in terms of different uses (functions, geographic groups, income quintiles, etc.) were carried out. For a significant number of countries, private health spending data was not available and had to be estimated based on a regression between national income and health spending in comparable countries with available data.

In 1997, in Latin America and Caribbean, under the Partnership for Health Reform (PHR) project, a regional network of collaborating national groups—the Latin American and Caribbean Health Accounts Network (LACNHA)—has been utilized as a first step in expanding the use of this method and gaining both national and cross-national comparative benefits.

The National Health Accounts (NHA) approach is based on methodologies developed by the Organization for Economic Cooperation and Development (OECD) and the U.S. Health Care Financing Administration (HCFA) and modified by the Harvard School of Public Health (HSPH) to address relevant policy concerns in developing countries, where there are limitations in data availability and different priorities in financing mobilization and reallocation.

The capability of linking sources and uses is an important aspect of the value of NHA for analysing health care financing policies. This is because health financing is not solely concerned with raising funds for the health sector, but also plays an important role in determining the allocation of expenditures and the behaviour of providers and consumers. Policies which affect the practice of the financiers of health care (the sources), need to be designed, monitored, and evaluated in terms of their

influence on the uses of funds in the health sector both in terms of who receives them and what they produce as a result. The "sources and uses" method is the means to that end. In doing so, NHA provides a straightforward, comprehensive structure to assess the equity and efficiency of planned reforms, to manage health resource allocation and mobilization, and to effectively regulate a dynamic health sector environment.

At the dialogue stage, NHA results have been used to identify problems; as a catalyst for change by attaching data that convey the magnitude of a problem; and as an advocacy instrument to stimulate action. For instance, NHA estimates in several developing countries have shown that outlays for drugs exceed two-thirds of household expenditures on health. In Bangladesh, this sparked debate about the effectiveness of the National Drug Policy Act, which fails to address over-prescribing practices, drug stock outs and leakage, and other issues such as self-medication and prescribing by unlicensed providers.

NHA estimates, carefully done, can dramatically alter the perceptions held by policy makers of the structure of the health care system and the role of the state within it. In India, a World Bank, 1995 study by McGreevy et al., (1995) used research by the National Institute of Public Finance and Policy, 1992, the Gujarat Institute of Development Research, 1994, and the National Council of Applied Economic Research, 1993. The NHA indicated that the government was a minor source of financing in primary health care services overall.

Despite more than a decade of investment in primary care facilities, total expenditure on primary care services is dominated by private household spending (82%). Curative primary health care services make up 85 percent of all PHC spending. The government financing role is larger in personal preventive and public health services (44% of the total). The largest share of household spending on primary care services probably goes to non-qualified providers, rather than licensed physicians and pharmacies. The implication of these findings is that India urgently needs to develop and implement a new dimension of health policy related to the non-government provider sector.

A study by the Fundacion de Salud Mexicana (Funsalud), 1994 as part of its study and proposals for health sector reform in Mexico provided both some interesting answers and some provocative follow-up

questions. Funsalud's NHA estimates of private expenditure, based on a national household survey, led to a calculation of total expenditure of 4.8 percent of GDP compared to 3.2 percent in 1993 World Development Report. Using the national income accounts, the total would be as high as 5.7 percent of GDP. Some level of economic activity is being reported as "private expenditure on health services and health preservation" in the national income estimates that is not being picked up in other sources of data.

In a study conducted by the Egyptian Department of Planning, Ministry of Health with collaboration from Harvard University in 1995, the 1991 NHA estimates could be compared to a 1978 study which provided somewhat comparable figures. Not only did private spending increase, albeit modestly, but Ministry of Health expenditure declined significantly as a percent of the total, while its responsibilities, in terms of hospitals, beds, and employees, increased.

NHA has a particularly advantage in documenting how a particular type of service or type of provider is financed from different sources of expenditure. Indeed this is the main function of the "sources and uses" approach. In Egypt, the NHA estimates showed that two types of government-owned hospitals – those of the Ministry of Health and the university hospitals owned by the Ministry of Education – were quite different in the degree to which they were supported by patient charges. Household payments made up 1.9 percent of expenditures on MOH hospitals, but 14 percent of those were on university facilities.

NHA results have also been used in the formulation of specific strategies. In Jordan, they were used to evaluate the financial effect of alternative proposals for universal health care coverage, Brosk,et al.,(2000). In countries where NHA is carried out periodically, intertemporal comparisons help to evaluate if implemented strategies have had their expected impact. In the Philippines, annual NHA results measure the growth of expenditures on health by local governments, one indicator used to track the policy of devolution of health services,Herrin, (1996).

Using NHA results with other data-in particular, from household surveys-can improve evaluation of the level of equity in health systems. In the Dominican Republic, public subsidies finances 36 percent of health care spending for the poorest income quintile of the population, but the richest quintile receives a

subsidy half as big as the poorest. In addition, care funded by social insurance benefits wealthier households more than poorer ones, primarily because it covers a larger proportion of wealthier households, Rathe,(1999).

Expanded data collection and analysis allows NHA to produce additional results, for example, indicators that inform health policies aimed at target populations. In Rwanda, the NHA methodology was used in a special study that showed the extent of health sector spending (10%) going to HIV/AIDS, most of which (93%) goes to treatment and care of symptoms and infections rather than prevention and non-treatment-related activities. A disproportionate share (93.5%) of the spending was financed by households, Nandadumar et al.,(2000).

Morocco's maternal mortality rate lags those of countries at similar income levels. To better inform policies aimed at this target population, the Moroccan team tailored the NHA estimation to expenditures on MCH services. Although appreciable percentages of the Ministry of Health budget and donor contributions are devoted to these services, out-of-pocket outlays finance the largest share of MCH services.

In a tri-country empirical study conducted in Bangladesh, Nepal and Sri Lanka using a National Health Accounts approach to assess the relative equity in the distribution of financing ,health care expenditures and health status, it was found that socio economic differentials in perceived sickness appeared to be a major contributor to differences in the amount of health care utilised. In all three countries, the poor suffered from higher mortality rates, yet are not more likely to report sickness in surveys. Examination of the differentials in government expenditures by region revealed some inequalities. Subsidy expenditures in all the three countries were highest in the region containing the capital city, and this was largely due to a higher concentration of teaching and national specialist hospitals,Ravi et al.,(2001).

3.3 Summary of Reviewed Literature

A review of the analytical arguments and empirical evidence suggest that relatively few attempts have been made in the literature to analyse total national health financing from all sources and to relate them to equity. It has been argued that the the National Health Accounts (NHA) is a useful framework for answering basic health financing questions and for highlighting policy issues which may otherwise not be evident using more narrowly –focused approaches.

The empirical research has only been extended in a fragmented manner to developing countries (Carr et al.,1999). Where it has been, there remain considerable problems in the comparability and reliability of estimates across countries,and other technical difficulties. Detailed data on financial flows to regions, gender, population, and socioeconomic groups are not available and need to be collected.NHA could help bridge the information gap,even if it only uses country aggregates.In combination with detailed household income and expenditure surveys, NHA can provide information to measure the current status of health services distribution and to monitor reallocation policies.

Outcomes of NHA studies have augmented governments' efforts to increase funding for basic health care and to reorient priorities towards cost effective programs.In Mexico, NHA have raised awareness of regional and socio-economic disparities in health spending.This has stimulated the reform in two health policy areas:the social health insurance, which covers the majority of the population, and the expanded government efforts to reach under-served regions and populations.In the Dominican Republic, NHA has resulted in the governments assessment of the distribution of health care resources to different socio-economic classes in that country.

Where research has examined the burden of financing in countries where out-of-pocket spending is considerable,comparability between results for different funding mechanisms has been flawed since no attempt is usually made to correct well-known biases in household surveys introduced by non-sampling error.Publicly financed expenditures on health are usually accurately known,but estimates of household spending are subject to measurement error.Hence, there can be systematic biases in comparisons made between the two major funding mechanisms.

Although seldom used to analyze distributional issues, NHA have shown that out-of-pocket expenditures are bigger than generally believed, especially in poorer countries. Across the Latin American countries, spending on personal illness care services ranged from 61.4 percent of total spending (Bolivia) to 80.3 percent (Guatemala). Preventive care and health promotion services ranged from 2.3 percent of total spending (Ecuador) to 15.9 percent (Nicaragua). These expenditures – as a proportion of disposable income have a highly regressive nature (Berman et al., 1999). The poor are affected the most by this situation since scarce financial resources affected the quality of care. Indeed, high level of out-of-pocket expenditures in drugs might not only be related to their cost, but also to self-medication, in order to avoid paying private doctors or receiving poor services in public facilities. This phenomenon is both an equity issue and a problem of allocative efficiency. The poor as a result of opportunity cost tend to avoid seeking medical attention until it is absolutely needed (usually at a higher cost), do not go to hospital and try to minimize inpatient treatments. Also the best equipped hospitals are located in urban areas, where travel costs may deter their use by the rural poor. Consequently, the overall resource allocation is affected by equity. This study attempts to resolve this problem by adopting the broader framework of the NHA to analyse national health expenditures in Kenya.

CHAPTER 4

4. CONCEPTUAL FRAMEWORK

Evaluating inequities in health care expenditure and hence the delivery of health services serves to answer the question "who benefits and who does not benefit from health services?" Where there are substantial differences in health status, and in access to health services, efforts should be made to prioritise the use of scarce health sector resources for those in greatest need (Mooney ,1996). What this means is that society gives preference to health gains in those groups which have the worst health status, and hence the greatest capacity to benefit from health services, and the least ability to pay for health services.

Most sub-Saharan countries are implementing a number of health sector reforms that target improvement in efficiency and management of health services (Gilson and Mills, 1995). National Health Accounts (NHA) has widely been accepted as a valuable tool that can be used to help assess health system performance and, improve the capacity of decision-makers to identify health sector problems and opportunities for change. It can also help in the development of reform strategies and in the monitoring of the effects of reforms on health expenditures and financing (Berman, 1998). In this study, the National Health Accounts has been modified to assess equity in access to health care by means of redistribution of financial health resources in Kenya.

The fundamental issue in relation to geographic equity is that people with an equal capacity to benefit from health care (i.e. an equal need for health services) should not receive unequal treatment purely on the basis of their place of residence. When considering equity in public sector health care financing and expenditure, it is important not only to evaluate the distribution of resources between provinces, but also how those health care resources are allocated within provinces.

There are two approaches that are commonly used in resource allocation. A vertical equity approach, which recognizes that different groups have different starting points and therefore require differential treatment, will be an appropriate basis for considering how best to redress vast inequities. The horizontal equity approach focuses on equal utilization of health services where health needs are equal. With respect to the allocation of government resources between provinces, a vertical equity approach

would suggest that the previously dis-advantaged provinces have an even greater claim on government resources than reflected in the current formula. Since each province's health budget is influenced by the amounts received, this has a large influence towards equity in the distribution of health resources.

Obtaining an adequate balance of resource allocation between levels of care resource allocation is of importance from an equity perspective. On the one hand, the major burden of ill health, particularly for the poor, is attributable to potentially preventable causes that could be addressed through improved access to primary care facilities. Similarly, equitable access to hospital services for "catastrophic" illness should also be ensured. The National Health accounts model can be used to analyse the vertical equity aspect of Kenya's health system performance-or the lack thereof-using per capita expenditure comparisons. A more desirable analysis would examine both 'the equal treatment of equals' (that is the lack of differentiation in health care between people on the basis of non-health characteristics such as socio-economic class) and the differential (but fair) treatment of people according to their differing health needs. The study will be able to hypothesize the most needy populations and comment on the relative level of resources made available to them.

The estimate of total health expenditure in a nation from an NHA study can be linked to a variety of other important national level variables such as national income (total and per capita) and life expectancy.

.1 The Framework of National Health Accounts

National Health Accounts (NHA) is a framework for measuring total-public and private-national health expenditures. NHA methodology tracks the flow of funds through the health sector, from their sources, through financial institutions, to providers and functions. NHA organizes, tabulates, and presents health expenditure information in a standard format. This allows health care decision makers to understand how, and how much, health resources are used in a health care system, to review allocation patterns, to assess the efficiency of current resource use, and to evaluate options for health care reform. It also allows for comparisons of a health system at different points in time, and comparisons of one country's health system with others. The NHA profile often provides new and useful information to decision makers. For example, they may be surprised to discover the extent of private sector financing in what they view as a publicly provided service. Such information allows policymakers to better tailor policies

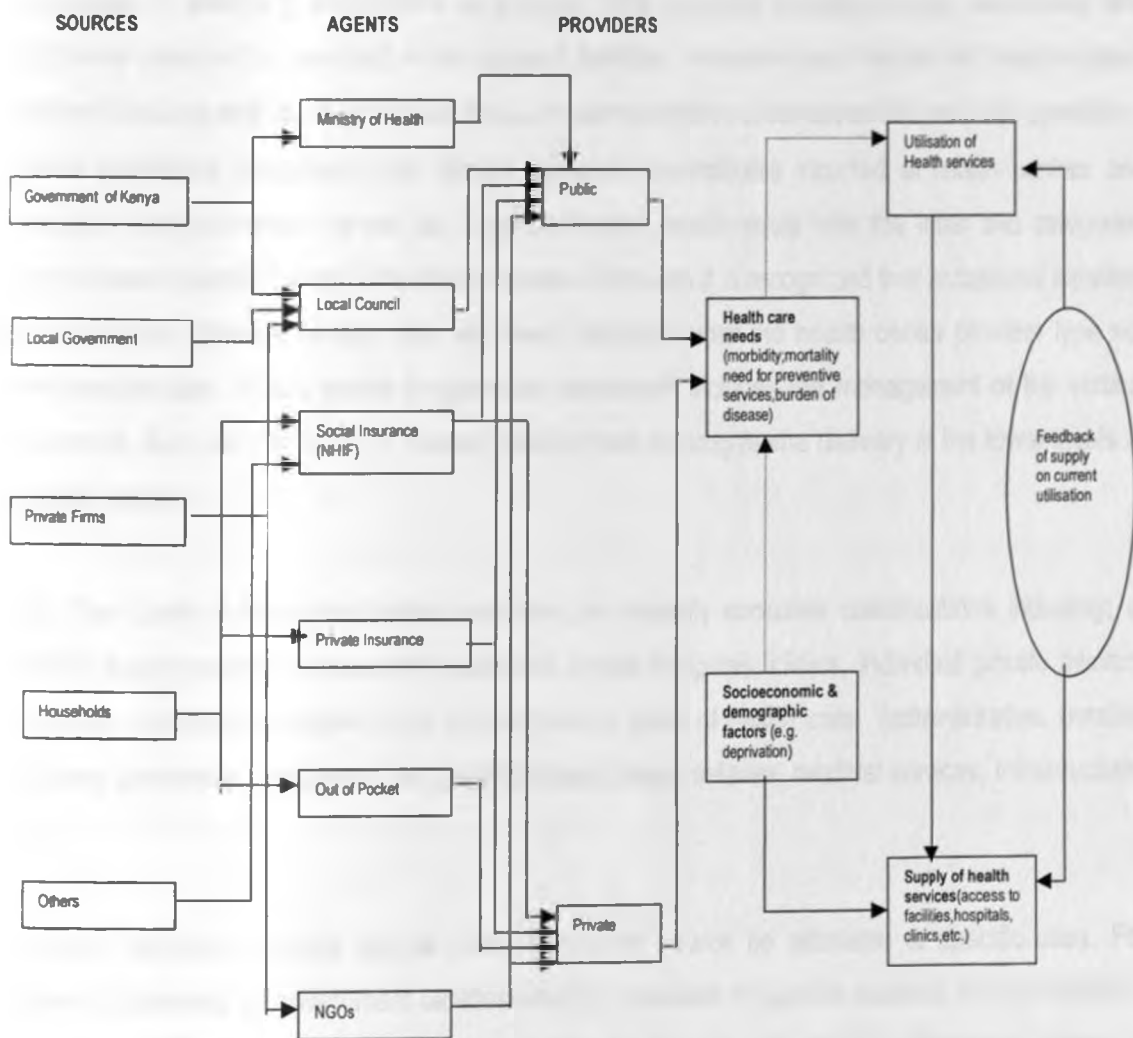
to meet the needs of their population.

The experience that the developed countries have had with NHA methodology shows that the NHA matrices can highlight policy problems and enhance cross-country comparability. Three important issues facing many developing countries can be addressed by this approach: -

- The contribution to and impact on national health spending of reforms which develop new sources of finance for the health sector, such as the National Health Insurance Scheme.
- The functional and distributional implications of efforts to make financing-provision linkages more pluralistic (for instance decentralization, use of public and insurance funds to finance private services, or use of private funds to finance public facilities).
- The impact of policies to manage consumption and expenditure, for example, new schemes such as global budgets, managed care, or prospective payment.

Using NHA, approach, health expenditures are analysed with a flow of funds framework (see figure 1) and presented in the form of matrices linking the resources of expenditure and financing agents or intermediaries and the financing agents with a variety of breakdowns of the uses of expenditure (Berman, 1997). The core of the NHA method is the calculation and presentation of national estimates through a "sources and uses" matrix. This approach allows a disaggregated analysis of expenditure, and provides an understanding of the flow of funds through the health care system. Every financial flow (represented by an arrow in figure 1) is quantified. In an integrated way, it systematizes how health care resources are mobilized and managed, who pays for health care and how much is paid, who provides health services and what resources they use, how health care funds are distributed across different services, interventions and activities that the health system produces and finally, who benefits from health care expenditures.

Figure: 1 Framework for equity in health care financing and expenditure.



The NHA consists of the following components:

Sources;- The sources of spending are disaggregated beyond the general categories of "public" "private" and "Donors". The public sources include the Ministry of Finance (MOF), Provincial and Local Government and Public Employers/Parastatals. Donor sources include the International Donor Organizations and Non Governmental Organizations (NGOs). Private sources include private employers, households/out-of pocket expenditure and all other unclassifiable financing.

Financing agents; -The NHA matrices include an intermediate category, "financing agents," that defines the institutions that have both an intermediary role and the function of risk assessments and decisions on coverage. In analyzing expenditure by provider type, hospitals include primary, secondary, and tertiary level care that is provided in all inpatient facilities. Hospitals also include all hospital-based outpatient clinics as well as all pharmaceuticals and administrative costs associated with the operation of these institutions. Outpatient care centres captures, expenditures incurred at health centres and clinics both rural and urban as well as dispensaries and health posts with the latter two categories being the lowest points of entry to the health system. Although it is recognized that occasional inpatient care is provided at health centres, this has been captured under the health center provider type not under hospital care. Public health programmes considered includes the management of the vertical programmes, such as HIV/AIDS, at national level as well as programme delivery at the lower levels of the health system.

Uses; -The 'uses' of funds are defined according to mutually exclusive classifications including; a) providers (e.g. for profit and non-profit public and private hospitals, clinics, individual private owners, pharmacies, traditional medicine, etc.), b) functions or types of health care (administration, curative healthcare, preventive, equipment, etc.), and c) inputs (drugs, salaries, medical services, infrastructure, etc.)

The matrix approach requires that all funds from each source be allocated to specific uses. For example all spending by government facilities must be traceable to specific sources through financing intermediaries. The totals and subtotals must add up and be consistent. The "financing agents to providers" matrix shows the flow of funds to hospitals, clinics, individual practitioners, etc., portraying how resources are allocated across the providers of health care.

Through the "financing agents to functions" matrix, it is possible to depict the resource allocation by the main health care functions, classified as general administration, personal health services for in-patient and ambulatory illness treatment, infrastructure and equipment, preventive public health services, and other costs such as medical education and training and research.

When considering equity in financing and expenditure, overall health spending limits are determined by

assessing the adequacy of financial resources available to the health system. Knowledge about who finances health care and how large the financial burden is relative to their means highlights the fairness of the financial burden. Knowing where the benefits from health expenditure land in terms of financial value is an important measure in assessment of distributional fairness. National Health Accounts is therefore an important input tool for improving health system performance.

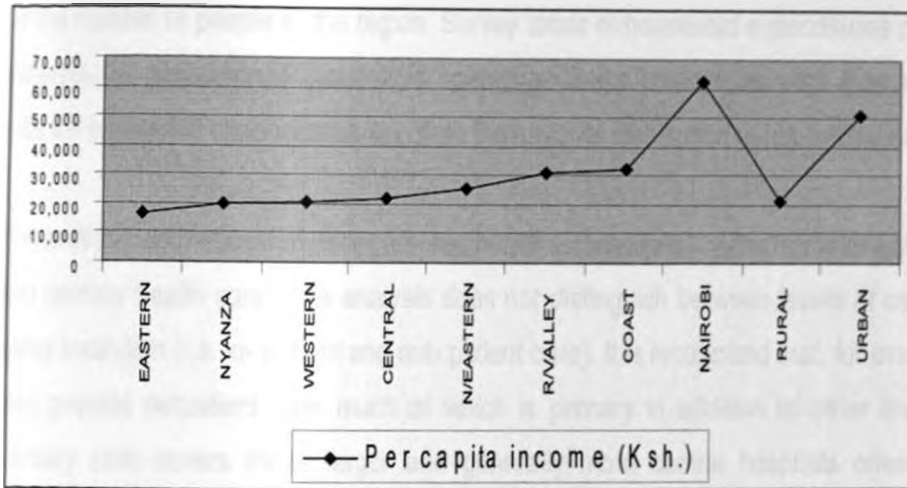
In order to promote equity and efficiency of resource use, the Ministry of Health has to play an important resource allocation decision-making role. In particular, the Ministry of Health should establish guideline budget allocations to districts based on the relative needs of districts for health services (e.g. through an equity-promoting, needs-based resource allocation formula). However, plans and budgets prepared at the district level need to be taken into account when determining the final allocations to districts. These plans and budgets will provide an indication of whether the district is able to deliver adequate services within the guideline budget allocation (e.g. has the capacity to downscale services if budgets are to decline or the capacity to absorb budget increases). A range of factors (e.g. financial management capacity at decentralized levels) will either facilitate or constrain these initiatives to allocate resources in an equitable and efficient way.

The financial intermediaries refer to those entities which, pay for or purchase health care services i.e. receive funds from sources and pay or transfer them to providers. They may own and operate provider institutions as the Ministry of Health or they may finance services provided by others, as the private health insurance. These have been classified into two broad categories, namely, public and private agents. The former includes the Ministry of Health (MOH), social insurance, other ministries, public employers and provincial and local government, while the latter refers to households, NGOs, private employers and private insurance.

4.2 Method of Analysis

Figure 2 shows the per capita incomes by the provinces. With health financing a core responsibility of the government, it is inevitable that poorer regions devote less resources per capita to health spending.

Figure 2: Per capita incomes by province (Ksh)



Source: Own computation based on data from the Welfare Monitoring Survey.

If the NHA is disaggregated at the sub national level, it permits a systematic analysis of spending differences between regions and thus can help account for intra-country geographic variations in the level of budgetary funding for health services. The study uses extensive data on health status and other socio-economic characteristics to develop distributional estimates of who makes the payment under each financing mechanism, and who receives the benefits of government health subsidies. The analysis explores equity issues in financing and distribution of health spending across the dimensions of income, and geographic regions. The analysis essentially involves first, the distribution of final health care expenditures by beneficiary. The second is the analysis of the distribution of payments for health care. The third is an assessment of how these relate to underlying health status and the fourth how they relate to impact of overall income of each geographic area.

The analysis of health expenditures in Kenya is designed to distribute the national health expenditures as estimated in Kenya's NHA for 2001/2002. The NHA provides the overall framework and constraints within which allocations are determined. Since Kenya's NHA does not provide regional breakdowns of spending, internal administrative and programme data from MoH was used to make the regional allocations. The centrally –administered hospital facilities expenditures were assumed to benefit only the residents of the relevant province, for example, expenditure at the Nyanza General Provincial Hospital are allocated wholly to Nyanza province. The total health expenditure for public and private expenditures was distributed according to information available from the household surveys. The

survey estimate of mean household expenditure per capita in each province and district was multiplied by the number of people in the region. Survey totals of household expenditures per region was used to estimate the proportion of household spending. These proportions were then multiplied by the NHA total for household expenditures to obtain the national distribution of household expenditures.

The analysis on the level of care captures health expenditures under two levels of care namely, tertiary, and primary health care. This analysis does not distinguish between levels of care provided within the same institution (i.e. in- patient and out- patient care). It is recognized that, for example, tertiary facilities also provide outpatient care much of which is primary in addition to other levels of inpatient care. Tertiary care covers those larger and generally more central hospitals offering a higher level of specialization in care. It includes all tertiary, referral, specialist and teaching hospitals. Primary level of care is the lowest level of care and provides preventive, promotive and very basic curative care services. This is usually the entry point to the health care system and includes all urban and rural health centres, clinics, and dispensaries.

If the utilization of health services is known, then the share of medical expenditures received by each population subgroup can simply be estimated by assuming that there are no differences in the intensity of resource use per treatment episode across population subgroups, and by multiplying the utilization data into the data for medical expenditures.

The comparison of geographical equity in expenditure was presented using per capita expenditure. The geographical area considered was the province and district per capita expenditures. The proxy indicator of need used is the life expectancy at birth, mortality rate, fertility rate and population. The population of those insured was not subtracted from the total population figures.

4.3 Nature, Type and Sources of data

The study uses mainly secondary data from various sources. The central source of data for this study is the National Health Accounts for Kenya for 2001/02. The Public Expenditure Review report gave detailed information on the compilation and structure of Kenya's NHA, which are the official estimate of national health expenditures in Kenya.

The data for government expenditures was compiled from budget review documents from the Ministry of Finance Budget, which contains expenditure data for 2001/2002. It provided data on health budgets per annum. The reason for choosing this year was mainly because the latest available NHA data for is for 2001/2002. The Ministry of Health Budget provided data for provincial budget estimates and expenditure data.

The data on health infrastructure was available from the Health Information systems, an annual report published by the Ministry of Health. Some of the utilization data used was from the Kenya Demographic and Health Survey, 2004. Population data was based on the 1999 census estimates projected to accommodate the estimated growth rate of 2.5 per cent per annum.

The analysis estimated the distribution of public subsidies taking into account regional differences. Administrative data from the MoH was used to allocate all programme expenditures to specific divisions for this study. Each programme expenditure total is allocated to the relevant facility type, for example provincial hospitals. Survey data was then used to distribute expenditures of public programs or activities across population subgroups making use of information on relative levels of utilization. The totals for private expenditures were derived from the NHA, and distributed according to information available from the household surveys.

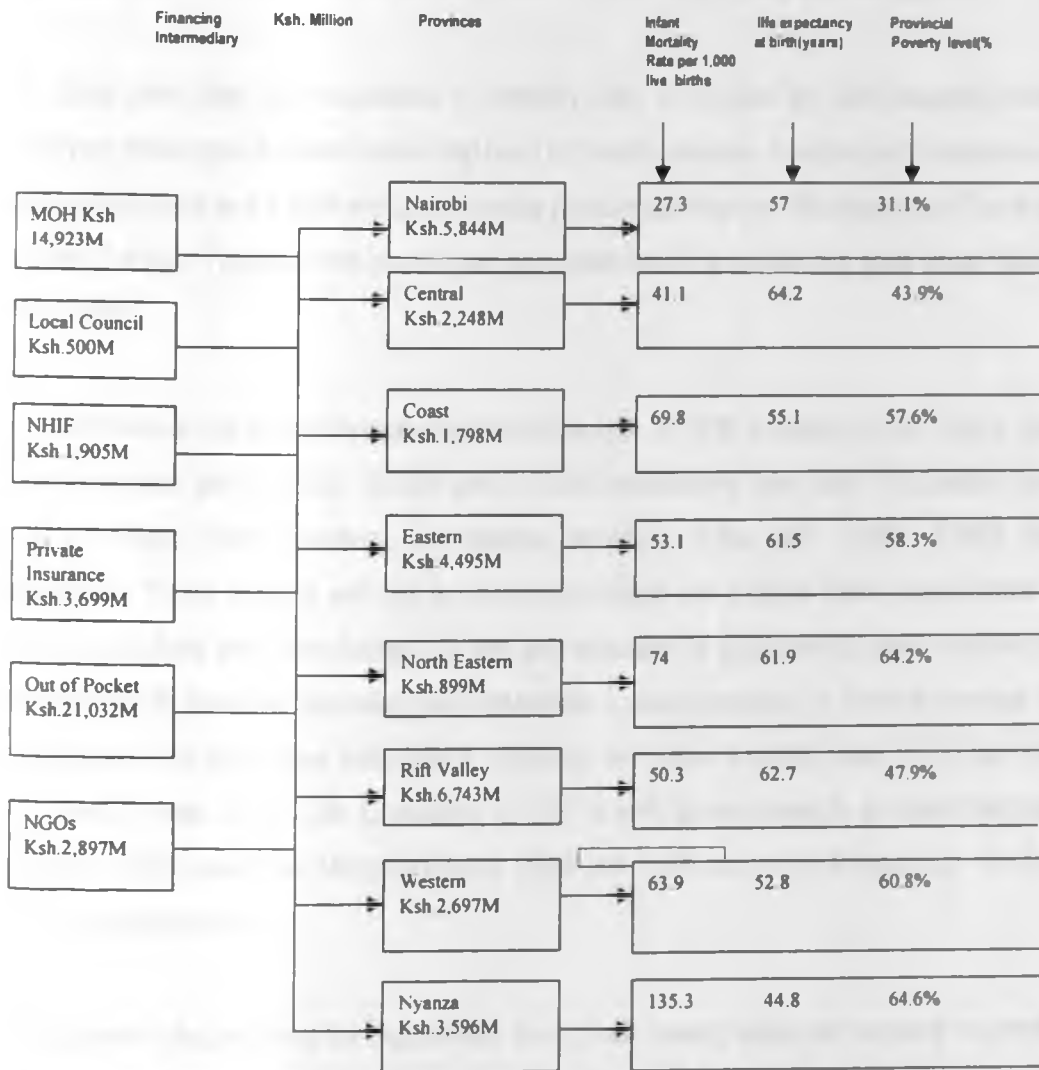
5 Results

5.1 Distribution of funds for the Financing of Health Services

The country's total approved health expenditure for that year was estimated at Ksh.46, 989 million equivalent to about US\$ 627 million. Given that total GDP that year stood at Ksh.969, 354 million, equivalent to Ksh.30, 757 per capita (US\$ 394 per capita) national health expenditures represented 4.85 % of GDP equivalent to an annual per capita expenditure of Ksh.1, 490.90 (US\$ 19.2). However, majority of this funds were managed and consumed by the private sector, and benefited only a small proportion of the population. Total public spending on health (government, including state owned firms plus foreign aid) was Ksh.14, 097 million equivalent to US\$ 5.9 per capita or 1.45 % of GDP while private spending (households, private firms, NGOs) totalled Ksh.25, 374 million equivalent to US\$ 10.7 per capita or 2.6% of GDP. This can be summarised in figure 3 which shows the flow of funds from the financing agents. Figure 3 shows that the financing intermediaries received a total of Kshs.44,956 million in 2001/02 from the financing sources. The figure also shows the regional distribution of health expenditures by the provinces in 2001/02. Rift Valley province had the highest expenditure of Kshs.6,743 million, representing 15 per cent of total financing. North Eastern Province had the least expenditure of Kshs.899 million representing 2 per cent of total health financing from the intermediaries. The actual total expenditure for all the provinces was Kshs.28,321 million. Evidently, there is a distinct discrepancy in the distribution of health spending in the health system.

Government health expenditures are relatively high in Nairobi ,an urban province (overall expenditure of Kshs. 5,844 million and Ministry of Health expenditure of Kshs.1,253 million) while North Eastern a rural province had a relatively low expenditure (overall expenditure of Kshs. 899 million and Ministry of Health expenditure of Kshs.627 million). This skewed pattern is probably an indication that public health care resources are allocated on the basis of existing infrastructure and historical spending patterns without due consideration of the varying regional health needs. While the data on donor related funding was lacking it is thought that donor presence is highly present in urban . This implies that the practice of donors targeting specific geographical regions for implementing their programmes may further increase inequalities.

Figure: 3 Flow of Funds between Financing Intermediaries and Provinces.



Source: Own computation using data from the MOF and MOH

The high health expenditures in Nairobi province can be explained by the combination of high household expenditures (due to high incomes), high government spending, and a concentration of both

public-owned and private-owned health facilities. Evidently, Government health expenditures have helped aggravate rather than assuage existing regional inequalities in health spending by the other sources. This is contrary to the explicit health policy priorities of the country. The challenge is to increase health resources to under-resourced regions through objective and explicit resource allocation decisions taking to consideration the presence of donors in some geographical regions.

The study used data on inequalities in mortality risk, as proxied by child mortality rates to infer underlying differences in health status and need for health services. A subsequent comparison between health expenditure and health indicators reveals pronounced regional discrepancies. This is highlighted in figure 3 above. Regions that have higher per capita health expenditures have lower Infant Mortality Rates (IMR).

Nairobi Province has the highest per capita income with 21.12%, followed by Rift Valley, Eastern and Coast provinces with 14.12%, 12.52% and 12.02% respectively (see table 10). Central province has 11.04%. Western, North Eastern and Nyanza provinces follow with 10.6%, 9.96% and 9.15% respectively. Those regions with higher per capita income can provide more expenditures for health care not only from their own budget but also the allocation of grants which have favoured them. For example Nairobi province (spending Ksh.5,844million) when compared to Nyanza province (spending 3,596million). The former has better health indicators with Infant Mortality Rate of 27.3 per 1,000, Under Five Mortality Rate of 66.1, Life Expectancy of 63.7 at birth as compared to an Infant Mortality Rate of 135.3 per 1,000, Under Five Mortality Rate of 198.8 per 1,000 and a Life Expectancy of 45.7 years at birth in Nyanza province.

It is apparent in figure 3 that the regions with the highest poverty levels are worse of in terms of health status. Nyanza province with the highest poverty level of 64.6 per cent, has the poorest health indicators in the country, whereas Nairobi and Central provinces with lower poverty levels of 31% and 43% respectively, have conformably better health indicators. However, the improvement in health outcomes is not solely the responsibility of the health sector as other variables like income and poverty levels play significant roles.

Tables 9 and 10 show the extent of inequalities by socio economic status in infant and under five

mortality rates in both the rural and urban areas and by the provinces.

Table 9: Rural-Urban Disparities in Health Indicators.

Indicator	Rural	Urban
Per Capita Income	US\$ 112	US\$ 180
Infant Mortality Rate	74	55
Under Five Mortality Rate	109	88
Total Fertility Rate	5.16	3.12
HIV/AIDS prevalence %	12.2	17.5

Sources: Republic of Kenya 1998, 2000b, 2001a

Table 10: Regional Inequalities in Health.

Indicator	Nairobi	Central	Coast	Rift Valley	Nyanza	North Eastern	Western	Eastern	Kenya
Per Capita Income (US\$)	76	40	43	51	33	34	38	45	360
Per Capita Income (%)	21.12	11.04	12.02	14.12	9.15	9.96	10.6	12.52	100
Population as at 2002 (000)	2,308	4,010	2,678	7,524	4,730	1,036	3,617	4,988	30,892
Under Five Mortality	66.1	33.5	95.8	67.8	198.8	74	122.5	77.8	105.0
Total Fertility Rate	2.6	3.7	5.1	5.3	5.0	5.0	5.6	4.7	4.7

Sources: Government of Kenya, 2003; Republic of Kenya 1998, 2000b, 2001a and own computation from Welfare Monitoring Survey.

It is clear that overall health status is worse in Nyanza, Western and Coast provinces than in Central and Nairobi provinces. Though the government is making concerted efforts to reduce disparities between the urban and rural areas, there still remains the mis-allocation of resources between the rural and urban areas. This has led to the wide disparity in the health status indicators, as seen by infant and under five mortality rates which were 74 and 55 and 109 and 88 respectively in 2001. Such allocations

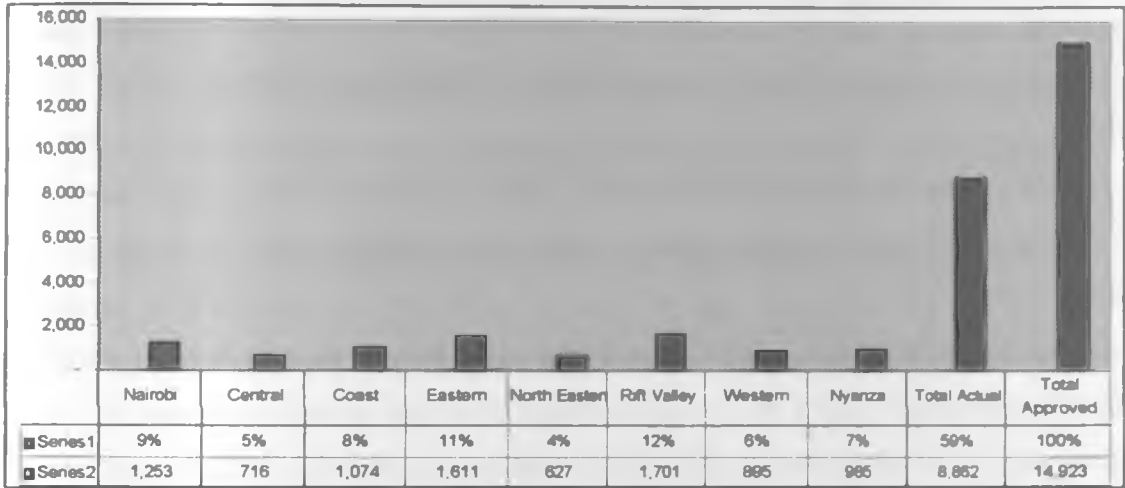
of public resources does not appear to be equitable, let alone progressive given that 70 per cent of the population and majority of those below the poverty line live in the rural areas.

The general picture that emerges is that mortality rates are lower with increasing socio economic status by income. While per capita spending figures capture only one element of sector performance and do not address the more important dimension of how resources are spent, the size of the differences and the pro-rich distributions have serious long-term implications.

Provinces like Nyanza, and Western with low per capita income also have a low health status. These data confirms that health status is worst in the lower socio economic groups and amongst the most disadvantaged, and that correspondingly need for health services is greatest. On account of the low level of per capita income in the country large segments of the population may not have access even to the basic package of health care. An important policy objective of the government should therefore be to improve equity of access through an appropriate distribution of health expenditures either across geographic regions or across income groups.

Figure 4 shows Rift Valley province having spent 12 per cent of the Ministry's financing. Eastern Province followed closely with 11 %. Nairobi province utilised 9 %. This was followed by Coast, Nyanza, Western, and Central, provinces which spent 8%, 7%, 6% and 5% respectively. North Eastern province utilised 4%. While the approved health budget for the ministry was Kshs. 14,923 million, by the end of 2001/02, the actual expenditure was only Kshs. 8,862 million. This further reflects a distinct discrepancy in the distribution of health spending in Kenya's health system.

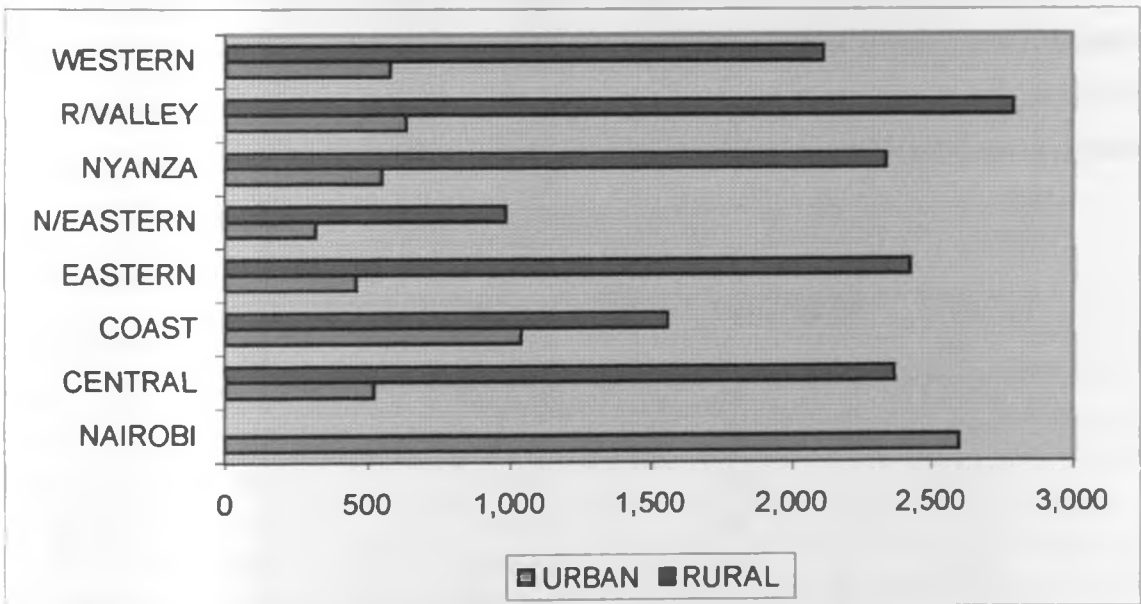
Figure 4: Ministry of Health Actual Expenditure Kshs Million, by Province, 2001/2002



Source: Own computation using data from the and MOH

Figure 5 further displays the analysis of actual Ministry of Health expenditure for the same year. The figure shows that distribution of health resources is skewed towards urban areas.

Figure 5: Per Capita Health Expenditure- Province



Source: Own computations based on data from the Ministry of Health.

5.2 Inequalities in the distribution of Benefits

There also exists large disparities in the availability of health facilities in provinces. As earlier discussed, Rift Valley Province had the highest health expenditure allocation. The province also accommodates the largest number of health facilities in the country in 2002, followed by Eastern Province. North Eastern province, partly due to its low population had the smallest number of health facilities for the same period. The number of health facilities in North Eastern Province increased from 40 in 1990 to 71 in 2002, depicting a 44 % increase, whereas in the Rift Valley Province, the number increased from 583 to 1,207, depicting a 52 % increase. Nationally there are 15 health facilities per 100,000 people. However, this is not the scenario in Western and North Eastern provinces (with 8 and 7 facilities per 100,000 population respectively). Differences in population sizes across provinces are to a large extent responsible for the variations shown in table 11. Rift Valley Province also leads the way with 11,240 hospital beds, with Nyanza, Nairobi and Eastern Provinces following with 10,006, 7,005 and 6,736 beds respectively. North Eastern Province has the least number of hospital beds.

Reported sickness cannot be used as a direct measure of actual need for health status. This is because self-reported health status is assumed to be a poor proxy for actual health status. This is confirmed in the household data in table 11. Contrary to the evidence of worse mortality rates at lower socio-economic levels, reported illness rates are not higher in the poorer regions. This is because higher socio economic status is associated with higher propensity to report sickness, and presumably be aware of actual illness. Table 11 shows the number of health facilities and the incidence of reported illness per province in 2002.

Table 11: Health Facilities and Outpatient Mobidity per Province.

	Total	Population	Outpatient mobility	Area
Nairobi	358	2,308,050	274	684
Central	470	4,010,511	2,443	13,173
Coast	467	2,678,511	5,032	83,040
Eastern	842	4,987,919	3,450	155,760
N.Eastern	72	1,036,122	3,756	126,902
Nyanza	551	4,729,914	1,648	12,526
Rift Valley	1251	7,524,273	2,912	171,108
Western	283	3,617,034	256	8,223
Total	4,294	30,892,338	19,771	571,416

Source: Public Health Expenditure review, 2004

The rapid expansion in physical infrastructure in the health sector however, was not matched by the growth in the allocation of resources to the health sector. Indeed, as mentioned previously, budgetary allocations to the health sector has instead continued to dwindle. As a result, both chronic and acute shortages of essential medical supplies have characterized government health facilities. These shortages have weakened the ability of the healthcare system to serve the people effectively. In 1997, for example, 54 % of the population did not visit government health facilities because they were believed to have no drugs (Republic of Kenya, 1999). In contrast, private health facilities had drugs but 76 % of the population could not consult them because they were too expensive.

One of the main indications of the lack of equity of the Kenya health system is the fact that about one third of the poorest Kenyans seek attention in the private sector, without insurance coverage, paying out-of-pocket and frequently having to borrow money or sell assets to confront the financial burden of health care. This worsens their poverty situation, more so in the case of the chronically ill. As a result of this, the most vulnerable population must confront a higher financial burden than the rest. The lack of equity of the Kenya health care system also results from low insurance coverage, together with a high demand for private services by the population – including the poorest – and the lack of regulation of private providers, who do not generally have the vision to find low cost treatment alternatives for the poor. In this connection, consumption of even essential health services is linked to household income.

The fact that family expenses are such an important component of total expenditure is a first indicator that there might be equity problems in the health financing of a particular country, as the market is not a good mechanism to allocate resources equitably within the health sector. This is clearly presented in table 12. Households in the poorer income quintiles use less health care than do households in the richest quintile—more than a third of the poor who were ill did not seek care compared to only 15 per cent of the rich. This suggests that inability to pay is contributing to lower utilization rates by the poor.

Table 12 Household Per Capita Health Expenditure

	NON- POOR	POOR
	Health expenditure (Ksh)	Health expenditure (Ksh.)
NAIROBI	6,346.80	1,120.80
CENTRAL	1,771.20	718.80
COAST	2,401.20	745.20
EASTERN	2,522.40	1,010.40
N/EASTERN	1,518.00	151.20
NYANZA	2,757.60	1,237.20
R/VALLEY	2,551.20	866.40
WESTERN	3,298.80	1,074.00
RURAL	2,263.20	928.80
URBAN	4,984.80	1,200.00
TOTAL	2,941.20	963.60

Source: own computations based on data from the Ministry of Health

Table 12 further confirms the considerable inequalities in the distribution of health expenditures between provinces. As can be seen in the table, per capita health expenditures varied from US\$ 85 in the richest quintile to US\$ 2 in the poorest quintile. As noted earlier, the cost of a basic package of health care delivered to a population in a low income country like Kenya was evaluated by the World Bank at US\$ 13 per capita (World Bank, 1993). Going by the fact that majority of Kenyans now live on less than US\$ 1 a day many cannot afford the totality of the basic health package.

5.3 Financing between Levels of Care

Kenya's mortality and morbidity data highlight the following major health problems: Malaria, Acute Respiratory Tract Infections, Skin infections, Diarrhoea and HIV/AIDS. As mentioned earlier, the poor spend less on medical care as compared to the prevalence level of illness found against them. Most of the expenditure by the households go towards curative services. Though the average annual household expenditures and cost of treatment per episode for both outpatient and inpatient are higher in urban areas, the expenditure as a percentage of income is higher in rural areas. This shows that people in the rural areas bear a greater burden of health expenditures as compared to people in the urban areas.

A comparative analysis between primary health care expenditure and amounts spent on curative care reveals that generally Kenya spends more on the latter than on the former.

Table 13: Trends in Ministry of Health Curative and Preventive Programmes Budget

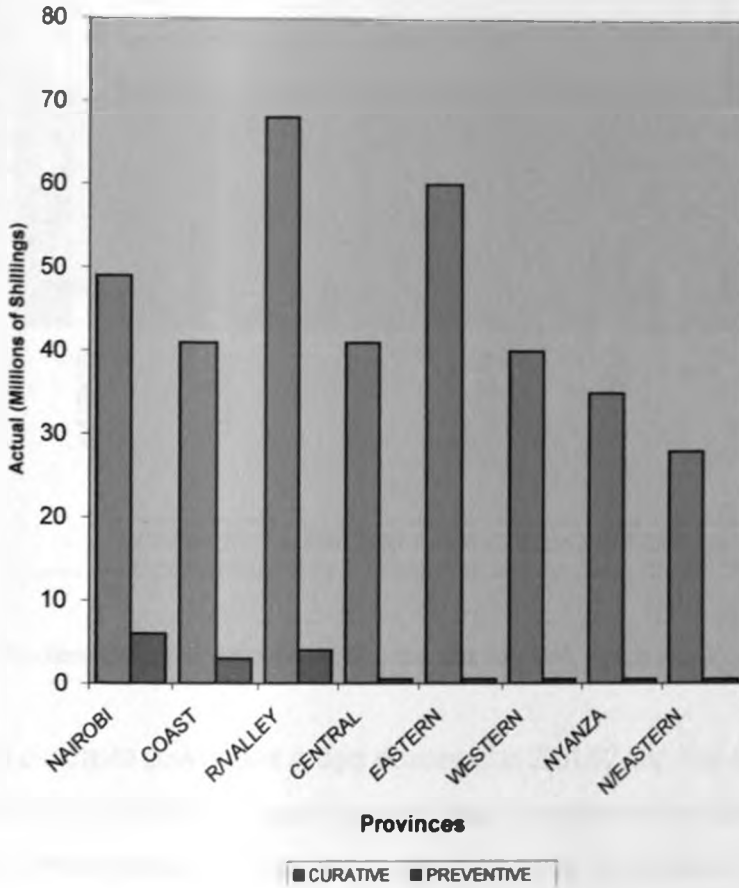
Budget	1990/00		2000/01		2001/02		2002/03	
	Approved	Actual	Approved	Actual	Approved	Actual	Approved	Actual
Curative Health	5,211.30	4,295.30	3,975.10	10,080.1	4,389.10	4,360.47	5,062.0	4,313.1
Total % of MOH	55.30	54.20	33.20	74	30.20	48.50	28.8	50.8
Total	5,211.30	4,295.30	4,416.6	10,080.1	4,982.0	4,360.47	5,575.9	4,313.1
Preventive/ promotive	284.2	242.9	552.2	203.2	529.5	480.40	665.1	493.30
Total % of MOH	3.00	5.9	11.50	5.4	4.90	5.20	8.3	10.4
Total	284.2	242.9	552.2	203.2	529.5	480.40	665.1	493.30

Source: Own computation based on data from MOH

Table 13 shows the trend in Ministry of Health spending based on level of care. Curative health expenditure is incomparable to the preventive care allocation. This continues to be the trend over the period 1990/00 to 2002/03. The figure also shows that allocations to preventive care have remained virtually constant over the period 1990/00 to 2002/03. Instead of funding on the basis of the individual needs of the provinces, some of the communicable disease programs like malaria eradication are funded on the basis of 50-50 cost sharing from the government's budget. In the period 1999/00 to 2000/01 for instance, Central, Eastern, Western, Nyanza and North Eastern provinces each received Ksh. 500,000 for preventive care. This allocation is not only insufficient but it does not also take into account the diverse needs of each region.

The government's expenditure compression programs as a result of the Structural Adjustment programs tend to have a greater negative impact on the relatively poorer regions. Figure 6 indicates that Nairobi Province had the largest preventive expenditure relative to the other seven provinces. This also happens to be the province with the best health indicators. It can further be noted that even though North Eastern province had the lowest health expenditure, it had a relatively high preventive expenditure at the outpatient level. When compared to Nyanza province, it displays better health indicators. This could mean that putting more health resources at the primary level yields better health outcomes.

Figure 6 Curative and Preventive Programmes MoH Spending , 2001/2002
(Millions of Shillings)

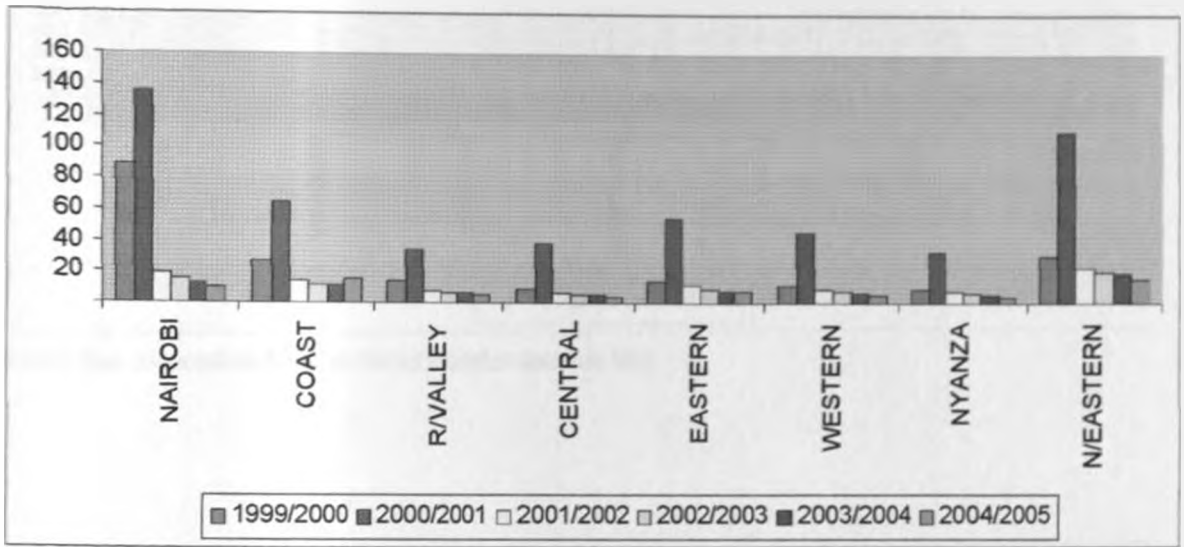


Source: Own computations based on data from the Ministry of Health

5.4 Trends in Regional distribution of Benefits

NHA geographical distribution analysis demonstrate that some regions are disproportionately penalized over others in the allocation of public funds. Kenya's health policy strategy is to ensure that limited public health resources benefit the poor. A review using NHA data, has revealed that contrary to policy intention, the allocation of resources for the uninsured population disfavoured the regions with greater epidemiological challenges. Figure 7 shows changes in budget allocated designed to promote equity. The figure is a clear indication of the inequity in the distribution of per capita expenditure on health.

Figure:7 Trends in actual government per capita health expenditure / budgets by province



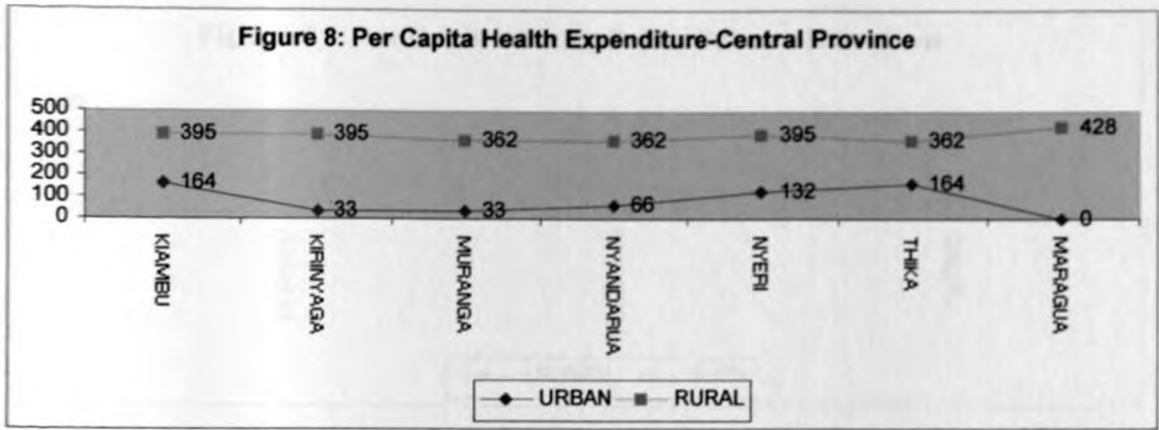
Source: Own computations based on District allocation data from MoH, various issues

The real per capita government budget decreased in 2001/02 and, has continued declining every year. Comparison of per capita budgets is a useful way of monitoring the relative priority awarded to health services between provinces. However, to get a comprehensive picture of district health service funding, donor contributions to such services must be incorporated in the analysis. These data was not readily available and so this remains an area that requires further research. The challenge is for the government to consider a variety of policy instruments, including centrally sponsored schemes, equalization funds, and other fiscal incentives to address the regional inequalities perpetuated by the current financing arrangements.

5.5 Intra-provincial distribution of health expenditure/budgets

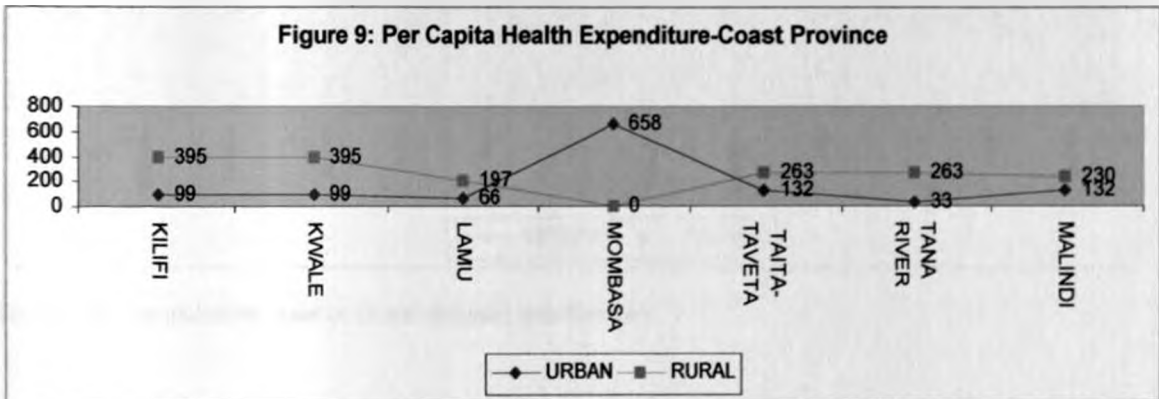
These inter-district disparities reflect the differential resources of facilities located in urban and rural areas. In this study, expenditure (budgets) for district hospitals, non-hospital primary care services were included in the analysis. The "equity target" allocation for each district was assumed to be the average weighted per capita district health service expenditure/budget for the province. The figures below indicate the extent to which each district's expenditure (or budgets) to the "equity target" allocation (which is represented in the graphs by 0).

Figure 8: Per Capita Health Expenditure-Central Province



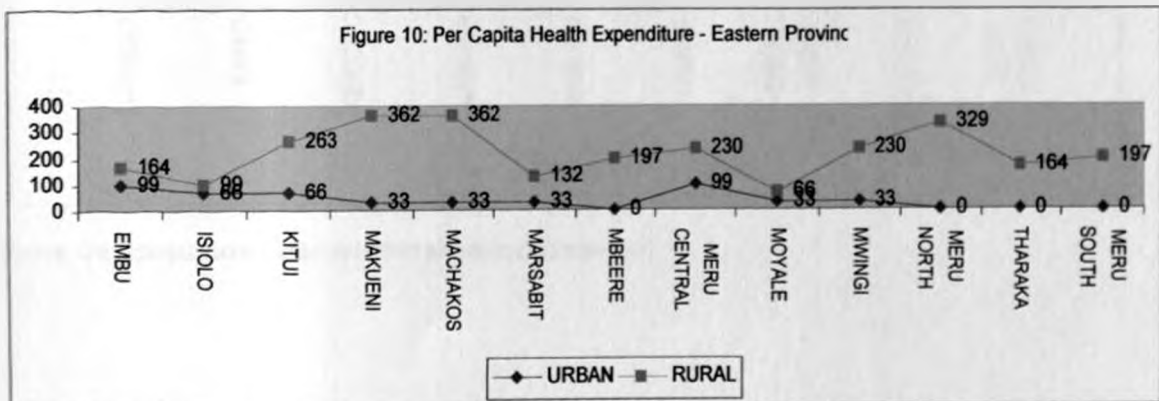
Source: Own computations based on District allocation data from MoH.

Figure 9: Per Capita Health Expenditure-Coast Province



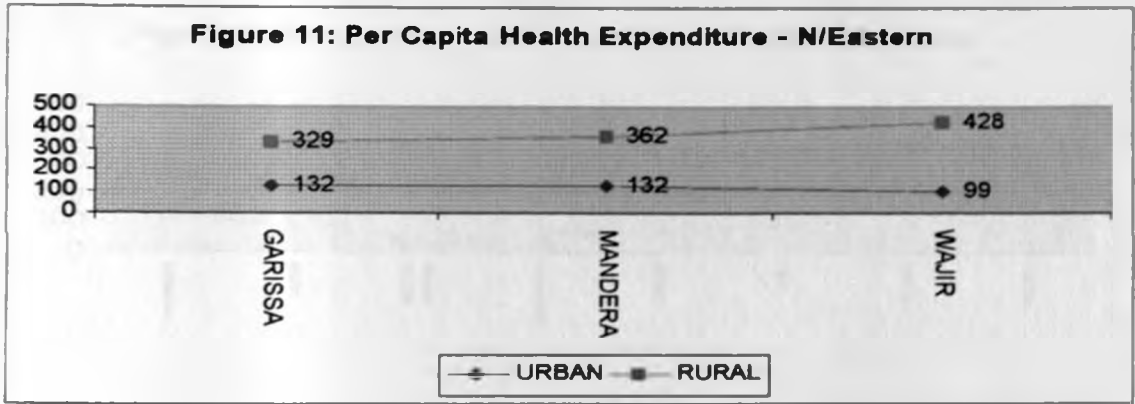
Source: Own computations based on District allocation data from MoH.

Figure 10: Per Capita Health Expenditure - Eastern Provinc



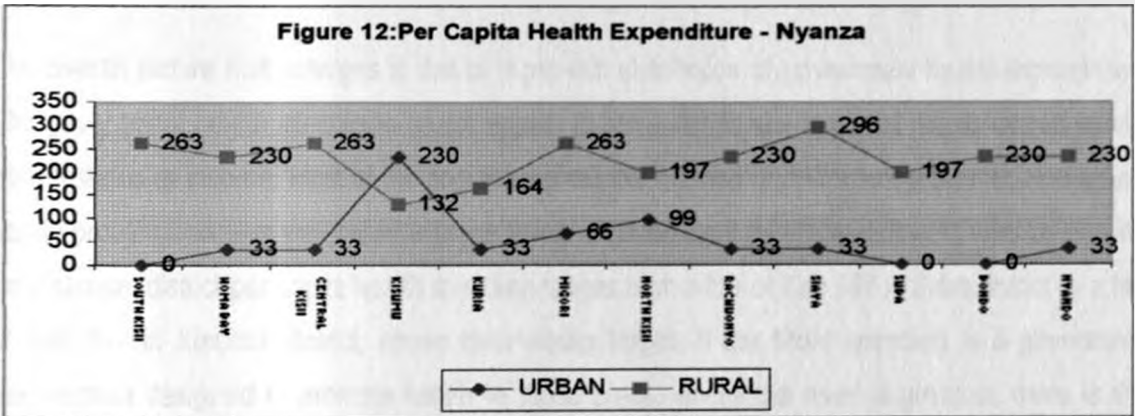
Source: Own computations based on District allocation data from MoH.

Figure 11: Per Capita Health Expenditure - N/Eastern



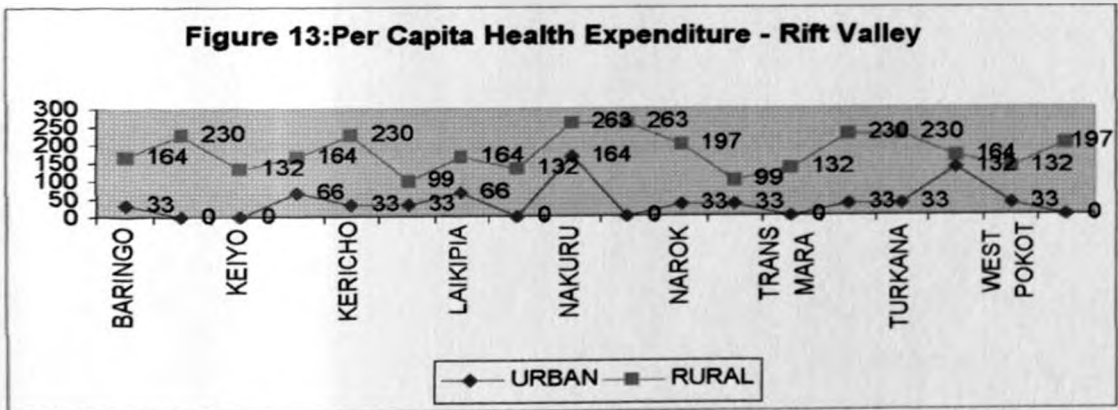
Source: Own computations based on District allocation data from MoH.

Figure 12: Per Capita Health Expenditure - Nyanza



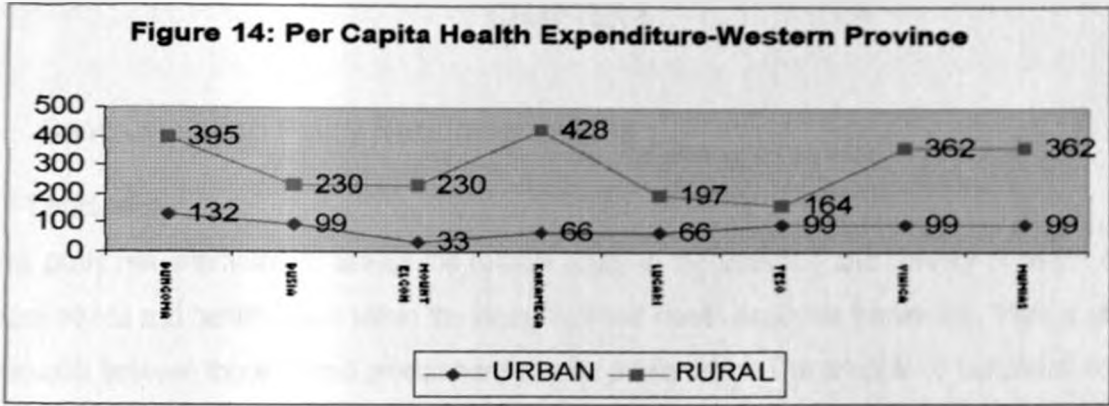
Source: Own computations based on District allocation data from MoH.

Figure 13: Per Capita Health Expenditure - Rift Valley



Source: Own computations based on District allocation data from MoH.

Figure 14: Per Capita Health Expenditure-Western Province



Source: Own computations based on District allocation data from MoH.

The overall picture that emerges is that of a pro-rich distribution of government health expenditures. The government health allocations do not appear to be related in any apparent way to overall level of health status or income. Most of the poorest regions like Nyanza and Western provinces with greater health problems receive way below average levels of government health spending. In Nyanza province for instance, district per capita health spending ranges from a low of Ksh 197 in Suba district to a high of Ksh.362 in Kisumu district, above their equity target. If the MoH spending is a government intervention designed to promote health in those areas, where the need is greatest, there is little evidence that the MoH spending is currently allocated to achieving this. This pattern of geographic spending contributes to the poor targeting of MoH health care subsidies to those in most need.

CHAPTER 6

6 Conclusion and Policy Recommendations

6.1 Conclusion

This study has attempted to assess the relative equity in the financing and delivery of health care expenditures and health status within the Kenya National Health Accounts framework. There is gross inequality between those served predominantly by the public sector. The principle of 'horizontal' equity advocates that people in equal need of health care should have equal access to services regardless of characteristics such as ability to pay. The Kenyan picture is, under this definition, certainly not one of equity. 'Vertical' equity is even more important and requires that those in greater need of health care should have greater access to services. Thus poorer groups would be expected to have a greater number of financial, physical and human health care resources placed at their disposal.

Even though Kenya spends 6 per cent of its GDP on health care, based on the foregoing analysis, it is unfortunate that in Kenya government allocation of resources has neglected the rural as most of the government expenditures have flowed to urban areas. The allocation of government financing and expenditure tends to favour the better off provinces, which then affects the poor in the poorer provinces adversely. The provinces that should receive priority in the allocation of resources, according to indices of deprivation and ill-health are Nyanza, Western and North Eastern provinces. From the study it has however emerged that Nairobi and Central provinces have substantial allocations, yet going by their health indicators, and level of poverty, they are better off. Clearly, the current health financing formulae needs to be reviewed.

The study finds that despite the government's concerted efforts to improve the health infrastructure in rural areas, the extent, level and quality of services are still very poor. Even though more people live in rural areas, examination of the differentials in government subsidy expenditures by region reveals inequalities. These are highest in the major towns and this is largely due to a higher concentration of teaching and national specialist hospitals.

This study has indicated that some of the provinces faced with the task of implementing the most affected level of health care resource shifts are being simultaneously confronted with substantial health

budget cuts. It has also emerged that budgetary allocations between levels of care has remained constant over the years despite major changes in the socio-economic environment. It is easier to effect a relative distribution of resources when there is a real budgetary increase than when real budgets are declining, remaining stable or only increasing marginally. This may undermine the efforts to promote equity in inter-provincial resource allocation especially since the preventive allocations to the areas with worse of health status is less in comparison to the better off areas. Some provinces are in fact moving further away from equitable health budget allocations.

Following the WHO's Alma Ata Declaration in 1978, Kenya adopted ten elements of Primary and Preventive Health Care (P/PHC); all targeting priority causes of morbidity and mortality, and received strong donor support in their implementation. This notwithstanding, trends in health expenditure allocations do not reflect this emphasis. The MoH's recurrent expenditure allocations remain skewed in favour of curative care that accounts for about 70 per cent of the total. This is despite evidence that major causes of morbidity such as access to sanitary water sources (malaria, skin diseases, intestinal worms, and diarrhoea) emanate from conditions that can be prevented through an aggressive P/PHC promotion and implementation campaign. This may impede the achievement of the Millenium Development Goals (MDGs) contained in the country's health policies, where primary care is suggested to be the priority for expenditure.

There is a need to improve the data used in the preparation of National Health Accounts. In particular, there remains great uncertainty about the size and composition of the population in each province, and how this will change over time (e.g. with inter-provincial migration). As population is a component of the resource allocation formula, inaccurate population data can adversely impact on provincial budgets.

There is also an urgent need to improve expenditure data within the health sector. Some of the main areas of concern include the lack of comprehensive financial data on the provincial activities, especially where the activities in question are funded through private sources. Access to comprehensive information is essential for planning, budgeting and monitoring purposes. Thus, it is impossible to determine the extent to which the challenges facing the health sector are being addressed in the absence of accurate expenditure data.

From the above findings, it can be concluded that although there is progressivity in public sources of finance, in terms of government, there is still a bias in terms of allocation against the poor, the rural areas, and urban organized sector. Also of concern is the increased allocation of resources to curative care services, which has been awarded a high priority in the health sector's expenditure. It can finally be concluded that the health care system as a whole is not effective especially in terms of the nations' resources devoted to health care vis-à-vis its impact on the health status and the provision of health care equitably.

The key factors that may have contributed to the slow progress towards equity have been:

- In some relatively disadvantaged provinces, such as Western, and Nyanza provinces, the current government allocation formula is resulting in allocations which are below their current spending levels.
- There may be conflict between provincial level decision making about the allocation of resources between sectors and the goal of achieving national equity in the distribution of resources within a particular sector.

A key challenge in the health sector therefore is to address the disparities in resource allocation between geographic areas. Essentially the provinces with the greatest burden of ill health, and thus the greatest capacity to benefit from health services, have the least access to such services. When determining the annual health budgets, the involved parties should determine the weighted per capita equality in provincial health budgets. Given the significant disparities in per capita public sector health care expenditure, the "Health for All " by the year 2010 time frame requires substantial changes in provincial budgets on an annual basis.

6.2 Policy Recommendations

A number of recommendations arise from this research:

To promote equity, the national resource allocation process, in particular (i) the current MoF formula that calculates the "equitable shares" component of the budget for provinces and (ii) the equity-oriented mechanisms of the Medium term Expenditure Framework should be reviewed.

It should also provide support in the provincial budgeting processes to provincial health facilities which do not prioritise health care spending. Alternative mechanisms of resource allocation, such as norms and standards that could protect allocations to priority health care services should also be considered. Cross –subsidies to private patients at public hospitals should be removed through appropriate pricing of services and collection of fees.

Some of the provinces receive funds directly from donors for various health programmes. It is therefore likely that the overall health expenditure patterns are an underestimate. For the government to determine whether or not health funds are committed to the right activities and are sufficient, the Ministry of Health should coordinate all sources of health care funding.

There is a poor combination of health care inputs in the country as evidenced by the high proportion of expenditure on salaries compared to other equally important health care inputs for efficient, equitable and effective health service delivery. This is a pointer to inefficiency. The government should consider combining scarce health sector inputs in the most optimal way.

There is need to determine whether the financing intermediaries are spending funds on approved activities. The results have shown how funds flow from sources to the financing agencies. However, the information on how these funds are utilised at different levels, such as the provincial level is lacking.

There is need for increased national government intervention and resource allocation through objective and explicit resource allocation decisions to ensure equitable provision of basic health services.

Although the GoK stipulated that all local authorities are expected to take responsibility for district health services, there is still widespread uncertainty as to the extent or limits of such services - and especially how they should best be financed. For the local authorities to achieve this constitutional goal of assuming responsibility for local health services, it will require substantial development of their capacity. Some of the local authorities will need to expand the range and type of health services they provide, while others will need to develop the capacity to provide health services in the first place.

There should be serious mechanisms for building equity considerations into the allocation process in all provinces, such as taking into account the relative need of communities in each municipality for primary

care services and the differential ability of local governments to generate 'own revenue'. The gradual shifting of resources to disadvantaged areas should be accompanied by efforts to develop capacity at local government level to provide a more uniform package of primary health care services.

In order for the MTEF process to be successful, it is essential that there is 'ownership' of the process at all levels of the health service. Adequate time must be allowed, and appropriate guidelines provided, for the preparation of provincial health department submissions to the MTEF process. There should be a 'bottom-up' approach to the MTEF process, rather than the current 'top-down' approach. This requires that district plans and budgets feed in to the provincial submissions and hence into the health sector's MTEF submission.

The government has an interest – and responsibility to incentivise, and even legislate, more appropriate behaviour in the private sector.

It is apparent from the analysis that cost escalation in the private sector impacts not only on the patients it serves, but also on the size of the population dependent on the public sector as well. The expansion of private facilities has impacted on the cost of hospital care in the private sector and threatened the viability of public facilities in small towns as skilled personnel seek better remuneration in private settings.

The government needs to find mechanisms for preventing uncontrolled expansion of the private sector in areas where new services would duplicate and threaten existing health services, whilst encouraging personnel –in both the public and private sectors to move to underserved areas.

Many of the resources abundant in the private sector –such as highly trained personnel, sophisticated technology, managerial skills and money are in scarce supply in the public sector. The government would do well to harness these resources in a co-operative manner in the service of society at large. Policies could include subsidies to reduce start-up costs, adaptation of rules and regulations, and where appropriate, provision of inputs such as seconded government personnel.

Government capacity to monitor and improve quality in the public and private sectors, and to take action to remedy problems, is extremely weak. Efforts should include review and development of input standards, monitoring the output of facilities, and continuing training opportunities for private providers.

This could be initially focused on services of public health importance. Efforts should also be made to use promotional activities to influence the behaviour of private providers.

Efforts to redistribute financial resources should be accompanied by initiatives to develop all facets of capacity at decentralised levels. Infrastructural development (health facilities as well as complementary infrastructure such as roads and electricity) in currently under resourced areas is urgently required. This could be facilitated by development mechanisms to allow for the spending of capital budgets across financial years. The development of appropriate incentives and other staff relocation mechanisms for all key categories of health providers requires urgent attention.

To promote sustainability alternative forms of financing, including user fees within public hospitals, revenue retention and social health insurance should be investigated. With the declining financial resources facing the public sector, there is need for the MoH to improve co-ordination with the private sector and provide an enabling environment for alternative health providers including the private sector. The MoH can facilitate this by simplifying licensing and taxation procedures, offering investment incentives on capital expenditures, encouraging rural locations through selected reduction of duties on medical equipment used in rural areas, setting aside public land for private health facilities and introducing subsidies for "under-served" areas. It is only through such initiatives using a well co-ordinated private sector approach that health care can be made relevant, affordable and accessible to all Kenyans.

Private insurance has a very limited coverage because it has a tendency to have adverse selection. Therefore the majority of the population cannot afford it. Its significance however, lies in the fact that it bridges a gap that the NHIF is unable to fill. In its present form, the NHIF coverage of about 33 per cent of the population is inadequate. Due to the risk-pooling characteristic, the NHIF as a social financing scheme is important in promoting access to health care as it can generate more money for health care expenditure without overburdening individuals. With the mandatory enrolment requirement, the future impact of the NHIF on financing, coverage and access to health care could be very significant. However, in order to make it a more effective and equitable means of generating additional financial resources for health care, institutional and implementation weaknesses have to be resolved.

The government should improve its National Health Accounts system to reflect resource use at the various levels in the health care system. This will yield better NHA estimates to inform, monitor and evaluate policy decisions.

The data on expenditure data within the health sector needs to be urgently improved. To make the National Health Accounts to be a more reliable tool for good national policy decision making the data must be complete, accurate and consistent as much as possible. To make cross-country comparisons data must also conform to international standards and definitions. This demands financial transparency among agencies both public and private, and investment in the development of data tracking and reporting systems, accounting systems and associated activities such as household surveys. The study has clearly indicated that the Ministry of Health does not have comprehensive financial data on health activities implemented by the private sector.

In this research, it was only possible to study the general distribution of out-of-pocket payments for health care. Such a general analysis would need to be supplemented with targeted research into circumstances of high-risk groups, such as the very poor and the chronically ill as these groups tend to be under-represented in surveys. This study should constitute a first step towards the collection of reliable data on out-of-pocket payments for health care. A micro simulation technique should be adopted in data collection as it undoubtedly enables a coherent picture of the distributive aspects of concrete policy measures.

References

- Abel-Smith, B. (1963) . Paying for Health Services: A Study of the Costs and Sources of Finance in Six Countries. Public Health Papers, No. 17. Geneva: World Health Organization.
- Alailima, Patricia J. and Faiz Mohideen. (1983). Health Sector Commodity Requirements and Expenditure Flows. Colombo: National Planning Department.
- Andersson, F, Lyttkens C (1999). Preferences for Equity in Health behind a Veil of Ignorance. Health Economics ,Vol 8(5):369-378.
- Bamum, H.and Kutzin (1993). Public Hospitals in Developing countries, Resources Use, Cost and Financing: World Bank,The John Hopkins University Press,Baltimore.
- Berman, P. (1997). National Health Accounts in Developing Countries: Appropriate Methods and Recent Publications. Health Economics,6 pg 11-30.
- Berman, P. (1998). National Health Accounts in Developing Countries: Appropriate Methods and Recent Publications. Boston: Data for decision Making, Harvard School of Public Health.
- Berman,P.,T.Dmytrac Zenko,A..Fairbank,J-J.Frere,J.Graff,A.K.Nandakumar,B.O.Hanlon, N.Pielemeier,I.Shehata.(1999). First Regional National Health Accounts.Workshop, Middle East and North Africa, January.25-28. Workshop Proceedings.Bethesda,MD:Partnerships for Health Reform Project, Abt Associates Inc.
- Braveman, P, Krieger N, Lynch J (2000). Health Inequalities and Social Inequalities in Health. Bulletin of the World Health Organization , Vol 78(2) : 232-33.
- Brosk, Hani; El-Samen, Taher Abu; Saif, Jamal Abu et al.,(2000). Jordan National Health Accounts. Partnerships for Health Reform (PHR), (Technical Report No. 49).
- Ham C., R. Robinson, M. Benzeval (1990). Health Check: Health Care Reforms in an

International Context. London: King's Fund.

Carr, D., Gwatkin D., Fragueiro D., and Pande, R. (1999). A Guide to Country-level Information about Equity, Poverty, and Health. Health, Nutrition and Population Department. The World Bank, Washington.

Cheng, W. H., L. F. Chou, C. C. Chen, and C. T. Liang (2002). The Assessment of the Impact of NHI Adjustment Program on the Financial Burden for the Insured Families, sponsored by Bureau of National Health Insurance, Department of Health.

Collins Ch., Green A. (1994). Decentralization and Primary Health Care: Some Negative Implications in Developing Countries. Intern J Hlth Services, 24: 459 - 75.

Collins H.D., Quick J.D and Musau N.S. (1994). Health Financing Reform in Kenya: The Fall and Rise of Cost Sharing, 1989-94. Management Sciences for Health, Nairobi.

Culyer, A.J. (1990). Ethics and Efficiency in Health Care: Some Plain Economic Truths. Pery Lecture, McMaster University, Canada.

Culyer A.J. Wagstaff A. (1993). Equity and Equality in Health and Healthcare. Journal of Health Economics, Vol 12: 431-57.

Enthoven, Alain (1988). Theory and Practice of Managed Competition. Amsterdam: North Holland.

Fundacion Mexicana Para Salud. Las Cuentas Nacionales de Salud y el Financiamiento de los Servicios. Economia y Salud: Mexico, (1994). Department of Planning, Ministry of Health, Arab Republic of Egypt and Data for Decision Making Project. National Health Accounts for Egypt., Harvard School of Public Health, Boston, MA.

Gilson L, Kalyalya D, Kuchler F, Lake S, Oranga H, Ouendo M., (2000). The Equity Impacts of Community Financing Activities in Three African Countries. International Journal of Health Planning and Management, Vol 15(4):291-317.

Gilson L and Mills A.,(1995). Health Sector Reforms in Sub-Saharan Africa: Lessons of the last 10 Years, in Berman P, Health Sector Reform in Developing Countries: Making Health Development Sustainable. Department of Population and International Health, Harvard School of Public Health. Harvard University Press. Boston. (pp.277 – 316) .

Gilson, R. (1986), Philosophical Medical Ethics, Wiley: Chichester.

Goddard M, Smith P. (2002). Equity of Access to Health Care Services: Theory and Evidence from the UK. Soc Sci Med, vol 53(9):1149-1162.

Griffin, C. (1992). "Health Care in Asia: A Comparative Study of Cost and Financing," Washington, D.C. : The World Bank.

Hadom DC (1991). "Setting Health Care Priorities in Oregon: Cost-effectiveness meets the Rule of Rescue", Journal of the American Medical Association, 265:2218-2225.

Herrin, Alejandro N. (1996). National Health Accounts: Some Lessons from the Philippine Experience. New York: Economic and Social Commission for Asia and the Pacific, United Nations

Hurley J., (2000). An Overview of the Normative Economics of the Health Sector. In: Culyer A.J., Newhouse JP, editors. Handbook of health economics. Amsterdam: Elsevier Science; p. 56-118.

Hurst, J., (1991). Reforming Health Care in Seven European Nations. Health Affairs, 1991 (Fall), 7–21.

Hurst, Jeremy W., (1992). The Reform of Health Care: A Comparative Analysis of Seven OECD Countries. OECD Health Policy Studies No. 2. Paris: OECD.

Kakwani, N. (1980). Income Inequality and Poverty, World Bank, New York.

Kawachi I, Kennedy B, Gupta V, Prothrow-Stith D (1999) . Women's Status and the Health of Women

and Men: A View from the States. *Social Science and Medicine*, Vol 48(1):21-32.

Kawachi I, Kennedy B, Wilkinson R, (1999). *The Society and Population Health Reader: Volume 1: Income Inequality and Health*. New York: The New Press.

Kenya, Ministry of Health, (1999). *Health Management Information Systems: Report for the 1996 to 1999 Period*, Nairobi.

Kenya, Ministry of Finance and Planning, (2000). *Second Report on Poverty in Kenya (Volume 1: Incidence and Depth of Poverty; Volume 2: Poverty and Social Indicators)*, Nairobi, Kenya.

Keskimaki I, Salinto M, Aro S., (1995). Socioeconomic Equity in Finnish Hospital Care in Relation to Need. *Social Science and Medicine*, Vol 41(3):425-431.

Kolehmainen-Aitken R, Newbrander W., (1997). *Decentralizing the management of Health and Family Planning Programs*. Management Sciences for Health, Newton, USA.

Kunst A, Groenhouf F, Mackenbach J., (1998). Mortality by Occupational Class Among Men 30–64 years in 11 European Countries. *Social Science and Medicine*, Vol 46(11):1459-1476.

Kutzin J., (1995). *Health Financing Reform: A Framework for Evaluation*. National Health Systems and Policies Unit. Division of Strengthening of Health Services. World Health Organisation: Geneva.

Lairson, D.R., P. Hindson, and A. Hauquitz, (1995). "Equity of Health Care in Australia." *Social Science Medicine* 41: 475-482.

Lambert, P. J., (1989). *The Distribution and Redistribution of Income: A Mathematical Analysis*, Basil Blackwell Inc., Cambridge.

Le Grand, J., (1978). "The Distribution of Public Expenditure: The Case of Health Care." *Economica* 45: 125-142.

Le Grand, J., (1982). *The Strategy of Equality*, Allen & Unwin, London.

Le Grand, J., (1987). Equity, Health and Health Care. *Social Justice Research, Journal of Health Economics*, Vol1: 257-274.

Lindholm L, Rosen M., (1998). How Many lives is Equity Worth? A Proposal for Equity Adjusted Years of Life Saved. *Journal of Epidemiology and Community Health*, Vol 52(12):808-811.

Liu Y, Hsiao W, Eggleston K., (1999). Equity in Health and Health Care: The Chinese Experience. *Social Science and Medicine*, Vol 49(10):1349-56.

Manor O, Matthews S, Power C., (1997). Comparing Measures of Health Inequality. *Social Science and Medicine*, Vol 45:761-771.

Maxwell, R. J., (1981). "Health and Wealth," Lexington, MA: Lexington Books.

Maynard, A., (1975). *Experiment with Choice in Education*. Hobart Papers. London, Institute of Economic Affairs.

McGreevey W.,(1990). *Social Security in Latin America Issues and Options for the World Bank*, World Bank Discussion Papers .Washington, D C: The World Bank.

McGreevey, William; Berman, Peter; Fortin, Gilles et al., (1995). *National Health Accounts Assessment*. The World Bank, Washington DC.

McLachlan, G. and Maynard. A. (eds), (1982). *The Public / Private Mix for Health: The Relevance and Effects of Change*, London: Nuffield Provincial Hospitals Trust.

McIntyre D, Bloom G, Doherty J, Brijlal P., (1995). *Health Expenditure and Finance in South Africa*; Durban: Health Systems Trust and World Bank.

Meerman, Jacob P., (1979). Public Expenditure in Malaysia: Who Benefits and Why.

Ministry of Finance and Planning (2000). Second Report on Poverty in Kenya Vol.1: Poverty and Social Indicators. Nairobi: Government Printer.

Ministry of Health (2002). Financial Performance of the Cost sharing Programme, Annual Report, 2001/02, Division of Health Care Financing. Nairobi: Government Printer.

Mooney, G., (1986). Economics, Medicine and Health Care. Wheatscheaf, Brighton.

Mooney, G., (1987). What does Equity in Health mean? World Health Statistics Quarterly, 40, 296-303.

Mooney G., (1996). And now for Vertical Equity? Some Concerns Arising from Aboriginal Health in Australia. Health Economics; Vol 5:99-103.

Mooney G, Jan S., (1997). Vertical Equity: Weighting Outcomes or Establishing Procedures? Health Policy, Vol 39(1):79-87.

Mwabu G., (1996). Health Effects of Market-based Reform in Developing Countries. UNU/World Institute for Development Economics Research (UNU/WIDER). Helsinki; Finland.

Mwabu, G, Ainsworth, M. and Nyamete, A., (1995). "The Effect of Prices, Service Quality and Availability on the Demand for Medical Care: Insights from Kenya" in Shaw, R. P and Ainsworth, M. (eds.), Financing Health Services through User Fees and Insurance: Case Studies from Sub-Saharan Africa. World Bank Discussion Paper No. 294. Africa Technical Department Series.

Mwabu G., Mwanzia, and Liambila W., (1995). User Charges in Government Health Facilities in Kenya: Effect on Attendance and Revenue. Health Policy and Planning; 10(2): 164-170.

Mwabu, Germano, M. Ainsworth, and A. Nyamete, (1993). Quality of Medical Care and Choice of

Medical Treatment in Kenya: An Empirical Analysis. World Bank Technical Paper No. 9. Washington: World Bank.

Nandadumar, A.K.; Schneider, Pia; Bhawalkar, Manjini, (2000). Rwanda NHA Surveys and Codes. Partnerships for Health Reform (PHR).

Nolan B., (1993). Charging for Public Health Services in Ireland: Why and How? Dublin, Economic and Social Research Institute.

Nord E., (1996). Health Status Index Models for Use in Resource Allocation Decisions. A Critical Review in the Light of Observed Preferences for Social Choice. International Journal of Technology Assessment in Health care 12 (1):31-44.

Olsen, S.J.,(1997a). Journal of Clinical Epidemiology vol 50: 1289-1296.

Organization for Economic Cooperation and Development (1998). Principles for Health Accounting for International Data Collections. Paris, France: OECD.

Owino, W. Korir, J. Ocholla, P and Oloo, K., (2000). "Decentralization and Health Systems Development. The Question of Planning, Budgeting and Financial Structures." IPAR Discussion Paper No. 025/2000.

Pan American Sanitary Bureau, (PAHO), (2001). Equity and Health: Views from the Pan American Sanitary Bureau. Washington, DC: PAHO.

Rathe, Magdalena, (1999). Health and Equity: A look at Health Financing in the Dominican Republic, Macro International, Inc.

Ravi P. Rannan-Eliya, Apamaa Somanathan, Varuni Sumathiratne, G.D. Dayaratne, (2001). Data International, Nepal Health Economics Association and Institute of policy Studies, Washington D.C., The World Bank.

Republic of Kenya (1998) "Kenya Demographic and Health Survey" ,1997,Central Bureau of Statistics,Ministry of Health, Nairobi;Kenya Medical Research Institute,Nairobi;Centre for Disease Control,Nairobi;MEASURE DHS+ORC Macro Calverton,Maryland,USA.

Republic of Kenya (2003)."Kenya Demographic Survey", Ministry of Planning and National Development,Preliminary report, Nairobi.

Republic of Kenya (2002), Economic Survey,2002.Central Bureau of Statistics,Ministry of Finance and Planning,Government Printer,Nairobi.

Republic of Kenya (2003), Economic Survey (2003).Central Bureau of Statistics,Ministry of Planning and National Development, Nairobi.

Republic of Kenya (2003b), Public Expenditure Review,2003.Ministry of Finance,Government Printer,Nairobi.

Republic of Kenya (2003), Welfare Monitoring Survey,2003.Central Bureau of Statistics,Ministry of Planning and National Development,Nairobi.

Republic of Kenya (2004), Economic Survey (2004).Central Bureau of Statistics,Ministry of Planning and National Development, Nairobi.

_____. Economic Recovery Strategy for Wealth and Employment Creation 2003-2007 (Government of Kenya, 2003).

Russell, Steven and L. Gilson, (1995). Cost Recovery in Government Health Services -- Is Equity Being Considered? Public Health and Policy Departmental Publication Series. London: London School of Hygiene and Tropical Medicine.

Sacker A, Bartley M, Firth D, Fitzpatrick R., (2001). Dimensions of Social Inequality in the Health of Women in England: Occupational, Material, and Behavioural Pathways. Social Science and Medicine.

Vol 52:763-81.

Schieber, G.J. and J.P. Poullier, (1990). "Over- view of International Comparisons of Health Care Expenditures," in OECD, *Health Care Systems in Transition* (Paris), pp. 9-15.

Sen, Amartya, (2002). *Rationality and Freedom*, Cambridge Massachussets: The Belknap Press of Harvard University Press.

Shi L, Starfield B., (2000). Primary care, Income Inequalities, and Self-rated Health in the United States: A Mixed-level Analysis. *International Journal of Health Services*, Vol 30(3):541-555.

Starfield B., (2001): Improving Equity in Health: A Research Agenda. *International Journal of Health Services*, Vol 31(3):545-66.

Suares R, Henderson P, Barillas E, and Vieira C., (1995). *National Health Expenditure and Financing in Latin America and the Caribbean : Challenges for the 1990s*. PAHO Health Development Series No.3., Washington, D C: Pan American Health Organizations WHO.

Suits, Daniel B., (1977). "Measurement of Tax Progressivity." *American Economic Review* 67: 747–52.

Cross references.

Turrell G, Mathers C., (2001). Socioeconomic Inequalities in All-cause and Specific-cause Mortality in Australia: 1985–1987 and 1995–1997. *International Journal of Epidemiology*, Vol 30(2):231-239.

UNDP (2005). *Kenya Human Development Report 2003*. Nairobi: UNDP.

Vagero D., (1994). Equity and Efficiency in Health Reform. A European View. *Social Science and Medicine*, Vol 39(9):1203-1210.

Van Doorslaer E, Wagstaff A, Van der Burg H, Christiansen T, De Graeve D, Duchesne I, et al., (2000). Equity in the Delivery of Health Care in Europe and the US. *Journal of Health Economics*, Vol

19(5):553-583.

Van Doorslaer, Eddy, Wagstaff, Adam, Rutten, Frans (Ed.), (1993). *Equity in the Finance and Delivery of Health Care. An International Perspective*, Oxford: Oxford University Press.

Vogel R.J., (1993). *Financing Healthcare in Sub-Saharan Africa*. Westport, CT: Greenwood Press.

Wagstaff, A., Van Doorslaer, E., (2000). *Measuring and Testing for Inequities in the Delivery of Health care*, *Journal of Human Resources*, 716-733.

Wagstaff, A., Van Doorslaer, E., Van, and Paci, P., (1991). *Horizontal Equity in the Delivery of Health Care: A Reply*. *Journal of Health Economics*, Vol 10, 251-256.

Waters H., (2000). *Measuring Equity in Access to Health Care*. *Social Science and Medicine*, Vol 51(4):599-612.

Williams A., (1997). *Intergenerational Equity: An Exploration of the 'Fair Innings' Argument*. *Health Economics*, Vol 6(2):117-132.

Whitehead M., (1992). *The Concepts and Principles of Equity and Health*. *International Journal of Health Services*; vol.3 (22): 429-445.

Whitehead M, Burstrom B, Diderichsen F., (2001). *Social Policies and the Pathways to Inequalities in Health: A Comparative Analysis of Lone Mothers in Britain and Sweden*. *Social Science and Medicine*, Vol 50:255-70.

Williams A. and Cookson R., (2000). *Equity in Health*, *Handbook of Health Economics*, Vol 1, Culyer A.J. and Newhouse J.P. (eds.), Rotterdam, Elsevier.

World Bank (1993). *World Development Report, 1993; Investing in Health*, New York: Oxford University Press, The World Bank.

World Bank (1994). *Better Health in Africa: Experience and Lessons Learned*, Washington D.C., The World Bank.

World Health Organization (2000). *World Health Report*. Geneva: World Health Organization.

World Bank (2004). *World Development Indicators 2004*. Washington: World Bank.

World Bank (2005). *World Development Indicators 2005*. Washington: World Bank.

World Bank (2003). *Republic of Kenya :A policy Agenda to Restore Growth: Poverty Reduction and Economic Management*. Washington D.C.:World Bank.

Yeh, H. J., (1999). "Equity in Health Care for National Health Insurance—An Empirical Analysis of Taiwan." Paper presented at the International Conference on Family, Social Policies and Financial Strategies, held by Taiwanese Social Welfare Association, Taipei, Taiwan.