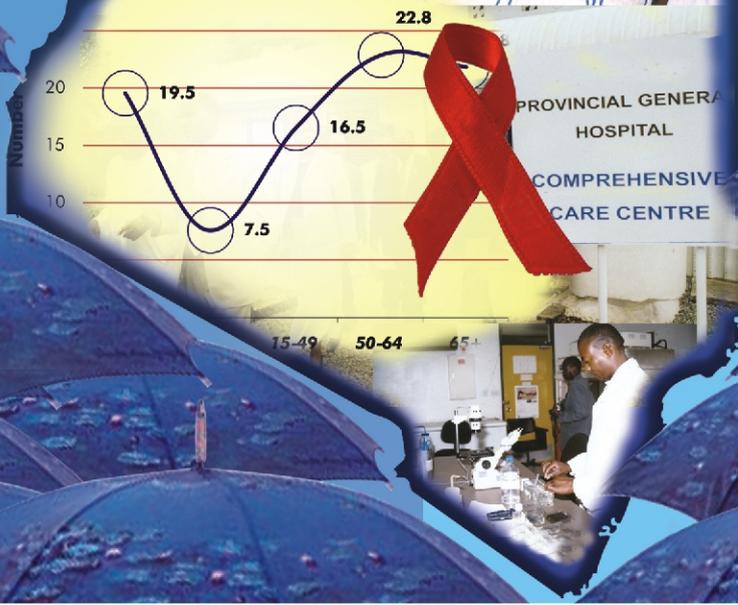
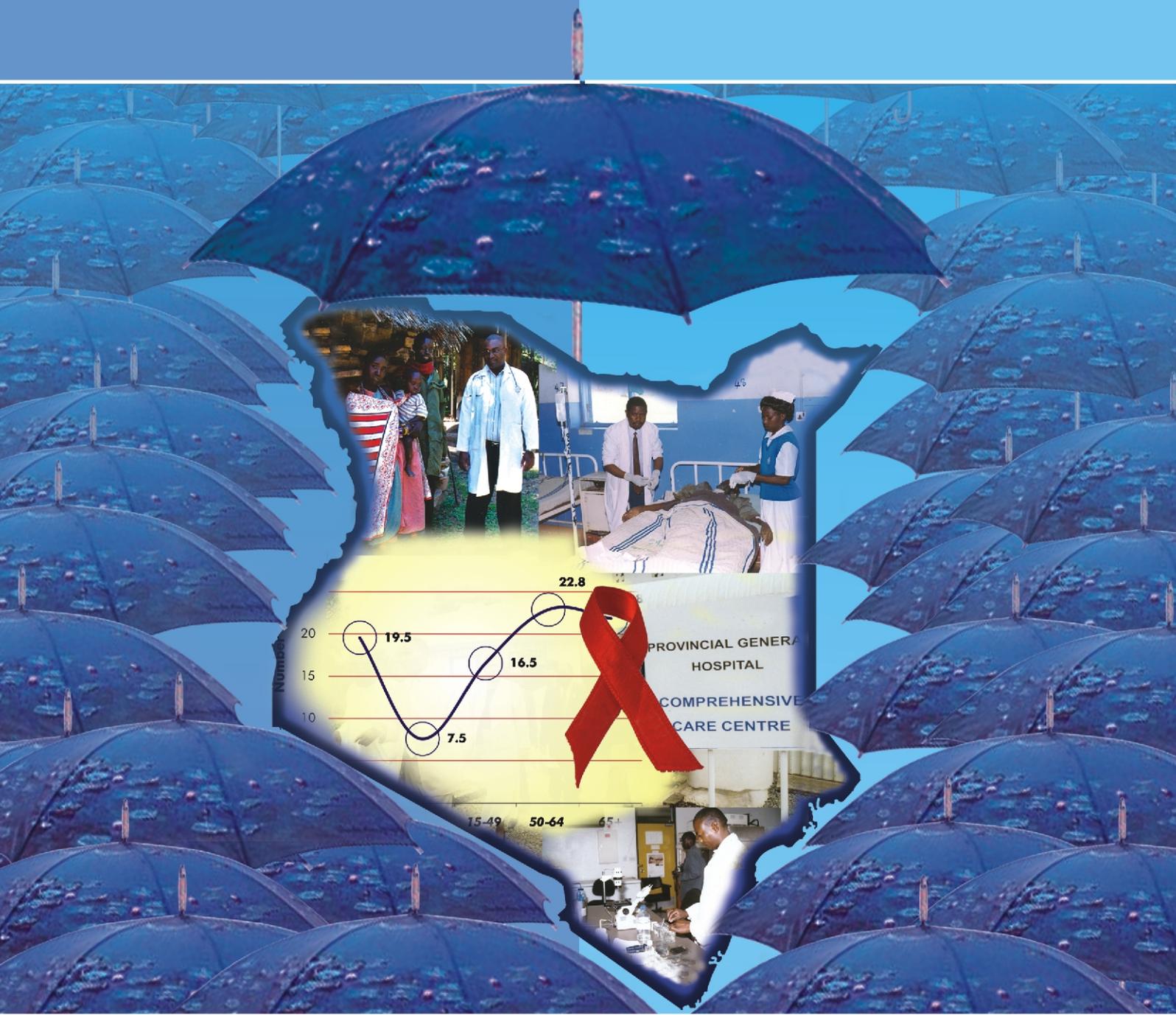


REPUBLIC OF KENYA



MINISTRY OF HEALTH



# KENYA NATIONAL HEALTH ACCOUNTS

2001 - 2002

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## Foreword

Health care financing has become internationally recognized as an area of major policy importance. Key issues that many developing countries face today include: estimating the current levels of aggregate financing for health care and the prospects for increasing funding for the health sector; estimating the allocation of spending to priority health programmes and population groups and, assessing the financial importance of key players in the health care system as a guide to the development of reform strategies. National Health Accounts (NHA) has become a feasible and useful approach for understanding many health care financing issues.

National Health Accounts (NHA) describes the expenditure flows-both public and private-within the health sector of a country. This tool describes the sources, uses, and flow of funds within the health system and is a basic requirement for optimal management of the allocation and mobilisation of health sector resources.

All health services in Kenya are financed using funds derived from sources, which include: the Government of Kenya (GoK), foreign donors, private firms, and households. Funding from these sources pass either directly or indirectly through financing agents to the ultimate providers of health care services. Kenya's NHA estimation describes these flows and quantifies the amounts involved, linking the sources of funds to financing agents, followed by service providers and finally, the ultimate uses of the funds. The statistical information used in compiling the estimates in this Report has been gathered from many sources. Most of the data are based on actual field surveys designed to gather NHA data while the rest were from secondary sources.

In this era of health sector reforms and their equity implications, this study expands such efforts with the overall goal of assessing in a comprehensive manner the modes of financing the health sector and makes an important contribution to re-thinking policy directions. The data provide a firm benchmark for future NHA estimates for Kenya. It is hoped that the NHA estimates presented in this Report will encourage further research by others into the financing of Kenya's health care system and lead to better understanding of not only the problems within the system, but also identify potential areas of reforms.

## Acknowledgments

This report is the culmination of significant contributions to the Kenya National Health Accounts (NHA) study by many people and institutions. The figures and estimates presented in this Report are based primarily on data collected mainly by the staff of the Ministry of Health (MoH) and the Central Bureau of Statistics and to some extent with participation of staff from the Ministry of Local Government, Office of the Commissioner of Insurance and Parastatals Board.

The Kenya NHA study was financed mostly by the United States Agency For International Development (USAID) through the Partnerships for Health Reform *plus* (PHR *plus*) Project based in Bethesda, Maryland, USA. The MoH would, therefore, like to acknowledge with appreciation the USAID financial support without which carrying out the NHA study would not have been possible. In particular, financial support was provided by the USAID/Kenya mission and the USAID/Regional Economic Development Office for East and Southern Africa (USAID/REDSO/E). Other financial contributors to the study include the Swedish International Development Corporation Agency (Sida) and the National Hospital Insurance Fund (NHIF). The study also benefited from the constant support provided by officials of the USAID/Kenya, in particular, Mr Richard Osmanski.

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A number of surveys were undertaken to complete the NHA study. In this regard, the MoH gratefully appreciates the support, cooperation and information supplied by the different health facilities, government departments and private organisations, Non-Governmental Organisations (NGOs), insurance companies, development partners and traditional healers, without which the NHA Study would not have been complete.

Thanks go to all the departments/ sections of the MoH that participated

and provided data for this NHA estimation. Special acknowledgements are extended to the Health Management Information System Staff for their magnificent work in data processing. Final revisions were made incorporating useful comments on the original draft that were received from various individuals.

Mr. Stephen Muchiri, Head of the Division of Policy Planning led the study team and oversaw the data collection, analyses and the compilation of this Report. The other central members of the Kenyan NHA team who contributed to study including the writing of this final report were Mr Dhimn Nzoya, Mr Geoffrey Kimani, Mr Thomas Maina, Mr Alfred Runyago, Mr Henry Onyiego, Mr Fredrick Ombwori and Mr George Wanjau while Margaret Mundia provided secretarial services. All of them are congratulated.

Thanks also go to DFID for providing funds through HLSP to print this Report.

Finally, estimates of NHAs are a process that must constantly be improved. Users of the data and the analyses in this report are, therefore, invited to freely comment on its contents, presentation and format as this will reveal areas where gaps exist.



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## Abbreviations and Acronyms

CBS	Central Bureau of Statistics
DFID	Department For International Development
ESA	East and Southern Africa
ESAC	East and Southern African Countries
FA	Financing agent
GDP	Gross Domestic Product
GoK	Government of Kenya
HLSP	Health Life & Sciences Partnerships
IMPS	Integrated Microcomputer Processing System
MOF	Ministry of Finance
MoH	Ministry of Health
MoLG	Ministry of Local Government
MoS	Measure of Size
NASSEP	National Sample Survey Evaluation Programme
NGO	Non-Governmental Organisation
NHA	National Health Accounts
NHE	National Health Expenditure
NHIF	National Hospital Insurance Fund
Nsk	Not specified by any kind
NPISH	Non Private Institutions Serving Households
O&M	Operation and maintenance
OOP	Out of Pocket
PHR <sup>plus</sup>	Partners for Health Reform <sup>plus</sup> Project
PLWHA	People Living with HIV/AIDS
RoW	Rest of the World
Sida	Swedish International Development Corporation Agency
SPSS	Statistical Package for Social Scientists
SSA	Sub Saharan Africa
STI	Sexually Transmitted Infections
THE	Total Health Expenditure
THAE	Total HIV/AIDS Expenditure
USAID	United States Agency For International Development
REDSO/E	Regional Economic Office for East and Southern Africa
WHO	World Health Organisation



## Executive Summary

**N**ational Health Accounts (NHA) is a tool for health sector management and policy development that measures total public and private (including households) health expenditures. It tracks all expenditure flows across a health system, and links the sources of funds to service providers and to ultimate uses of the funds. Thus, NHA answers the questions: Who pays? How much? For what?

NHA provides important pre-requisite data for optimizing health resource allocation and mobilisation, identifying and tracking shifts in resource allocations (e.g. from curative to preventive, or from public to private sector), comparing findings with other countries, and finally, assessing equity and efficiency in a dynamic health sector environment. Given the flexibility of the NHA, it is also possible to assess whether targeted efforts are having the intended impact.

### Structure of NHA Results

The overall objective of the NHA study was to comprehend the total resource envelope for the Kenyan health sector with a view to obtaining data that will inform future policy development and planning. The Kenya NHA estimation describes these expenditures in the form of a matrix structure, which distinguishes between the source and final use of funds.

The first matrix essentially shows the financial flows from the various sources of health funds (which conventionally includes the government, households, firms and the rest of the world (donors)) to financing agents (those entities that manage health funds). The second matrix describes the funding from financing agents to the actual health services providers (those entities that deliver health care).

Since the Kenya NHA was also primarily concerned with the flow of resources between institutional and economic entities, the third matrix traces the flow of funds from financing agents to functions (referring to the actual service/product delivered) while the fourth shows financial flows from providers to functions.

### Socio-economic background

According to the Central Bureau of Statistics (CBS), for the period of estimation (2001/2002) Kenya had an estimated population of 31.2 million people while its gross domestic product (GDP) amounted to KSh 920,708 million and per capita income of KSh 29,519 (US\$376)<sup>1</sup> (Table ES1).

<sup>1</sup>The official exchange rate used is KSh78.6 to one US\$ for the period of estimation.

As a result of a declining birth rate and a rising mortality rate, the overall

population growth rate according to 1989 and 1999 population censuses was 2.9%. This high population growth rate implies an increase in demand for social amenities such as health and education.

**Table ES1: NHA Socio-Economic Indicators for the Period of Study (2001/2002)**

Indicator	Value
Population	31,190,843
Urban population %	19.8
GDP (KSh million)	920,708.4 <sup>a</sup>
GDP/Capita (Ksh)	29,519
GDP/Capita (US\$)	376
GNP (KSh million)	910,321.4 <sup>a</sup>

<sup>a</sup>CBS - Economic Survey, 2004

## Health Sector

The Government, through the Ministry of Health (MoH), is a key player in the provision of health care service delivery in the country. Out of about 4,500 health facilities in the country the Government manages 52% of them, 79% health centres, 92% sub-health centres, and 60% dispensaries. In addition, the following organisations run and manage some health facilities in the country.

- Non-governmental (or non-profit) organisations (NGOs), mostly located in the rural areas/ or underserved areas, provide both curative and preventive services. They include religious missions, international and local organisations which provide 94% of health clinics, maternity and nursing homes and 86% of medical centres.
- Private-for-profit practitioners, clinics and hospitals offer specialized curative services and limited preventive services.
- Local Government Authorities provide mainly primary and preventive health care in major municipalities.

The major problem in the health sector has been limited data on the expenditures on health care services especially from private sources including households. In this regard, the MoH with USAID support undertook a comprehensive NHA study in 2003, which has culminated in the production of this report.

## Methods and Data Sources

Kenya's National Health Accounts study relied extensively on primary and secondary data and was conducted in accordance with the recently published *Guide to producing national health accounts; with special application for low-*

*income and middle-income countries.*<sup>2</sup> A wide range of data and information was collated from various government publications/sources. In addition, the following independent surveys were conducted for the national health accounts initiative.

- ❑ Households Health Expenditure and Utilisation Survey; and
- ❑ Institutional surveys covering:
  - Health Care Providers (for-profit health facilities, not-for-profit health facilities, public health facilities and traditional healers);
  - Employers/firms;
  - Public Sector Organisations/Institutions providing health services/incurred expenditures on employees including Ministry of Health, Local Authorities, Parastatals;
  - Donors (both bilateral and multilateral donors);
  - Insurance (public and private);
  - NGOs involved in health; and
  - Individuals with HIV/AIDS identified from health facilities and support groups.

### Objectives of Kenya's NHA Study

The objectives of the 2003 Kenya's NHA study were to:

- determine the total health care expenditure in Kenya;
- document the distribution of total health expenditure by source of financing and financing agents;
- describe the distribution of the health care expenditure by use;
- analyse efficiency, equity and sustainability issues arising from the current; health care financing and expenditure patterns in Kenya; and
- provide data that will inform future policy development and planning.

### General National Health Accounts Findings

A summary of findings deduced from the NHA matrices are shown in Table ES2. In 2001/2002 Financial Year, Kenya spent approximately KSh 47 billion (US\$ 597.8 million) on the health sector. Total health spending in the country accounted for approximately 5.1% of GDP in the same period. This translates to per capita health spending of about US\$ 19.2.

**Table ES2: General NHA Summary Statistics (2001/2002)**

Indicator	Value
<i>Total Health Expenditure (THE) in Kenyan Shillings (million)</i>	46,989
<i>THE In US \$ (million)</i>	598
<i>As a % of GDP</i>	5.1
<i>Health expenditure per capita (KSh)</i>	1,506

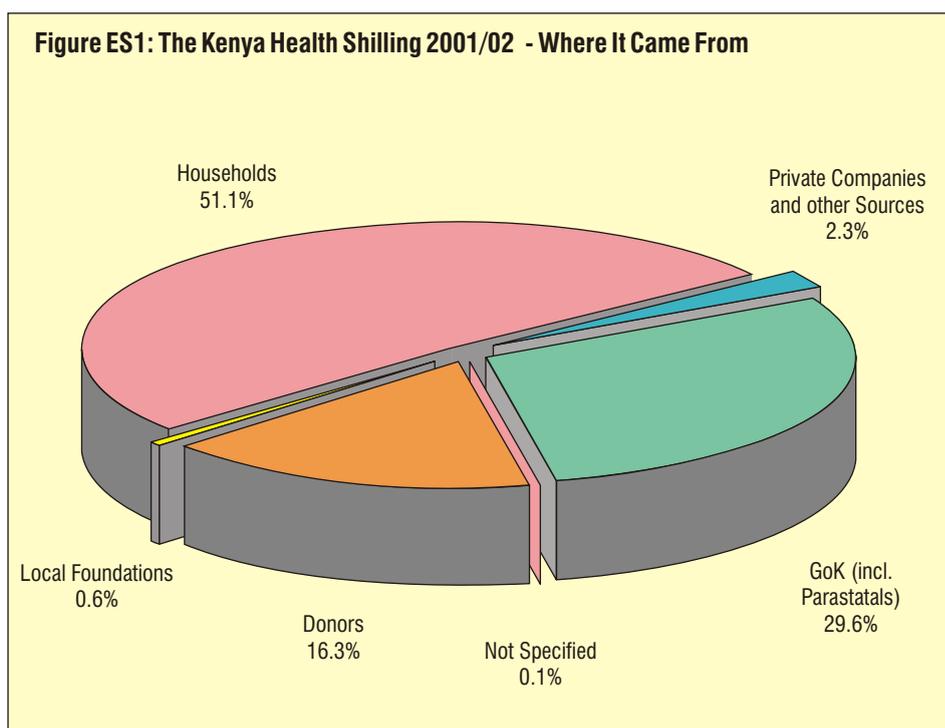
<sup>2</sup> Published by World Health Organisation, World Bank, and the United States Agency for International Development. 2003

**Table ES2: General NHA Summary Statistics (2001/2002) ... continued**

<b>Indicator</b>	<b>Value</b>
<i>Health expenditure per capita (US\$)</i>	19.2
<i>Public health expenditure as % of total government expenditure</i>	8
<b>Sources of Funds</b>	
<i>Public as a % of THE</i>	30%
<i>Private as a % of THE</i>	54%
<i>Donors as a % of THE</i>	16%
<b>Household Spending</b>	
<i>Total HH spending as a % of THE</i>	51%
<i>OOP as a % of THE</i>	45%
<i>OOP spending per capita</i>	\$8.58 or KSh 674
<b>Providers</b>	
<i>Public health Provider Expenditure</i>	60%
<i>Private health Provider Expenditure</i>	39%
<i>Other (n.s.k)</i>	1%
<b>Functions (% of THE)</b>	
<i>Outpatient curative care</i>	45.2%
<i>Inpatient curative care</i>	32.1%
<i>Prevention &amp; public health services</i>	9.1%
<i>Pharmaceuticals</i>	7.4%
<i>Health administration</i>	5.0%
<i>Others (e.g. Capital formation for health care institutions)</i>	1.3%

### Who pays for health services

Private sources were the main sources of health financing contributing 54% of the total health care expenditure; with households' contribution accounting for 94% of these private sources (or 51% of total health spending). The Government was the second major source of funding contributing approximately 30% while the Rest of the World (donors) provided 16% of the total health financing (Figure ES1).



#### Size of the public health sector:

Total public health spending as a percentage of total government expenditure stood at approximately 8%. Although this percent is high compared to other countries in the region, it falls short of the expenditure levels pledged at the Abuja declaration in which, Heads of State committed themselves to spend 15% of their countries total public expenditure on health.

#### Size of the private health sector:

Considering the per capita contribution by financing source, the private sector contribution is the highest, accounting for US \$ 10.3 followed by the public sources at US\$ 5.7 and donors at approximately US\$ 3.1.

#### Structure of health financing in the country:

- About 57% of the funds passed through the private sector (including donors and NGOs) financing agents<sup>3</sup> while the public sector financing agents handled approximately 43% of the total financial outlays from the sources. These funds were in turn transferred to the ultimate providers of health care services. The substantial funds handled by private financing agents (FAs) is an indicator that the private sector is vibrant in Kenya.
- The principal financing agents in the flow of funds were the households through out-of-pocket (OOP) payments (45%) followed by the MoH, which handled about 35% of the total funds from the sources.

<sup>3</sup> Financing agents (FAs) are defined as entities which pass funds from financing sources to other financing agents or providers in order to pay for the provision of health services. The FAs form a level where resource allocation decisions are made.

- Overall, households were the largest purchaser of health services at 45% with over 80% of their spending being passed directly to the ultimate providers of health care services. All providers earned revenues from out-of-pocket spending by households but most of these direct transfers (62%) went to private sector providers, mainly private hospitals followed by dispensing chemists.

#### **Provision of health services by type of provider and ownership**

- Public sector providers including hospitals, health centres and dispensaries were responsible for about 60% of total health expenditures in the country while the remainder by the private sector (39%) and other providers (1%).
- Public and private hospitals accounted for more than half (54%) of the total funds mobilized for health spending (public hospitals - 39%; private hospitals (for-profit and not-for-profit) - 15%). Private health spending in outpatient centres, mainly dispensing chemists and private clinics owned and operated by nurses, clinicians and physicians, and traditional healers accounted for about 21% of total health expenditures. Public health centres and dispensaries incurred 10% of health expenditures. The remainder of the resource envelope (15%) went towards the provision of prevention and public health programmes as well as central health administration and management expenses.

#### **Health spending according to financing agents by functional categories**

- Private sector financing agents (including donors and NGOs) purchased the bulk of total health expenditures by functional categories accounting for approximately 57%, of which 62% was used to pay for outpatient curative care. Public sector financing agents accounted for about 43% of the total health financing, of which the majority of spending (51%) was used for inpatient curative care.
- Approximately, 45% of funds received from financing agents was made to purchase outpatient curative services which included spending at both outpatient centres (private clinics, health centres, dispensaries, and traditional healers) and dispensing chemists. 79% of all outpatient expenditures was paid by private financing agents.
- Inpatient spending accounted for approximately 32% of the functional spending. 68% of all inpatient expenditures were paid by public financing agents with the remainder by private financing agents.

#### **Health spending according to functional categories by health providers**

- In terms of how providers spent their funds - approximately, the same amount was spent on outpatient care by public (23% of THE) and private (22% of THE providers). For inpatient care (totalling 32% of

THE), public providers spent the most on delivering these services, approximately 25% of total health spending, and private providers only 7%.

- Pharmaceuticals purchased at independent pharmacies consumed 7% of total health spending.
- Activities related to prevention and public health programmes, central health administration and management, capital formation and other functions accounted for about 15% of the total health expenditures, of which majority of them were expended by public sector providers.

### Public health spending by health care inputs/line items

- The share of personnel related costs was the highest accounting for approximately 52% of the total MoH budget in 2001/2002. The second largest was grants to health providers accounting for about 17% of the MoH budget.
- Total public health spending on drugs and pharmaceuticals was minimal accounting for only 11% while operation and maintenance (O&M) accounted for only 10%. Overall, capital expenditures are the lowest accounting for only 0.23%. Grants to health related providers accounted for 9% of total MoH spending.
- Overall, majority of public health expenditures are expended on personnel to the detriment of key patient related inputs like drugs and pharmaceuticals as well as other medical supplies. Where as this may impact negatively on the quality of care, particularly, during budgetary cuts, it is also an indication of poor combination of health care inputs.

### NHA HIV/AIDS Subanalysis: Summary of Key Findings

Table ES3 provides the summary statistics on HIV/AIDS issues.

**Table ES3: Summary Statistics for HIV/AIDS NHA in Kenya 2001/2002**

Indicator	Value
Prevalence Rate (adults) 2003	6.7% <sup>4</sup>
Total Health Expenditures on HIV/AIDS (NHA 2001/2002)	KSh. 8,170,118,716 (US \$ 103,945,531)
Percent of general Total Health Expenditures (THE) spend on HIV/AIDS	17.4%
Total HIV/AIDS health expenditures as a % of GDP (at current market prices)	1%
<b>Distribution of Sources of HIV/AIDS Funds:</b>	
<i>Public (health expenditures as a % of the THE for HIV/AIDS)</i>	21%
<i>Private</i>	28%
<i>Donor</i>	51%
<b>Household Expenditure</b>	
As a % of the THE for general health care	4.6%
OOP payments as a % of the THE for HIV/AIDS	21%

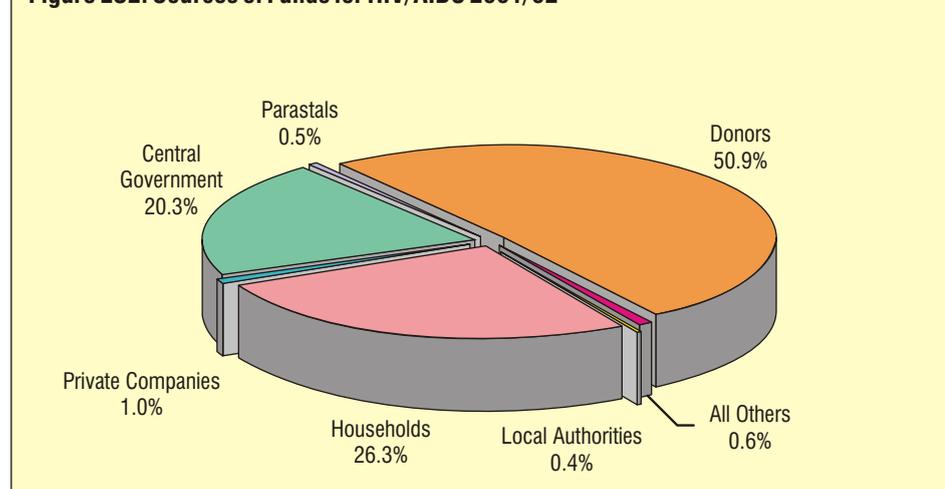
<sup>4</sup> Kenya Demographic and Health Survey, 2003

Table ES3: Summary Statistics for HIV/AIDS NHA in Kenya 2001/2002 ..continued

Indicator	Value
<b>Uses of funds by provider type as a % of the THE for HIV/AIDS</b>	
Hospital expenditures:	
<i>Public</i>	37.8%
<i>Private (for-profit)</i>	4.3%
<i>Private (not-for-profit)</i>	3.4%
Private clinics	4.5%
Traditional healers	0.3%
Private dispensing Chemists	1.2%
Public health centres and dispensaries	3.5%
Mission health centres and dispensaries	0.7%
Other providers including those providing public health	42.8%
All others	1.4%
<b>Uses of funds by Functions as a % of the THE for HIV/AIDS</b>	
Expenditure on curative care services (inpatient and outpatient)	44.2%
Expenditure on preventive and public health services	47.1%
Expenditures on pharmaceuticals and other non-durables,	4.9%
Expenditures on other services	3.7%

- Total health expenditure on HIV/AIDS in the country for the period 2001/2002 amounted to Kshs. 8,170,118,716 (US\$103,945,531) or 1% of GDP. This was equivalent to 17% of the general health care expenditures;
- The bulk of HIV/AIDS funds came from donor sources accounting for approximately 51% of the total health expenditures for HIV/AIDS in the country, followed by households' contribution of 26.3%: 21.3 through direct out-of-pocket payments and 5.0% through contributions to medical insurance coverage. The public sector (mainly Ministry of Finance, or MoF) accounted for 21.3%.

Figure ES2: Sources of Funds for HIV/AIDS 2001/02



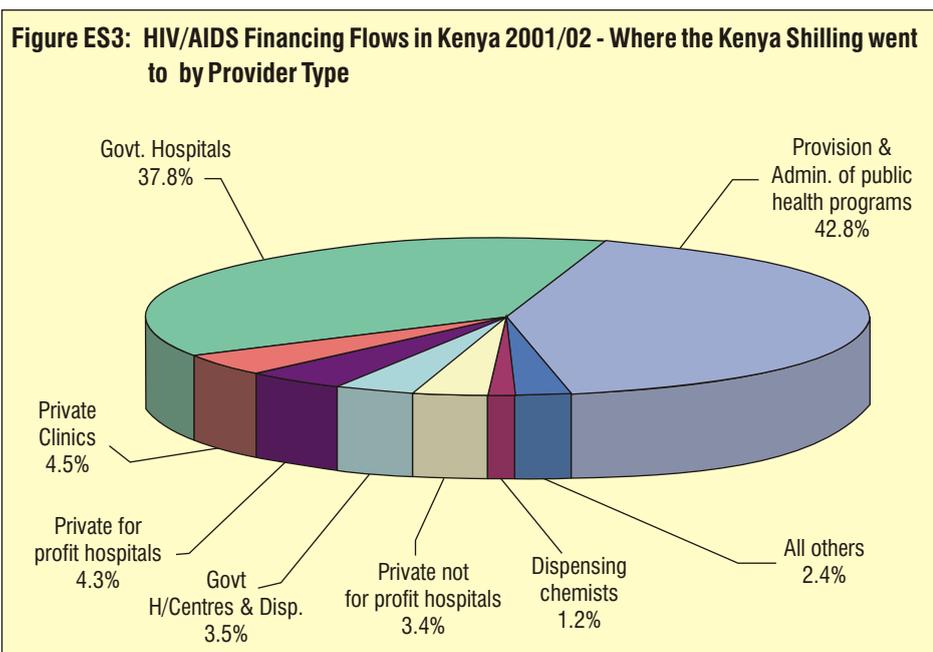
The bulk of the funds mobilised for HIV/AIDS spending were transferred to public financing agents with the Ministry of Health receiving 56% of total transfers. Private sector financing agents received 25%, principally households through direct out-of-pocket payments to providers. Local NGOs received 15% of the total funds mobilised for HIV/AIDS spending.

The four major pathways of HIV/AIDS financing were:

- From the Rest of the World (donors) to MoH (36% of THE);
- From the Rest of the World (donors) to NGOs (15% of THE);
- From MoF to MoH facilities through MoH budget (20% of THE);
- From households through out-of-pocket spending to health providers 21% and to hospital facilities through NHIF (3%).

First it is evident that the Ministry of Health is the major purchaser (56%) and provider (38%) of HIV/AIDS services followed by the households through direct out-of-pocket payments to providers (21%) of total financing. The multi-sectoral approach in combating HIV/AIDS pandemic is skewed towards public purchases and provision of HIV/AIDS services. Secondly, although households are the second largest purchaser of these services, analysis shows that user fees dissuade the poor from utilizing health care services.

- The bulk of HIV/AIDS resources went to providers of prevention and public health programmes (47%), which were principally paid for by the Ministry of Health (84% of all prevention and public health expenditures).
- About 78% of the HIV/AIDS resources were received by public health providers, of which 36% went to providers of prevention and public health programmes and 42% to Government hospitals and outpatient facilities for inpatient and outpatient care. The MoH is, no doubt, the largest provider of care and other HIV/AIDS health services nationally.
- Private sector health providers accounted for 21% of the total health expenditures; with 8% of THE going to private hospitals (for-profit and not-for-profit), while the remainder went to private outpatient centres including private clinics and dispensing chemists.
- It is worthwhile to note that primary level providers handled only a small share, about 10% of the total HIV/AIDS resources spent by both the public and private facilities while secondary level consumed the bulk of the funds meant for HIV/AIDS (90%).



### Spending by Financing Agents according to Functions

- The bulk of HIV/AIDS spending went to finance non-treatment costs such as prevention and public health programmes which accounted for almost half (47%) of the total expenditures. The big share of HIV/AIDS expenditure committed to prevention and public health programmes is an indication that prevention strategies are the most important long term approach to reducing the burden of HIV/AIDS.
- Expenditure on curative care accounted for about 44%; with 20% being expended on curative outpatient services and 24% on curative inpatient services mainly in public hospitals. The remainder of total health expenditures by function was allocated for pharmaceuticals and other nondurables, rehabilitative care, ancillary services, administration, and n.s.k.
- The bulk of expenditure outlays went to the public financing agents accounting for approximately 60%, of which approximately 66% was spent on preventive and public programmes.
- The remainder (40%) went to private financing agents, mainly from households' out-of-pocket payments. About 14% of total HIV/AIDS expenditures were made by households to purchase outpatient services and 6% inpatient services.
- The bulk of private financing agent resources went to financing the provision of curative care services (17% and 11% of total HIV/AIDS expenditures went to outpatient and on inpatient care respectively).

**Utilisation of outpatient and inpatient services by HIV positive individuals sampled**

The annual per capita use rate for the HIV positive sampled individuals translated to 11.97 outpatient visits. This compares with a per capita use rate of 1.92 outpatient visits for the general population. Those who were widowed used more outpatient health care than the married. The lowest use rates were for those who were either never married or separated.

Looking at the pattern of expenditures, it was noted that not only do males use more health services per capita but they also spend 1.6 times as much as females. Those living in urban areas spent nearly 1.3 times per capita as those living in rural areas. While these findings cannot be generalized to the entire population that is HIV positive (results are not adjusted to reflect the various stages of HIV/AIDS progression), it is clear that once individuals who are HIV positive decide to seek care at a health facility or join support group they become high users of health care services.





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# Chapter 1: Introduction

## 1.1 What is National Health Accounts?

National Health Accounts (NHA) is a tool for health sector management and policy development that measures total public and private (including households) health expenditures. It tracks all expenditure flows across a health system, and links the sources of funds to service providers and to ultimate uses of the funds. Thus, NHA answers the questions: Who pays? How much? For what?

NHA provides important pre-requisite data for optimizing health resource allocation and mobilisation, identifying and tracking shifts in resource allocations (e.g. from curative to preventive, or from public to private sector), comparing findings with other countries, and finally, assessing equity and efficiency in a dynamic health sector environment. Given the flexibility of the NHA, it is also possible to assess whether targeted efforts are having the intended impact.

## 1.2 Development of Kenya NHA

The Government of Kenya (GoK) faces a situation in which it is expected to finance a growing burden of disease, rationalize health service delivery, regulate the quality, improve equity in health care delivery and meet the demand for health in a scenario of declining public financing.

National Health Accounts was designed to provide a comprehensive description of the flow of resources from the source to the ultimate use. This is the second time that the NHA tool has been used by the Ministry of Health (MoH) in Kenya. NHA was first conducted in 1998 partly utilising household health expenditures data obtained from the Welfare Monitoring Survey of 1994.

Estimates from the 1998 NHA were received with mixed reactions by policy makers who felt that the estimates tended to underestimate the Government's contribution to the total health basket in Kenya. Against this background, the MoH constituted an NHA team comprising of the Division of Planning - Ministry of Health and the Central Bureau of Statistics (CBS) to carry out a more comprehensive NHA study in 2003. The study was funded by the United States Agency for International Development (USAID)/Kenya mission and the Regional Economic Development Office for East and Southern Africa (REDSO/E), the Swedish International Development Corporation Agency (SIDA), GoK and the National Hospital Insurance Fund (NHIF). The USAID/PHR*plus* Project provided technical assistance in the design of the study and reporting of the results.

### **1.3 Objectives of Kenya's NHA Study**

The overall objective of the NHA study was to establish the total health financing in Kenya with a view to obtaining data that will inform future policy development and planning. However, specific objectives were to:

- determine the total health care expenditure in Kenya;
- document the distribution of total health expenditure by source of financing and financing agents;
- describe the distribution of the health care expenditure by use;
- analyse efficiency, equity and sustainability issues arising from the current health care financing and expenditure patterns in Kenya; and
- provide data that will inform future policy development and planning.

### **1.4 Organisation of the report**

This report presents the findings of the second phase of Kenya's NHA for the fiscal year 2001/2002. Chapter two of the report provides background information on social-economic and political conditions prevailing in the country, demographic trends and the organisation structure of the health sector in Kenya.

Chapter 3 presents brief aspects of the methodology used to generate the NHA data from the different sources while Chapter 4 presents the major findings of the General NHA which includes the total health spending in the country. The section also shows the flow of funds from sources to uses in the Kenya's health sector. The section also gives international comparative analysis. Chapter 5 reveals finding from an HIV/AIDS subanalysis, which is a specialized review of expenditures for a particular set of services- in this case, those that target the prevention and treatment for HIV/AIDS. The subanalysis was completed in tandem with the general NHA estimation.



## Chapter 2: Background

### 2.1 Socio-economic and Political Background

The Kenyan economy has experienced a downward trend of its gross domestic product (GDP) growth rate from 2.4% in 1997 to a low of 1.2% per annum in 2002. Unemployment (openly unemployed) stood at over 2 million or 14.6% of the labour force with the youth representing about 5% of the total<sup>5</sup>.

The above scenario worsened the poverty levels in Kenya. The number of people living below poverty line is estimated to have risen from 48% of the population (11 million) in 1990 to 56% of the population (17 million) in 1997. Three quarters of the poor live in the rural areas while majority of the urban poor live in the slums and peri-urban settlements<sup>6</sup>.

Literacy rates have stabilised at 73% in the last decade while primary school enrolment declined from 91.2% in 2001 to 90.8% in year 2002. There is, however, evidence that the enrolment has increased, following the introduction of free primary education in 2003. The government contribution to the health sector was 8.3%<sup>7</sup> (2002) of the government budget. In December 2002, a new government was elected whose major challenges is to restore good governance, fight corruption, reduce the burden of diseases and poverty levels which are major impediments to economic growth<sup>8</sup>.

### 2.2 Demographic Trends

According to the CBS, Kenya's population was estimated to be 31.2 million (2001/2). The population is projected to grow at an annual rate of 2.2%. Life expectancy is on the decline and is estimated to be about 46.4 years. Fertility rate declined from 8.1 in 1978 to 5.4 in 1992 and to 4.7 in 1998. This reflects a corresponding rise in the contraceptive prevalence rate of 18, 27, and 39 in 1989, 1993, and 1998 respectively<sup>9</sup>.

Overall, morbidity and mortality remain high, particularly among women and children. An infant mortality rate (IMR) of 62 in 1993 increased by 19% to 74 in 1998 while the under-five mortality stood at 112 per 1,000 in 1998. The maternal mortality rate in 1998 was estimated to be 590 per 100,000. Abortion (which is illegal) accounts for up to 40% of maternal deaths<sup>10</sup>.

There are wide regional variations in the disease burden with certain districts in the Lake Region and the Coastal area having the highest levels. Malaria is the leading cause of outpatient diseases of the respiratory system, skin diseases, diarrhoeal diseases and intestinal worms follow in that order. Other frequent health problems include accidents, urinary tract infections, eye infections, rheumatism and ear infections. Combined, these ten leading conditions of outpatient morbidity contribute nearly four-fifths of total cases reported.

<sup>5</sup> Economic Survey 2003, PRSP 2001-2004

<sup>6</sup> Welfare Monitoring Survey, several reports

<sup>7</sup> Public Expenditure Review (PER) 2003

<sup>8</sup> Kenya Economic Recovery Strategy for Wealth and Employment Creation, 2003-2007

<sup>9</sup> KDHS, 1998

<sup>10</sup> KDHS 1998, Economic Survey 2002

Recurrent outbreaks of highland malaria and widespread emergence of drug resistance strains have aggravated the problem of malaria management. There is increasing stunting amongst under-fives: 32% in 1987 rising to 35% in 2000.

HIV/AIDS in Kenya is a national disaster. Its prevalence among adults rose from 5.3% in 1990 to over 13% in 1999. There is evidence, however, that the prevalence rate has fallen to 6.7%<sup>11</sup>. The pandemic has been directly linked to the deepening poverty among the population. Most children whose parents have died of AIDS lack the basic necessities for survival, including food, shelter and clothing. In the educational sector, the burden of HIV/AIDS is felt in the extent to which the supply of experienced teachers is affected through illness and death, children are kept out of school because they are needed at home to care for sick family members or to work in agriculture, and students drop out of school because their families cannot afford school fees due to reduced household incomes following HIV/AIDS deaths.

<sup>11</sup> Kenya Demographic and Health Survey, 2003

## 2.3 International Comparative Analysis

Table 2.1 shows international comparison of selected indicators.

**Table 2.1: International Comparison of Selected Health and Economic Indicators**

Indicator	Zimbabwe	Kenya	Uganda	Rwanda	Tanzania	Malawi	Zambia	Ethiopia
Population (2001/2) million	12.8	31.2	24.2	8.1	35.6	11.6	10.6	67.3
GDP (US\$) billions (2001)	9.1	11.2	5.7	1.7	9.3	1.7	3.6	6.2
GDP per capita US\$ (2001)	706	362	249	196	271	166	354	95
Infant mortality rate (IMR) per 1000 births (2001)	76	74	79	96	104	114	112	116
Under five mortality rate (U5MR) per 1000 births (2001)	123	112	124	183	165	183	202	172
Maternal mortality rate (MMR) per 100,000 live births (1998)	700	590	510	1100	530	1100	650	870
Total fertility rate (2000)	3.9	4.7	7.1	5.7	5.1	6.1	5.6	6.1
Literacy rate (2000)	89.3	74	68	68	76	61	79	40.3
Life expectancy (1999) (years)	35.4	56	44.7	38.2	44	38.5	39	45.7
Contraceptive use (%) (1998)	54	39	23	13	25	31	25	8
<p><b>Sources:</b>            UNDP-Human Development Report 2003            Kenya - Multiple Indicator Cluster Survey, 2000            Kenya Demographic and Health Survey, 1998            Kenya: Population and Housing Census 1999</p>								

## 2.4 Health Sector: Overview and Organisational Structure

The organisation of Kenya's health care delivery system revolves around three levels namely, the Ministry of Health headquarters, the provinces and the districts.

The provincial level acts as an intermediary between the central level and the districts. It oversees the implementation of health policy at the district level, maintains quality standards, coordinates and controls all district health activities.

The district level concentrates on the delivery of health care services and generates its own expenditure plans and budget requirements based on the guidelines from the headquarters through the provinces. In addition, various organisations and individuals run and manage health facilities in Kenya. These include:

- Charitable non-profit or non-governmental organisations (NGOs) mostly located in the rural areas/ or underserved areas. They provide both curative and preventive services, relying on partial government grants, voluntary donations and user fees. The organisations include the religious missions as well as international and national organisations.
- Private-for-profit practitioners, clinics and hospitals that specialize in curative services and offer preventive services to those who can afford.
- Local government authorities in major municipalities provide health services mainly in primary and preventive health care.

The above health system is organized and implemented through a network of facilities organized in a pyramidal pattern. The network starts from dispensaries and health clinics/posts at the bottom, through to the health centres, sub-district hospitals, district hospitals, and provincial general hospitals and at the apex, there is the Moi Referral Hospital and Kenyatta National Hospital reflecting sophistication in diagnostic, therapeutic, and rehabilitative services.

The MoH is the major provider of health care services in Kenya. Out of the nearly 4,500 health facilities in the country (Table 2.2), the MoH manages about 52% while the private sector, the mission organisations manage the remaining 48%<sup>12</sup>. The Government manages about 79% of the health centres, 92% of the sub-health centres, and 60% of the dispensaries.

<sup>12</sup> Economic survey 2002

**Table 2.2: Distribution of Health Facilities, Hospital Beds and Cots**<sup>13</sup>

Description	2001	2002
Hospitals/Maternity homes	500	514
Health centres	611	634
Health sub-centres/ Dispensaries/ Healthclinics	3,310	3,351
<b>Total</b>	<b>4,466</b>	<b>4,499</b>
No. of beds & cots	58,080	60,657
No. of beds & cots per 100,000	18.9	19.2



<sup>13</sup>Health Information system: Report for the 1996-1999 period

## Chapter 3: Methods and Data Sources

The Kenya National Health Accounts study relied extensively on primary and secondary data in accordance with the recently published *Guide to producing national health accounts; with special application for low-income and middle-income countries*.<sup>14</sup> A wide range of data and information was collated from various government publications/sources. In addition, several independent surveys were conducted to complete the national health accounts including:

- ❑ Household Health Expenditure and Utilisation Survey; and
- ❑ Institutional Surveys covering:-
  - Health Care Providers (for-profit health facilities, not-for-profit health facilities, public health facilities and traditional healers);
  - Employers/ firms;
  - Public Sector Organisations/Institutions providing health services/incurring expenditures on employees health including Ministry of Health, Local Authorities and parastatals;
  - Donors (both bilateral and multilateral donors) ; - Insurance (public and private);
  - Non-Governmental Organisations (NGOs) involved in health; and - Individuals with HIV/AIDS identified from health facilities and support groups.

### 3.1 Sampling Approaches

This section describes the sample design, the implementation of the survey and the sources of information collected.

#### 3.1.1 Household health expenditure and utilisation survey

The NHA Household Health Expenditure and Utilisation Survey was carried out between February and March 2003 and was designed to provide national and provincial estimates of expenditures by households. The target population for the survey were all the households in the country.

##### 3.1.1.1 The Sampling Frame

Kenya is divided into 8 administrative provinces. The provinces are in turn subdivided into 70 districts. Each district is subdivided into divisions while the divisions are split into locations and finally each location into sub-locations.

During the 1999 population census, each sub-location was subdivided into smaller units called Enumeration Areas (EAs). Kenya has about 62,000 EAs. The EAs provided census information on households and population. This

<sup>14</sup> Published by World Health Organisation, World Bank, and the United States Agency for International Development. 2003

information was used in the design of the National Sample Survey Evaluation Programme (NASSEP) IV master sample with 1,800 selected EAs. The cartographic records for each EA in the master sample were updated in the field, one year preceding the NHA survey.

The frame covered all the 70 districts of the country and the 1,800 clusters were distributed into 540 urban and 1,260 rural clusters. The frame extends to the rural areas of the North Eastern Province and other areas of the Arid and Semi Arid Lands (ASAL) in Rift Valley Province, which earlier sampling frames (NASSEP I-III) did not cover. At the same time, the urban segment that was covered by these earlier frames constituted very few clusters which did not provide adequate coverage of nomadic populations that predominate in these areas.

### 3.1.1.2 Stratification: The Sample Size and Allocation to the Provinces

The province provided a natural stratification of the population. The six major urban centres namely: Nairobi, Mombasa, Kisumu, Nakuru, Eldoret and Thika, were further sub-stratified into five socio-economic classes based on incomes to circumvent the extensive socio-economic diversity inherent in them as follows: *upper, lower upper, middle, lower middle and lower*, and thus improving the precision of estimates due to reduced sampling variation.

It was estimated that 8,844 households would be sufficient to provide estimates both at provincial and national levels as well as disaggregation to urban and rural components of the country.

This sample was to yield 6,072 interviews in the rural and 2,772 in the urban clusters (Table 3.1). This was to be achieved through coverage of 737 clusters (506 rural and 231 urban clusters). Twelve (12) households were to be covered in each cluster.

**Table 3.1: Distribution of Clusters and Households in the Sample by Province, Urban/Rural, KENYA, 2003**

Province	Clusters			Households		
	Rural	Urban	Total	Rural	Urban	Total
Nairobi	0	90	90	0	1,080	1,080
Central	82	18	100	984	216	1,200
Coast	53	37	90	636	444	1,080
Eastern	85	15	100	1,020	180	1,200
North Eastern	34	11	45	408	132	540
Nyanza	82	18	100	984	216	1,200
Rift Valley	98	21	119	1,176	252	1,428
Western	72	21	93	864	252	1,116
<b>TOTAL</b>	<b>506</b>	<b>231</b>	<b>737</b>	<b>6,072</b>	<b>2,772</b>	<b>8,844</b>

The method of proportional allocation was used in assigning the sample households to the provinces and districts. The count of the households was transformed to the square root of the census households to avoid under-representing the smaller districts.

### **3.1.1.3 Data Collection**

Data was collected in February/ March, 2003 in all provinces. The country was divided into ten regions to ease supervision. Data was collected from the selected households using face to face interview method. In each household included in the sample, information was collected about the household membership (alongside demographic variables), health status, health care seeking pattern, health expenditure if any and other certain regular household payments such as rent, education costs, expenditure on certain large items (for example purchase of vehicle, construction of building over the previous 12 months) and income. The information was mainly obtained from the head of the household, husband/wife or other household members that were familiar with the particulars asked.

In order to maximize response, interviewers made up to three call backs at different times of day on households which were difficult to contact. Completed questionnaires were reviewed for completeness as well data quality.

### **3.1.1.4 Data Processing and Analysis**

All completed questionnaires were delivered to Nairobi from the provinces for data entry. Questionnaires were edited before entry. Data were entered in Integrated Microcomputer Processing System (IMPS) data entry programme by a team of data capture clerks and the process overseen by Data Entry Supervisors. The IMPS files were converted into SPSS, the software used for data analysis. Much of the analysis was replicated using STATA, to confirm consistency of the results.

### **3.1.1.5 Weighting the Sample**

The sample based on NASSEP IV is not self-weighted. It was, therefore, necessary to weight the data to enable expansion of the sample results to the population. Weighting was done using the cluster design weights from the NASSEP IV sampling frame.

Necessary adjustments for population change and non-response were done. The selection probabilities were based on the measure of size and the sampling interval of the clusters within the district. Adjustment of the weights was done upon completion of the data entry.

### 3.1.1.6 Sample Coverage and Response Rates

Table 3.2 shows the sample coverage and household response rates. A total of 8,844 households were selected for the survey. Of these 8,423 were successfully interviewed giving a response rate of 95.2%. The survey reported observations on 38,121 individuals living in the 8,423 households, thus a mean of 4.5 persons per household.

**Table 3.2: Household Response Rates by Province and Place of Residence**

Province/ District	Urban		Rural		Total		% Response		Total
	Selected	Responded	Selected	Responded	Selected	Responded	Urban	Rural	
Nairobi	1,080	940	0	0	1,080	940	87.0	0	87.0
Central	216	215	984	976	1,200	1,191	99.5	99.2	99.3
Coast	444	401	636	537	1,080	938	90.3	84.4	86.9
Eastern	180	174	1020	997	1,200	1,171	96.7	97.7	97.6
North Eastern	132	127	408	385	540	512	96.2	94.4	94.8
Nyanza	216	208	984	964	1,200	1,172	96.3	98.0	97.7
Rift Valley	252	244	1176	1158	1,428	1,402	96.8	98.5	98.2
Western	252	245	864	852	1,116	1,097	97.2	98.6	98.3
<b>National Total</b>	<b>2,772</b>	<b>2,554</b>	<b>6,072</b>	<b>5,869</b>	<b>8,844</b>	<b>8,423</b>	<b>92.1</b>	<b>96.7</b>	<b>95.2</b>

### 3.1.2 Health Facility Survey

The health facility sampling frame was based on a listing maintained and regularly updated by Health Management Information Systems. The Kenya's health facilities were classified by type as follows:

- Hospitals;
- Nursing/maternity homes (mainly privately operated);
- Health centres (including rural health training centres and demonstration health centres and sub-health centres);
- Dispensaries (including medical centres and health clinics).

These facilities were further broken down by ownership namely: Government, private and mission. Altogether, there were about 4,500 health facilities distributed across the provinces.

In undertaking the survey, it was apparently clear that the sample of health care facilities needed to be selected in two stages: a certain number of districts first and then a certain number of health facilities in each of the selected districts. This strategy was also justified by analytical and operational reasons. For example, the cost of field operations and management difficulties of the survey would be minimized if the health facilities visited during the survey were clustered into some districts rather

than scattered more sparsely throughout the country. The districts were thus, re-grouped according to their similarity in characteristics resulting in 36 groupings being randomly identified. This number accounted for half of total districts in the country.

The health facility sample was chosen with the objective of producing nationally representative results. The sample size for the health facilities was worked out in relation to pre-specified requirements. In theory, the sample size can be made as large as mathematical formulae dictate. However, in the present survey, budget limits took precedence in the actual sample size used.

From the selected districts, a sample of 500 health facilities was randomly drawn from the health facility inventory. Stratification was used to ensure fair representation in the sample for important sub categories that may differ in significant ways. Size and controlling agency (public versus private/NGO) of the facility were important stratification categories (Table 3.3).

However, because of the uniqueness of the national referral and provincial hospitals-they are large and important-they automatically became part of the sample and so were all the district hospitals in the selected districts. Out of the 500 health facilities, 387 (77%) responded to the questionnaires.

**Table 3.3: Distribution of Health Facilities by Type, Ownership and Province**

Type	Controlling Agency	NAIROBI	CENTRAL	COAST	EASTERN	NORTH EASTERN	NYANZA	RIFT VALLEY	WESTERN	TOTAL
Hospital	MoH	2	6	4	5	1	7	9	4	38
	Mission	0	3	0	3	0	2	3	2	13
	Local Govt	1	0	0	0	0	0	0	0	1
	Private	1	1	1	0	0	2	3	0	8
Nursing/ Maternity Homes	Mission	0	0	0	0	0	1	0	0	1
	Private	1	1	2	1	0	5	2	3	15
Health centres	MoH	1	7	3	6	2	7	10	6	42
	Mission	0	1	0	1	0	4	2	2	10
	Local Govt	3	0	1	0	0	1	1	0	6
	Private	0	0	1	0	0	1	1	0	3
Dispensaries	MoH	7	24	18	32	4	18	53	9	165
	Mission	3	7	6	19	0	6	21	7	69
	Local Govt	5	0	2	0	0	2	0	0	9
	Private	15	8	17	26	2	12	32	8	120
TOTAL	MoH	10	37	25	43	7	32	72	19	245
	Mission	3	11	6	23	0	13	26	11	93
	Local Govt	9	0	3	0	0	3	1	0	16
	Private	17	10	21	27	2	20	38	11	146
<b>Grand Total</b>		<b>39</b>	<b>58</b>	<b>55</b>	<b>93</b>	<b>9</b>	<b>68</b>	<b>137</b>	<b>41</b>	<b>500</b>

### **3.1.3 Health Insurance**

The private insurance sector is fairly well developed in Kenya. In 2001, there were 42 licensed and operational insurance companies offering life and general business (supported by a host of financing agents of insurance brokers and agents)<sup>15</sup>. Of these, 18 provided health insurance policies and were therefore covered by the survey.

Data on the total reimbursements made by insurance firms to health providers, were obtained as well as identifying the nature of services rendered (e.g. inpatient, outpatient, pharmaceuticals).

### **3.1.4 Employer Survey**

The sample for the employer survey consisted of firms listed in the Nairobi Stock Exchange (NSE) as majority of the firms listed by CBS did not provide medical support to their employees. Firms normally listed in NSE are large and offer medical benefits to their employees. A total of 44 firms were sampled. The firms were stratified by sector namely agriculture, finance and investment, commercial and services and industrial and allied. Twenty-three (52%) of the selected firms responded to the survey questionnaire.

### **3.1.5 Donor Contribution Survey**

Foreign assistance is a significant source of financing in Kenya's health sector. A listing of all donors involved in health sector was compiled from the Donor Compendium prepared by Ministry of Finance. All together, a total of 17 were identified. Thirteen (76%) of them returned the survey questionnaires.

### **3.1.6 Non-Governmental Organisations Survey**

Initially, the NGO directory produced by the NGO council was used to compile a sampling frame of NGOs working in the health sector. The Directory provided addresses, location and the activities of the NGOs. A total of 421 NGOs working in the health sector were identified.

The NGOs were then stratified by type (local versus international) and location. A total of 276 NGOs were randomly sampled from both category 225 and 51 local and international NGOs respectively. All the international NGOs were included in the sample because they were few and had significant financial contribution towards the health sector in comparison to the local NGOs.

On the ground, however, it was apparent that many of the NGOs did not exist while some NGOs sampled could not be covered because they had stopped health activities since the publication of the NGO Directory.

Another strategy had, therefore, to be devised. In all the selected districts, a list

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<sup>15</sup> Republic of Kenya,  
Economic Survey,  
2002, page 87

of the actual NGOs operating was compiled from records maintained by the District Development Officers resulting in 120 NGOs being identified. 84 of them responded to the questionnaire (70%).

Estimate of the total number of NGOs involved in the health sector was derived by considering the number of districts in the sample (36) and the counts of the total number of NGOs existing in these districts. The average number of NGOs was then obtained. The estimated total number of NGOs was then used to obtain the estimates of the total national spending by the NGOs.

### **3.1.7 Government Ministries/Departments/Parastatals Survey**

#### **3.1.7.1 Ministry of Health**

For the purpose of the NHA estimates, Ministry of Health health expenditures were defined to include the following components:

- Direct expenditures by departments that provide health care goods and services;
- Total emoluments of staff delivering the departmental services;
- The cost of administrative services provided in support of departments directly delivering health care goods and services.

The main sources of the MoH expenditure data were obtained from:

- GoK 2001/2002 Estimates of Recurrent and Development Expenditures issued by Ministry of Finance;
- Annual 2001/2002 Appropriation Accounts for the period ended 30<sup>th</sup> June, 2002 (Recurrent and Development).

#### **3.1.7.2 Local Government**

Major Local Authorities were also surveyed in order to collect information on health expenditures. Thus, in the cities of Nairobi, Mombasa and Kisumu and major towns of Nakuru and Eldoret, information on health expenditure were collected.

#### **3.1.7.3 State Corporations (Parastatals)**

State Corporations (Parastatals) incur health expenditures. Some of them operated their own health care facilities, primarily offering outpatient care to their employees and their families. A listing of state Parastatals was obtained from the State Statutory Board. Altogether, 92 such Parastatals were identified. 32 major Parastatals distributed throughout the country were selected.

Audited annual accounts for these state corporations were reviewed and the necessary information on health expenditures obtained. Twenty-three (72%) of them returned duly completed questionnaires.

### 3.1.8 Traditional Healers' Survey

Several registers were obtained from the Ministry of Culture, which is responsible for the registration of the traditional healers. However, a close scrutiny of the records revealed that there was under-registration wide spread across the districts.

As an alternative, comprehensive listings were obtained from the Ministry's District Cultural Officers (DCOs). From each selected districts, 8% of the registered traditional healers was randomly selected. A total of 320 traditional healers were sampled and of these, 304 (95%) responded to the questionnaires.

### 3.1.9 HIV/AIDS Person Survey

The target population was the HIV positive persons among the Kenyan population aged 15-49 years. A sample from this population provided information relevant to their medical expenditures.

Three key entry points were identified in which members of the target population were interviewed for the survey. These were:

1. HIV/AIDS support groups;
2. Inpatients at hospitals;
3. TB clinics at hospitals

All the hospitals covered under the health provider survey automatically became the sample from which HIV positive inpatients and those attending TB clinics were identified. Individuals covered under the TB clinics were, subsequently interviewed as they visited the clinics while HIV positive patients who were admitted in the wards at the time of the survey were interviewed. The PLWHA survey, because of the sampling strategy, primarily targeted people who were symptomatic.

With the assistance of the District HIV/AIDS Co-coordinators (DASCOs), support groups in the districts were listed with their corresponding membership to form the sampling frame. From these lists, sample of members were randomly selected.

A sample size of 2,180 people living with HIV/AIDS (PLWHAs) was estimated to be sufficient for national estimates. A total of 1,325 and 855 clients were allocated to support groups and to hospital inpatient/TB clinics respectively (Table 3.4 and Annex 2) . The HIV prevalence for each of the selected districts was used to allocate the number of PLWHAs to be interviewed. Altogether, 2,024 PLWHAs (93%) were surveyed.

**Table 3.4: Distribution of PLWHAs Selected from Support Groups by District**

Province/District	Total PLWHAs selected from support groups	Province/District	Total PLWHAs selected from support groups
Kiambu	52	Gucha	14
Maragua	15	Kisii	14
Muranga	14	Kisumu	34
Nyandarua	19	Migori	33
Nyeri	28	Nyamira	15
Thika	44	Rachuonyo	19
<b>Total CENTRAL</b>	<b>172</b>	Siaya	30
		<b>Total NYANZA</b>	<b>159</b>
Kilifi	65	Buret	4
Kwale	52	Kajiado	2
Mombasa	115	Kericho	6
Tana River	6	Marakwet	4
<b>Total COAST</b>	<b>238</b>	Nakuru	31
Embu	30	Nandi	5
Kitui	12	Trans-Nzoia	8
Machakos	47	Uasin Gishu	9
Meru Central	55	<b>Total R/VALLEY</b>	<b>69</b>
Meru North	67	Bungoma	6
<b>Total EASTERN</b>	<b>211</b>	Busia	51
Garissa	45	Kakamega	42
<b>Total NORTH</b>		Vihiga	47
<b>EASTERN</b>	<b>45</b>	<b>Total WESTERN</b>	<b>146</b>
NAIROBI	285		
		<b>GRAND TOTAL</b>	<b>1,325</b>

The sample of 855 was distributed between patients admitted in hospitals and outpatients attending TB clinics on a ratio of 1.6:1. On the basis of this ratio, a total of 522 and 333 were allocated to inpatients and TB clinics respectively. A sample of 59 hospitals in the 36 selected districts was visited. The distribution of patients sampled by health facility was based on bed capacity and workload of the hospitals.

### **3.2 The Questionnaires, Training, Data Collection, Processing and Analysis**

Several questionnaires designed by the NHA team in liaison with the PHR<sup>plus</sup> Technical team were used in the surveys. The training for the household survey was conducted in February 2003 while training for the Institutional surveys was conducted in late October/November, 2003 followed by field work.

Completed questionnaires, after initial checking for completeness in the field, were delivered to Nairobi for data processing using the Integrated Microcomputer Processing System (IMPS) data entry programme. Data analysis was done in SPSS.



## Chapter 4: General NHA Findings

### 4.1 Summary Statistics for General NHA findings

Accordingly, in 2001/2002, Kenya spent approximately KSh 47 billion (US\$ 598 million<sup>16</sup>) on the health sector accounting for approximately 5.1% of Gross Domestic Product (GDP) in 2001/02 financial year (FY). Table 4.1 provides further details.

**Table 4.1: General NHA Summary Statistics (FY 2001/02)**

Indicator	Value
Total Health Expenditure (THE) in Kenyan Shillings (million)	46,989
THE in US \$ (million)	598
As a % of GDP	5.1
Health expenditure per capita (KSh)	1,506
Health expenditure per capita (US\$)	19.2
Public health expenditure as % of total government expenditure	8
<b>Sources of Funds</b>	
Public as a % of THE	30%
Private as a % of THE	54%
Donors as a % of THE	16%
<b>Household Spending</b>	
Total HH spending as a % of THE	51%
OOP as a % of THE	45%
OOP spending per capita	\$8.58 or KSh 674
<b>Providers</b>	
Public health Provider Expenditure	60%
Private health Provider Expenditure	39%
Other (N.S.K)	1%
<b>Functions ( % of THE )</b>	
Outpatient curative care	45.2%
Inpatient curative care	32.1%
Prevention & public health services	9.1%
Pharmaceuticals	7.4%
Health administration	5.0%
Others (e.g. Capital formation for health care institutions)	1.3%

<sup>16</sup>The official exchange rate used is KSh78.6 to one US\$ for the period of estimation.

## 4.2 Overview of Health Care Financing in Kenya, 2001/2002

### 4.2.1 The Size of the Overall Health Sector

During the period 2001/2002 (*July 1<sup>st</sup>, 2001 to June 30<sup>th</sup>, 2002*), the total health care expenditure in Kenya is estimated to have been KSh 46,989 million (US \$ 598 million)<sup>17</sup>. This was equivalent to about 5.1% of Gross Domestic Product (GDP) at current market prices; translating to a per capita health spending of approximately Kshs 1,506 (US\$ 19.2)<sup>18</sup>. This percentage of health spending to GDP (Table 4.2) compares fairly well with other countries in the Sub Saharan Africa (SSA) region (which averages 5.7%). The OECD (high income countries) average is 9.8% of GDP. The Kenya results, however, portray a decline in the per capita health spending by about 10% from US \$ 21 in 1998.

**Table 4.2: Comparison of Health Expenditure as a Percentage of GDP and Per Capita Health Spending in the SSA Region**

Country	Health Expenditure as % of GDP	Per capita (US \$)			Overall
		Public	Rest of the World	Private	
Kenya	5.1	5.7	3.1	10.3	19.2
Mozambique	4.0	2.0	4.7	2.1	8.9
Ethiopia	4.0	1.7	0.4	2.3	4.3
Uganda	4.1	2.5	5.3	4.4	12.3
Rwanda	5.0	1.3	6.4	5.0	12.7
Zambia	6.2	8.9	5.2	6.9	20.9
Tanzania	6.8	2.5	2.6	5.4	10.5
Malawi	7.2	4.3	4.2	4.2	12.7
South Africa	7.5	133	0.5	150	283.5
SSA Average	5.7	3.7	4.1	5.1	12.9 *
OECD	9.8				

Notes:

\* Average without South Africa because it is an outlier.

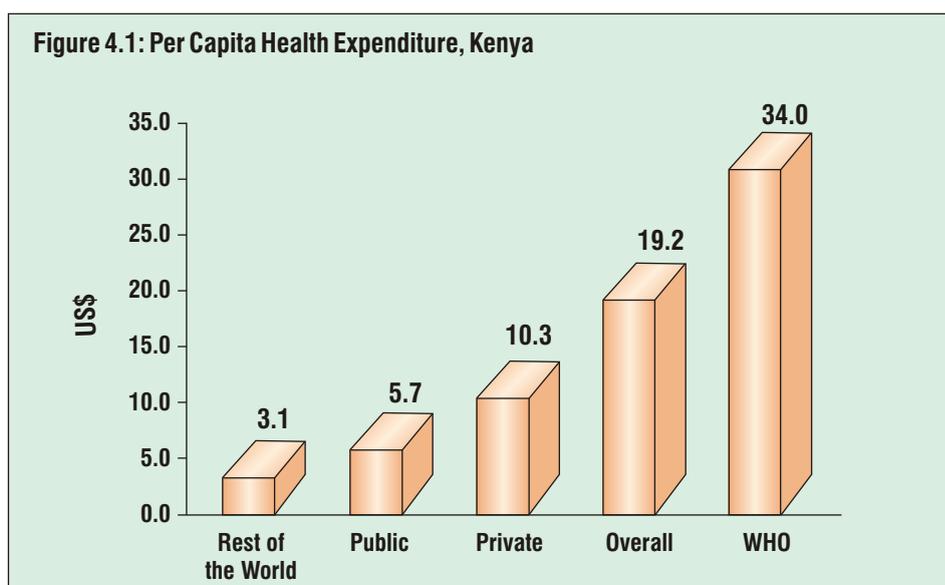
Sources: Kenya NHA report 2001/2002; Mozambique NHA report 2000; Zambia NHA report 2000;

Zimbabwe NHA report 1999; Malawi NHA report 1999 and The World Health Report 2002.

<sup>17</sup> The annual average KShs/US \$ rate in 2001/2002 financial year was 78.6

<sup>18</sup> The estimated population during the review period was 31,190,843, Source: GoK/CBS - Analytical Report on population projections Vol. VII, August 2002.

Considering the per capita contribution by financing sources in Kenya, the share of the private sector contribution is the highest at US \$ 10.3 followed by the public sources at US\$ 5.7. The per capita contribution of donors as financing sources is approximately US \$ 3.1 (Figure 4.1).



The report by the *Commission on Macro-Economics and Health* (WHO, 2001) recommended a per capita health spending of US\$34<sup>19</sup> to finance a basic package of care including HIV/AIDS. However, Kenya's health spending, like in other countries in this region falls short of the WHO recommendation, a clear reflection of absolute inadequacy of financial resources. Therefore, the challenge to policy makers is to address the resource gaps as well as maintain the relatively high level of domestic income invested in health and ensure efficiency in our health investment out-lays.

#### 4.2.2 The Size of the Public Health Sector

During 2001/2002 period, total public health spending as a percentage of total government expenditure stood at approximately 8%<sup>20</sup> up from 6% in 1997/98 financial year<sup>21</sup>. This percent is mid way among levels of other countries in the region (Table 4.3) and falls short of the expenditure levels pledged at the Abuja declaration (Nigeria), in which African Heads of State committed themselves to spend 15% of their countries total public spending on health.

**Table 4.3: Total Health Expenditure (THE) as a Percentage of Total Government Expenditure in the SSA Region**

Country	Total Health Expenditure as % of GDP
Kenya	8*
Mozambique	5
Ethiopia	6
Uganda	5
Rwanda	3
Zambia	10
Tanzania	9
Malawi	10
South Africa	14
<b>Average</b>	<b>7</b>

\*Kenya NHA Report 2001/2002. Estimates for the other countries were derived from NHA country reports for financial year 1997/98.

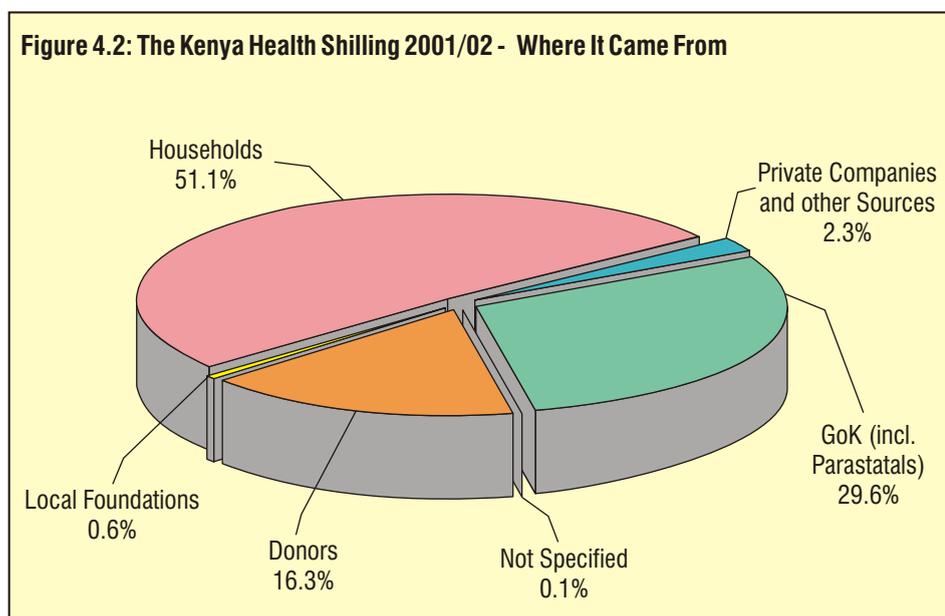
<sup>19</sup>World Health Report of the Commission on Macro-Economics and Health (2001)

<sup>20</sup>Total GoK spending in all sectors was Kshs 169,071,000,000 (GoK: Public Expenditure Review 2003) while Central Government budget (executed) for the MoH was Kshs 14,032,000,000

<sup>21</sup>Kenya National Health Accounts 1994- inflated to 1997/98

### 4.3 Sources of Funds for Health Financing

Analysis of health financing by source is illustrated in Figure 4.2 and presented in Table 4.4. Out of the total amount of funds spent on health, 54% of the funding came from private sources<sup>22</sup>, mainly households (51%) through out-of-pocket spending (45% of THE) and contributions to insurance schemes (6% of THE). Government funding, mainly from general tax revenues, accounted for 30% (including Government Parastatals and Local Councils), while the rest of the world (donors) provided 16% of the total health financing in Kenya. A small proportion of funds could not be classified by financing sources. Clearly, the results point out the heavy burden placed on households against a background of high level of poverty.



<sup>22</sup>Private sources considered include households, private firms, and local NGOs

**Table 4.4: Financing Flows, Kenya 2001/2002 – Financing Sources to Financing Agents (KSh Million)**

Codes	Financing Agent	Financing Source											TOTAL	%	
		Public Funds					Private Funds								
		FS.1.1.1	FS.1.1.2	FS.1.2	FS.2.1.1	FS.2.1.2	FS.2.2	FS.2.3	FS.2.4	Rest of the World	Not Specified by any kind				
	Central Govt. Revenue		MoLG	Other Public Funds <sup>n</sup>	Parastatals	Private Companies	Households	NPISH (NGOs)	Other Private Funds						
MoH	11,689									4,635				16,324	34.7
Other ministries	25													25	0.1
Local authorities **	98	398			1			2		1				500	1.1
NHIF			279				1,626							1,905	4.0
Parastatals				1,365										1,365	2.9
Private employers/ insurance programme <sup>m</sup>					32	438	343							813	1.7
Private insurers ***							1,013							1,013	2.1
Household out-of pocket payments							21,032							21,032	44.8
Non-private institutions <sup>a</sup>	11					33		294	80	2,479				2,897	6.2
Private firms						508								508	1.1
Rest of the world										575				575	1.2
Not specified by any kind (N.s.K)													32	32	0.1
TOTAL health expenditure (THE)	11,823	398	279	1,397	980	24,014	296	80	7,690	32	46,989	100.0			
%	25.2	0.8	0.6	3.0	2.1	51.1	0.6	0.2	16.4	0.1	100.0				
<b>Financing agents spending on health related items</b>	1,159				3		26	7	1,479		2,673				
<b>Total national health expenditure (NHE) ^ ^</b>	12,982	398	279	1,397	983	24,014	322	87	9,169	32	49,662				
% of NHE	26.1	0.8	0.6	2.8	2.0	48.4	0.6	0.2	18.5	0.1	100.0				

<sup>n</sup> Includes interest earned by the NHIF on contribution made by households;

<sup>\*\*</sup> Note Local authorities receive central govt revenues originating from MOF thro' MoLG;

<sup>m</sup> Refers to those group insurance schemes in which the employer and/or the employee contribute

<sup>\*\*\*</sup> This refers to insurance policies purchased by individuals on voluntary basis e.g. supplemental insurance;

<sup>a</sup> This are non-private institutions serving individuals (NGOs)

^ ^ Includes health related items.

## International Comparison of Sources of Funds

Table 4.5 shows the pattern of financing in the ESAC region. Private sources (mainly households' out-of-pocket spending) were the main sources of financing contributing on average 43% of total health care expenditures while public sources contribute on average 30% of total health care financing.

**Table 4.5: Percentage Contributions From Various Sources In ESAC Region**

Country	Public	Rest of the World	Private
Kenya*	30	16	54
Mozambique	22	52	26
Ethiopia	39	9	53
Uganda	21	43	36
Rwanda	10	51	40
Zambia	42	25	33
Tanzania	23	25	52
Malawi	34	33	33
South Africa	47	0	53
<b>Average</b>	<b>30</b>	<b>28</b>	<b>43</b>

\* Kenya NHA report 2001/2002; Estimates for other countries were derived from NHA country reports for financial year 1997/98.

Although households' contribution is substantial, the general view about out-of-pocket payments is that they impact negatively on equity since they impose extra burden on those least able to pay (*Mukesh Chawla, Peter Berman, 1996*). A review of health financing literature in sub-Saharan African (SSA) countries shows that, user fees dissuade the poor groups from utilizing health care services (*Cree 1991, et al*). Evidence from the Kenya Household Expenditure and Utilisation Survey 2003 showed that persons in the lowest wealth index quintile made 1.72 visits per capita per year compared to 2.27 visits for those in the highest wealth index quintile. Furthermore, the Survey showed that of all those in the lowest quintile who reported being ill, a third did not seek health care compared to 16% of those in the highest quintile suggesting that inability to pay for the services may have contributed to under utilisation by the former group.

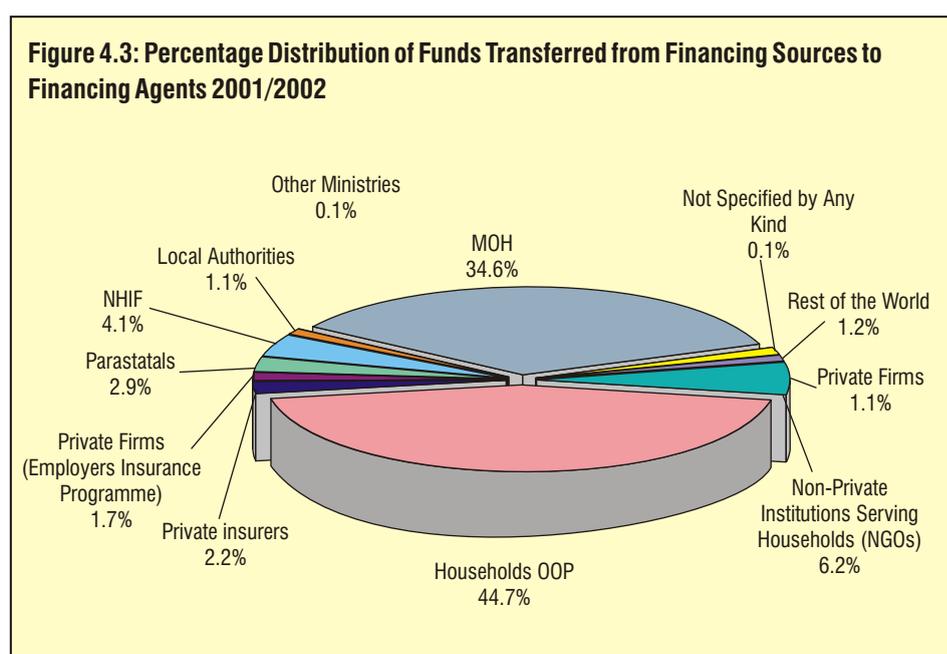
Like in Kenya, the majority of the populations in the SSA countries live below the poverty line and therefore user fees impose additional burden on households. This raises equity concerns because, the health status of the poor groups under this form of financing arrangement is unlikely to improve and neither is it sustainable. There is need to explore alternative financing mechanisms which are sustainable. Options for consideration include social health insurance and community health insurance schemes.

#### 4.4 Flow of Funds from Financing Sources to Financing Agents<sup>23</sup>

The bulk of the funds mobilised for health spending did not pass directly from the sources to their final uses. About 57% of the funds mobilised passed through the private sector financing agents (including donors and NGOs), an indication that the private sector is the largest purchaser of health services in the country. The public sector financing agents handled approximately 43% of the total financial outlays from the sources. These funds were in turn transferred to the ultimate providers of health care services. Analysis of data showed that 60% of donor funding was channelled through the public sector financing agents, mainly through the MoH.

Figure 4.3 shows the percentage distribution of funds transferred from sources to financing agents. The principal financing agents in the flow of funds were the households through out-of-pocket payments (45%) followed by the MoH, which handled about 35% of the total funds from the sources. The NGOs and the NHIF (social health insurance) received 6% and 4% respectively of the total funds from the financing sources. Other entities which received funds from financing sources included Parastatals (3%), private firms through employer insurance programmes (2%) and private insurance firms (2%), and local authorities (1%).

Although households are the largest purchasers of health services at 45%, approximately 88% of their spending passed directly to the ultimate providers of health care services. The rest was channelled through to private insurers, NHIF and private firms in form of group insurance schemes in which the employer and/or the employee contributed.



It is seen from Table 4.6 that 72% of the MoH expenditures were financed by GoK and the remainder by donors. About four-fifths (79.6%) of the Local

**Table 4.6: Sources of Funds (percent) by Financing Agents**

NHA Codes	Financing Agent (HF)	Source of Funds										Row Total for THE
		FS.1.1.1 Central Gov Revenue	FS.1.1.2 Local Authorities	FS.1.2 Other Public funds	FS.2.1.1 Parastatals	FS.2.1.2 Private Companies	FS.2.2 Households	FS.2.3 NPISH- (Local foundations)	FS.2.4 Other private funds	Rest of the World	Not specified by any kind	
HF. 1.1.1.1	MoH	71.6								28.4		100.0
HF.1.1.2	Local Authorities	19.6	79.6			0.1				0.2		100.0
HF.1.1.1.3	Other Ministries/ Depts e.g. NACC	100.0										100.0
HF.1.2	NHIF			14.6				85.4				100.0
HF.2.5.1	Parastatals				100.0							100.0
HF.2.1.2	Private Employer Insurance Programme				3.9	53.9		42.2				100.0
HF.2.2	Private Insurance Enterprises <sup>24</sup>							100.0				100.0
HF.2.3	Household out-of-pocket payments							100.0				100.0
HF.2.4	Non-private institutions serving individuals (NGOs)	0.4				1.1			10.1	85.6	2.7	100.0
HF.2.5	Private firms and Corporations					100.0						100.0
HF.3	Rest of the World									100.0		100.0
HF.nsk	Not specified by any kind										100.0	100.0
	<b>Total</b>	<b>25.2</b>	<b>0.8</b>	<b>0.6</b>	<b>3.0</b>	<b>2.1</b>	<b>51.1</b>	<b>0.6</b>	<b>0.2</b>	<b>16.4</b>	<b>0.1</b>	<b>100.0</b>

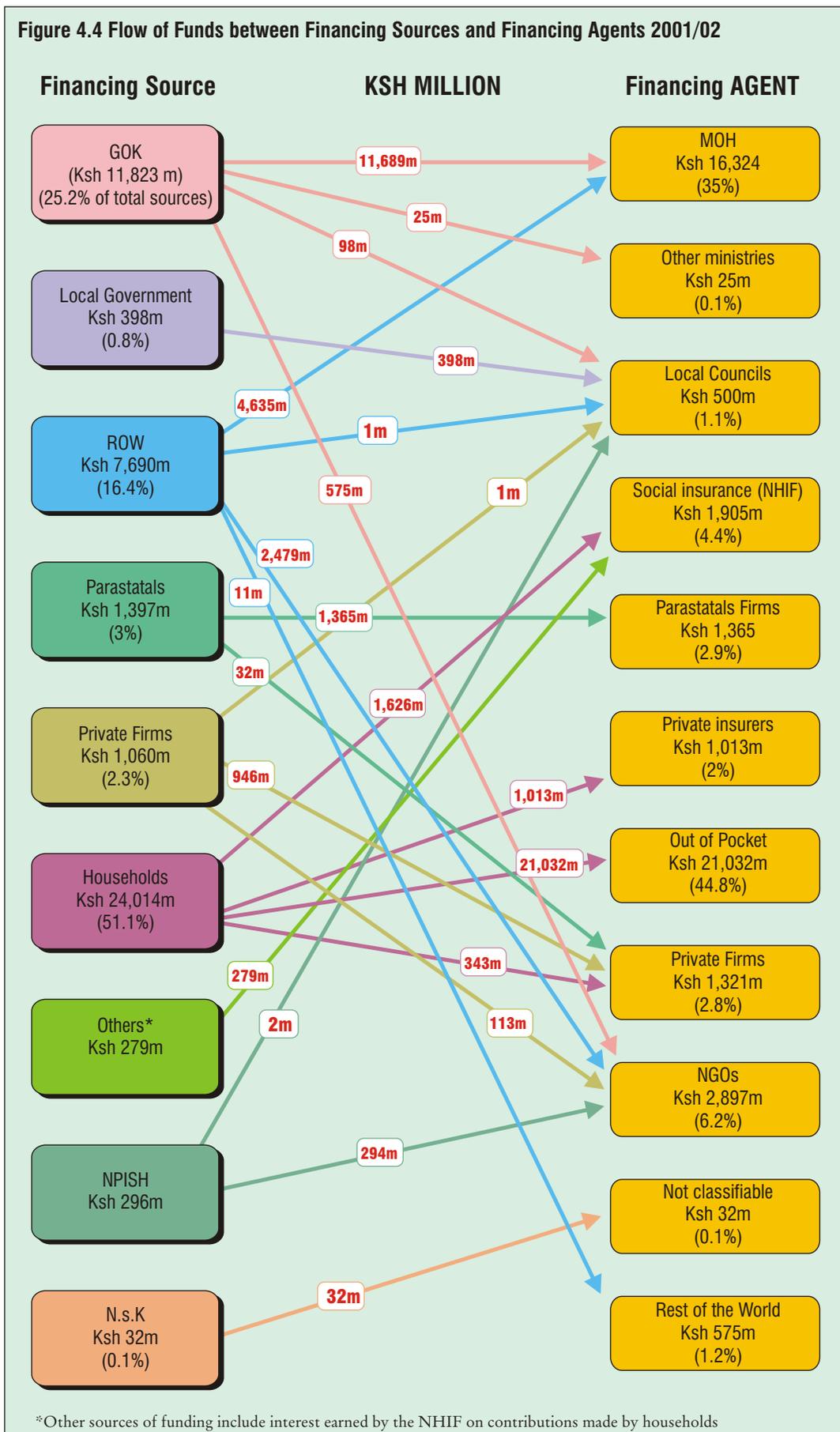
<sup>24</sup> Individual insurance-excluding National Health Insurance Fund.

Authorities expenditures were funded from their own sources and the rest from the government. Much of the funding of the NGOs expenditures stemmed from several sources with donors contributing 86%.

The flow of funds in Kenya's health system from sources to financing agents, illustrated in Figure 4.4, identifies five major pathways of financing health care services, which can be summarized as follows:

- From households through out-of-pocket spending directly to retail providers of pharmaceuticals, public and private health facilities (45% of total financing);
- From the GoK to MoH through the Budget (25% of total financing);
- From donors to the MoH 10% of total financing;
- From donors to NGOs 5% of total financing;
- From households to hospital facilities through the social insurance scheme (NHIF) (3% of total financing).

Figure 4.4 Flow of Funds between Financing Sources and Financing Agents 2001/02



The most important pathway consisted of direct household spending to providers of health services accounting for 45% of the total financing, an indication that households are the largest purchaser of health care services in the country. A similar pattern of transfers is observed at ESAC regional level, in which the private sector, mainly households, on average accounts for 33 %<sup>25</sup> while the MoH stands at an average of 26%.

Indeed, all providers earned revenues from out-of-pocket spending by households but most of these transfers (62%) went to private sector providers, mainly private hospitals followed by dispensing chemists. This shows that the private sector plays a dominant role in financing health services in the county and raises a number of policy concerns targeting mainly equity and regulatory mechanisms which are currently weak.

The second important pathway consisted of GoK funding, which is derived from general revenue taxation, in which funds were transferred principally to the MoH budget by the Ministry of Finance (MoF) as well as other ministries and NGOs providing health services.

The third major pathway consisted of donor funding transfers to the MoH, accounting for 10%. Only a small proportion of donor funding is transferred to the various local councils and none to private sector financing agents except for NGOs. It is important to note that only a small proportion of donor funding went directly to the provision of health services.

The fourth major path way consisted of donor funding, channelling funds to NGOs. This accounted for approximately 5% of the total funds mobilised for health spending during the period under review.

The fifth major path way consisted of households funding to hospital facilities (public and private) through the social insurance scheme (NHIF), accounting for 3%. The Fund reimburses hospitals for inpatient care provided to its members.

#### 4.5 Comparison of Per capita Health Expenditures and Health Indicators

Table 4.7 shows data on public health expenditures, per capita health expenditures and key health indicators in Eastern and Southern Africa countries.

There seems to be no direct link (relationship not linear) between the relative level of per capita expenditures and actual health outcomes.<sup>26</sup> For example, Uganda spent US \$ 12.3 per capita on health compared to Kenya's US \$19.2 per capita (one and a half times that of Uganda), yet the health indicators of the two countries are not significantly different thus posing a major challenge to policy makers with respect to both allocative and technical inefficiencies which have to be addressed.

<sup>25</sup> The National Health Accounts in Eastern and Southern Africa Countries (ESAC); a comparative analysis; 2000, (unpublished).

<sup>26</sup> It is important to note that financial investment in health care is one component that contributes to a nation's health outcomes. Other components include accessibility, quality of health care, income level, education, sanitation, empowerment of women, personal choice, access to nutritious food and so forth.

**Table 4.7: Comparison of Public Health Expenditures and Health Indicators**

ESAC Countries	Public health expenditure as a % govt. exp. <sup>a</sup>	Per capita total health exp. US \$	IMR (per 1,000)-1998 <sup>n</sup>	MMR (per 100,000-1998) <sup>n</sup>	U5MR (per 1000 live births -2001) <sup>n</sup>	Life expectancy at birth 1998 (years) <sup>b</sup>
Kenya	8*	19.2**	74	590	112	56
Mozambique	5	8.9	125	980	197	45
Ethiopia	6	4.3	116	870	172	46
Uganda	5	12.3	79	510	124	45
Rwanda	3	12.7	96	1,100	183	38
Zambia	10	20.9	112	650	202	39
Tanzania	9	10.5	104	530	165	44
Malawi	10	12.7	114	1,100	183	39
S/Africa		283.0	56	340	71	49
Average ESAC						43.8
Average OECD	15.1		6			

## Notes:

\* Kenya Public Expenditure Review 2003

\*\* Estimates from Kenya NHA report 2001/2002- including GoK recurrent and development expenditures;

Except for Kenya, estimates for other countries listed in the table above were derived from NHA country reports for financial year 1997/98;

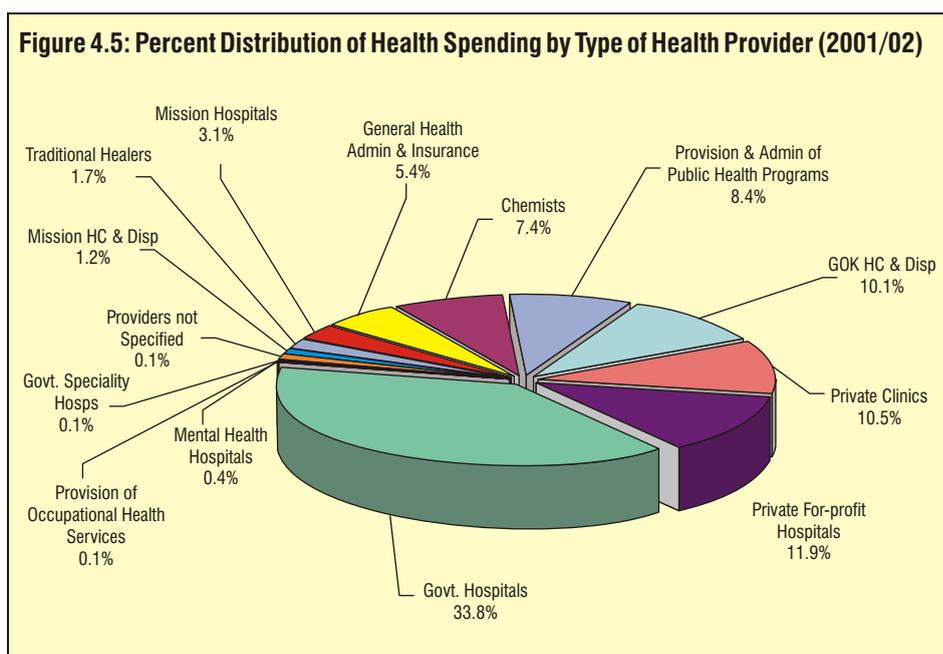
<sup>a</sup> Include donor expenditures ;<sup>b</sup> The WHO world health report 2002 Statistical Annex;<sup>n</sup> UNDP report 2003.

## 4.6 Analysis of Uses of Funds

### 4.6.1 Health Spending according to Provider Ownership

Overall, public sector<sup>27</sup> health providers (hospitals, health centres and dispensaries) were responsible for approximately 60% of total health expenditures in the country and the remainder by the private sector providers (for-profit and not-for-profit hospitals, private clinics, dispensing chemists, traditional healers, health centres and dispensaries) (39%) and other providers (1%) (Figure 4.5).

<sup>27</sup> Health facilities owned and operated by the Government



#### 4.6.2 Uses of Funds by Type of Provider and Ownership

Table 4.8 shows the percent distribution of health spending by type of health provider. Public hospitals accounted for approximately 39% of the total health expenditures; private hospitals (for-profit and not-for-profit) expended about 15% of the total funds available for health spending. The two provider types combined consumed more than half (54%) of the total funds mobilized for health spending. Given this profile of health spending, it is apparent that the Government plays a dominant role in financing secondary and tertiary-level health services in the country.

Private health spending in outpatient centres, mainly dispensing chemists, private clinics owned and operated by nurses, clinicians and physicians, and traditional healers accounted for about 21% of total health expenditures. In terms of public outpatient centres, their expenditures accounted for 10%. Clearly, with respect to outpatient facilities, the public providers dominate with respect to financing.

The remainder of the health resource envelope (15%) went towards the provision of prevention and public health programmes as well as central health administration and management.

**Table 4.8: Financing Flows, Kenya 2001/2002 Financing Agents to Providers (KSh Million)**

Provider Type	Financing Agents												TOTAL	%
	PUBLIC SECTOR						NON PUBLIC							
	HF. 1.1.1.1	HF.1.1.1.3	HF.1.1.2	HF.1.2	HF.2.5.1	HF.2.1.2	HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3	HF.nsk		
MoH	Other ministries	Local authorities	NHIF	Parastatals	Private Employers Insurance programme	Private insurers	Household OOP	Non-private institutions	Private firm & companies	Rest of the world	N.s.K.			
Government Hospitals*	10,263.85	84.96	185.02	94.33	219.57	20.36	5,765.85	1,589.82	1.53	6.12		18,231	38.8	
Private hospitals for profit**		1.81	241.17	973.44	111.99	293.02	3,864.46		123.36			5,609	11.9	
Private hospitals Not for profit**			155.70			1.30	1,180.67	98.05				1,436	3.1	
Mental health hospitals	202.77		7.69									210	0.4	
Govt speciality hospitals ****	34.58		0.06									35	0.1	
Private speciality hospitals *****									0.93			1	0.0	
Office of health provider				5.71	480.89	662.00	3,251.22	166.81	375.34			4,942	10.5	
Govt H/Centres and dispensaries ^	2,044.67	297.52		291.92			1,895.98	211.79	0.17	4.55		4,747	10.1	
Private not for profit														
HC and dispensaries +							541.29	2.57	1.08			545	1.2	
Traditional healer		0.07					754.88	0.25			31.73	787	1.7	
Dispensing chemists						36.36	3,383.31	20.74	5.67			3,458	7.4	
Provision & Admin of PH programs	3,187.72		13.44				28.15	174.86		564.12		3,969	8.4	
General health admin & insurance	590.78	25.01	1,302.25					629.14				2,547	5.4	
Est of occupational health services								2.60				3	0.0	
Rest of the world													0	
Providers not specified		102.80					366.30					469	1.0	
<b>TOTAL Health Expenditure (THE)</b>	<b>16,324.37</b>	<b>25.08</b>	<b>1,905.33</b>	<b>1,365.40</b>	<b>812.45</b>	<b>1,013.04</b>	<b>21,032.11</b>	<b>2,896.63</b>	<b>508.08</b>	<b>574.79</b>	<b>31.73</b>	<b>46,989</b>	<b>100.0</b>	
<b>%</b>	<b>34.7</b>	<b>0.1</b>	<b>4.1</b>	<b>2.9</b>	<b>1.7</b>	<b>2.2</b>	<b>44.8</b>	<b>6.2</b>	<b>1.1</b>	<b>1.2</b>	<b>0.1</b>	<b>100.0</b>		

**Table 4.8: Financing Flows, Kenya 2001/2002 Financing Agents to Providers (KSh Million) .... Continued**

Provider Type	Financing Agents											TOTAL	%
	PUBLIC SECTOR					NON PUBLIC							
	HF. 1.1.1.1	HF.1.1.1.3	HF.1.1.2	HF.1.2	HF.2.5.1	HF.2.1.2	HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3		
MoH	Other ministries	Local authorities	NHIF	Parastatals	Private Employers Insurance programme	Private insurers	Household OOP	Non-private institutions	Private firm & companies	Rest of the world	N.s.K.		
Providers of health related services Education & training institutions Other insts prvd health related services	1,157.84							254.77		1,260.90		1,261	
<i>Subtotal for Health related</i>	1,157.84							254.77		1,260.90		1,412	
<b>TOTAL National Health Expenditure (NHE)</b>	<b>17,482.21</b>	<b>25.08</b>	<b>499.82</b>	<b>1,905.33</b>	<b>1,365.40</b>	<b>812.45</b>	<b>1,013.04</b>	<b>21,032.11</b>	<b>3,151.40</b>	<b>508.08</b>	<b>1,835.69</b>	<b>31.73</b>	<b>49,662</b>
<b>%</b>	<b>35.2</b>	<b>0.1</b>	<b>1.0</b>	<b>3.8</b>	<b>2.7</b>	<b>1.6</b>	<b>2.0</b>	<b>42.4</b>	<b>6.3</b>	<b>1.0</b>	<b>3.7</b>	<b>0.1</b>	<b>100.0</b>

\*Refers to national referral specialised and teaching hospitals namely Kenyatta and Moi, other government owned hospitals (provincial, district, and sub-district hospitals);

\*\* Refers to private for profit hospitals and those owned and operated by religious organisations;

\*\*\*: Government establishments for providing specialised services for specific diseases/ conditions including spinal injury;

\*\*\*\*: Licensed private establishments for providing specialised services for specific diseases/ conditions including maternity homes;

+ Refers to establishments owned and operated by religious organisation;

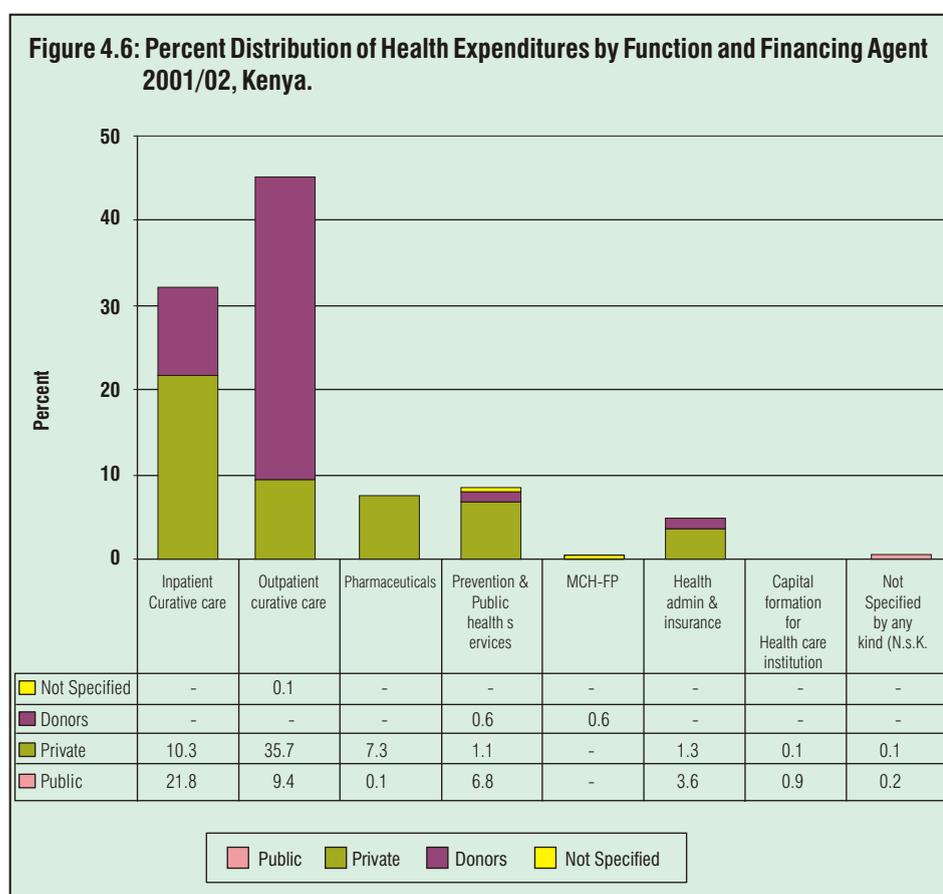
^ Includes Parastatals providers.

### 4.6.3 Health Spending according to Functional Categories by Financing Agent

Table 4.9 and Figure 4.6 show the distribution of health spending in 2001/2002 by financing agents according to functional categories. Clearly, the bulk of total health spending was managed and allocated by non-public (the private sector, NGOs and households) financing agents at approximately 57% while the public sector financing agents financed 43%.

Considering health expenditures by functional categories, approximately 45% of total health financing was made to purchase outpatient curative services with 79% of total expenditure for outpatient health care being financed by non-public sector. Inpatient health care financing accounted for approximately 32% of total health financing. The public sector financed nearly 68% of total inpatient costs<sup>28</sup>.

Expenditures on programmes for prevention and promotion of health activities including public health activities accounted for about 9% of total financing compared to spending on curative services (inpatient and outpatient health care) which accounted for 77%. Considering that most of the diseases attended to by health providers are preventable by simple public health interventions, there is need for the government to shift more resources to more cost effective health functions, namely preventive and promotive health activities.



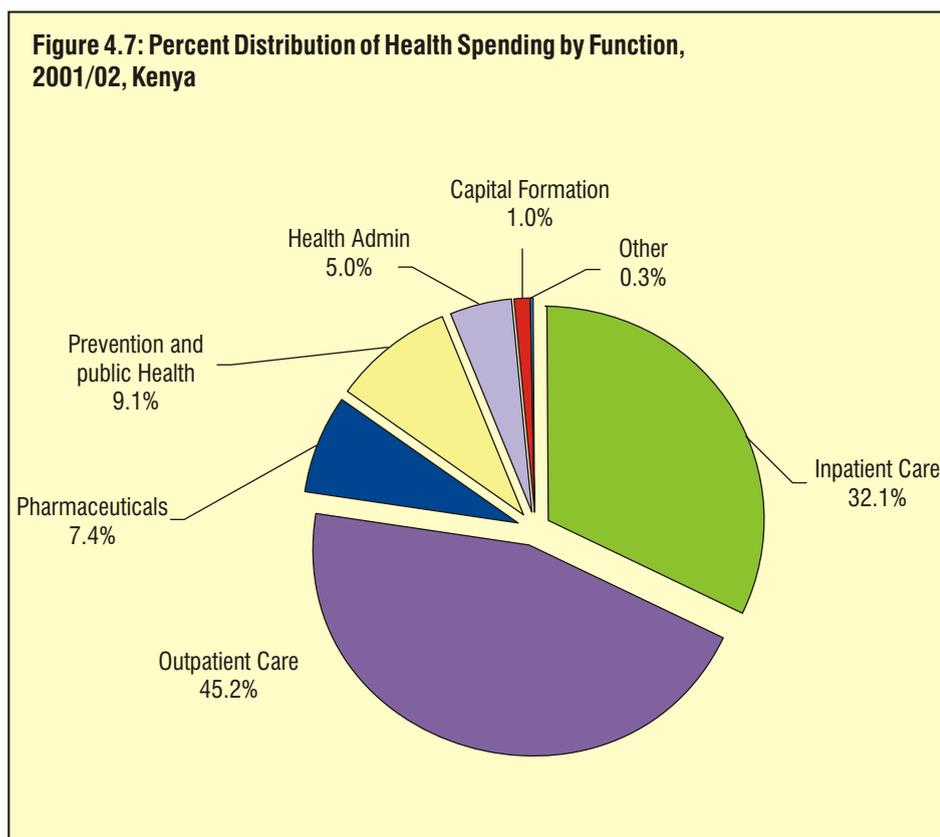
**Table 4.9: Financing Flows, Kenya 2001/2002 Financing Agents to Functions (KSh Million)**

NHA CODES	FUNCTION	PUBLIC SECTOR						NON-PUBLIC						TOTAL	%	
		HF. 1.1.1.1	HF. 1.1.1.3	HF. 1.1.2	HF. 1.2	HF. 2.5.1	MoH	HF. 2.1.2	HF. 2.2	HF. 2.3	HF. 2.4	HF. 2.5	HF. 3			HF.nsk
HC.1.1	Inpatient curative care	8,771		61	590	828		3	686	3,055	1,016	93			15,102	32.1
HC.1.3	Outpatient curative care	3,547		324		537		809	291	14,552	720	409		30	21,219	45.2
HC.4.1	Clinical laboratory														-	-
HC.4.2	Diagnostic imaging														-	-
HC.4.3	Patient transport & emergency rescue														-	-
HC.5.1.1	Pharmaceuticals			13					36	3,383	21	6			3,459	7.4
+HC.5.1.2	Other medicals - non durables														-	-
HC.5.1.3	Prevention & public health services	3,187			13					508					3,974	8.5
HC.6	MCH-FP														299	0.6
HC.6.1	School health programs										3				3	0.0
HC.6.2	Prevention of communicables			1											1	0.0
HC.6.3	Prevention of non-communicables														-	-
HC.6.4	Health admin & insurance	591	25		1,092					629					2,337	5.0
HC.7	Capital formation for Health care institution	228			210				19	0				10	468	1.0
HCR.1	Not Specified by any Kind (N.s.K)	-		101	-				23	0		1		1	126	0.3
HC.nsk	<b>Total Health Expenditure (THE)</b>	<b>16,324</b>	<b>25</b>	<b>500</b>	<b>1,905</b>	<b>1,365</b>		<b>813</b>	<b>1,013</b>	<b>21,032</b>	<b>2,897</b>	<b>508</b>		<b>575</b>	<b>46,989</b>	<b>100.0</b>
	%	34.7	0.1	1.1	4.1	2.9		1.7	2.2	44.8	6.2	1.1		1.2	100.0	
HCR.2	Education & training of health personnel	679												358	1,037	
HCR.3	Research & development	479								254				903	1,636	
	<i>Subtotal</i>	<i>1,158</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>		<i>-</i>	<i>-</i>	<i>254</i>	<i>-</i>	<i>-</i>		<i>1,261</i>	<i>2,673</i>	
	<b>TOTAL National Health Expenditure (NHE)</b>	<b>17,482</b>	<b>25</b>	<b>500</b>	<b>1,905</b>	<b>1,365</b>		<b>813</b>	<b>1,013</b>	<b>21,032</b>	<b>3,151</b>	<b>508</b>		<b>1,836</b>	<b>49,662</b>	
	%	35.2	0.1	1.0	3.8	2.7		1.6	2.0	42.4	6.3	1.0		3.7	100.0	

#### 4.6.4 Health Spending according to Functional Categories by Health Providers

Figure 4.7 and Table 4.10 show that, approximately 45% of all health spending went towards outpatient curative care. In terms of which providers delivered this type of care, the expenditures were similar between public (23% of THE) and private providers (21% of THE). Inpatient curative care accounted for 32% of total spending; the bulk of which was incurred by public health providers - 79% of all inpatient expenditures (or 25% of THE). Pharmaceuticals purchased at independent pharmacies accounted for 7.4% of total health spending.

In terms of prevention and public health programmes (9%), these services were primarily delivered by public health providers (approximately 82% of all prevention and public health programme provision expenditures). Spending on the provision of central health administration and management (5%) was also largely carried out in the public sector (approximately 75% of all administration and management provision expenditures). Capital formation and other unspecified services accounted for 1% of all spending and was largely incurred again by public providers.

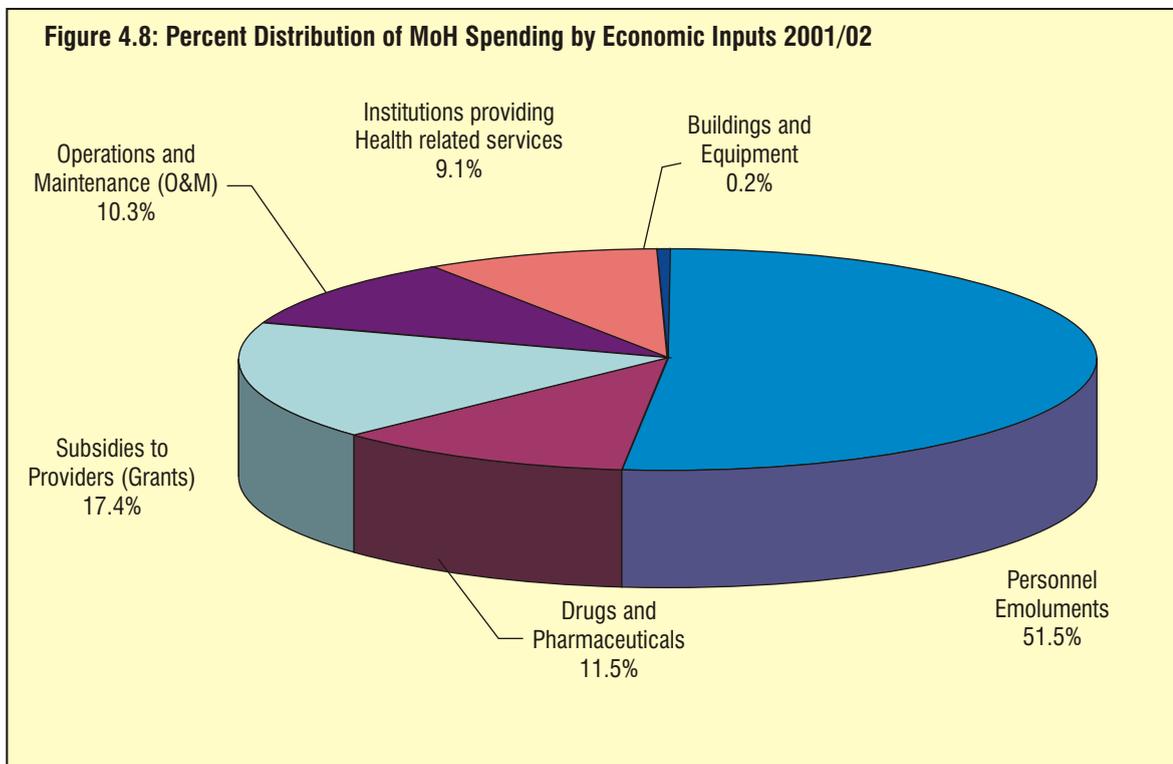


**Table 4.10: Financing Flows, Kenya 2001/2002 Providers to Functions (in KSh million)**

NHA Codes	Function	Government Hospitals	Private for profit	Private hospitals Not for profit	Mental health hospitals	Govt specialty hosp	Private specialty hosp	Office of health provider	Govt HC and disp	Private not for profit HC and disp	Traditional healer	Dispensing chemist	Provision & admin of PH programs	General health admin & insurance	Est. of occupational health services	Providers not specified	TOTAL	%	Provider of health Related services	NHE Total
HC.1.1	Inpatient curative care	11,200.3	1,928.7	572.2	210.5	34.6	0.9	688.6	448.7	17.3						0.6	15,102.4	32.1		15,102.4
HC.1.3	Outpatient curative care	6,639.5	3,679.6	848.3			0.1	4,253.4	4,133.2	527.6	743.0		28.2			366.6	21,219.4	45.2		21,219.4
HC.4.1	Clinical laboratory																			
HC.4.2	Diagnostic imaging																			
HC.4.3	Patient transport & emergency rescue																			
HC.5.1.1 + HC.5.1.2	Pharmaceuticals											3,458.2				0.9	3,459.1	7.4		3,459.1
HC.5.1.3	Other medicals non durables																			
HC.6	Prevention & public health services	318.0		15.2								3,641.5					3,974.6	8.5		3,974.6
HC.6.1	MCH-FP											298.6					298.6	0.6		298.6
HC.6.2	School health programs														2.6		2.6	0.0		2.6
HC.6.3	Prevention of communicables												0.6				0.6	0.0		0.6
HC.6.4	Prevention of noncommunicables																			
HC.7	Health admin & insurance													2,336.9			2,336.9	5.0		2,336.9
HCR.1	Capital formation for health care institution	73.6							164.8		19.9			210.3			468.5	1.0		468.5
HC.nsk	Not Specified by any Kind (N.s.K)		1.0								24.1					101.0	126.0	0.3		126.0
	<b>Total Health Expenditure (THE)</b>	<b>18,231.4</b>	<b>5,609.3</b>	<b>1,435.7</b>	<b>210.5</b>	<b>34.6</b>	<b>0.9</b>	<b>4,942.0</b>	<b>4,746.6</b>	<b>544.9</b>	<b>786.9</b>	<b>3,458.2</b>	<b>3,968.9</b>	<b>2,547.2</b>	<b>2.6</b>	<b>469.1</b>	<b>46,988.8</b>	<b>100.0</b>		<b>46,988.8</b>
	%	<b>38.8</b>	<b>11.9</b>	<b>3.1</b>	<b>0.4</b>	<b>0.1</b>	<b>0.0</b>	<b>10.5</b>	<b>10.1</b>	<b>1.2</b>	<b>1.7</b>	<b>7.4</b>	<b>8.4</b>	<b>5.4</b>	<b>0.0</b>	<b>1.0</b>	<b>100.0</b>			
HCR.2	Education & training of health personnel																			1,036.8
HCR.3	Research & Development																			1,636.7
	<i>Subtotal</i>																			2,673.5
	<b>Total NHE</b>	<b>18,231.4</b>	<b>5,609.3</b>	<b>1,435.7</b>	<b>210.5</b>	<b>34.6</b>	<b>0.9</b>	<b>4,942.0</b>	<b>4,746.6</b>	<b>544.9</b>	<b>786.9</b>	<b>3,458.2</b>	<b>3,968.9</b>	<b>2,547.2</b>	<b>2.6</b>	<b>469.1</b>	<b>46,988.8</b>			<b>49,662.4</b>
	<b>% of NHE</b>	<b>36.7</b>	<b>11.3</b>	<b>2.9</b>	<b>0.4</b>	<b>0.1</b>	<b>0.0</b>	<b>10.0</b>	<b>9.6</b>	<b>1.1</b>	<b>1.6</b>	<b>7.0</b>	<b>8.0</b>	<b>5.1</b>	<b>0.0</b>	<b>0.9</b>	<b>94.6</b>			<b>5.4</b>
																				<b>100.0</b>

### 4.6.5 Public Health Spending (MoH) by Health Care Input

Figure 4.8 and Table 4.11 show the percent distribution of public health spending (MoH) by key health care inputs (line items) as reflected in the MoH recurrent Appropriation Accounts. Personnel costs accounted for the highest share of the MoH spending at approximately 52% followed by grants to health providers accounting for 17% of the total public health spending. Drugs and pharmaceuticals accounted for about 11% while operations and maintenance (O&M) accounted for 10%. Overall, capital expenditures are the lowest accounting for only 0.25%. Grants to health related providers was 9%. Issues to do with optimal combination of inputs for service delivery as well as a balance between human resources and other inputs should be considered.



**Table 4.11: Public Recurrent Health Spending (MoH) by Health Care Input 2001/2002**

General NHA	Resource cost	Total KSh	%
RC.1.1	Personnel emoluments <sup>*</sup>	6,569,070,012	52%
RC.1.2.1.1	Drugs and pharmaceuticals <sup>b</sup>	1,461,046,491	11%
RC.1.5	Subsidies to providers (Grants)	2,217,500,000	17%
RC.1.9	Operations and maintenance(O&M) <sup>n</sup>	1,309,876,458	10%
RC.2.1+RC2.2	Buildings and equipment <sup>c</sup>	28,900,000	0%
	Transfers to other institutions providing health related services	1,157,840,000	9%
<b>Column Total</b>		<b>12,744,232,961</b>	<b>100%</b>

## Notes

<sup>\*</sup> -Personnel Emoluments include salaries and all benefit allowances (medical, housing etc.) (000-080 Kenya Government Line Items);

<sup>b</sup> -MoH budget items 0150-0159; Other supplies include Consumables, food, patients' linen, stationery, uniforms, printing etc (MoH budget items 0160-0179);

<sup>n</sup> - Includes Maintenance MoH budget items 0250-0260

<sup>c</sup> - Includes purchase of plant and equipment, office equipment, computers, transfers to providers (MoH budget items 0400 and 0411)

Similar levels of public health spending are observed at regional level (ESAC), in which the percentage of personnel costs range between 31% and 66% with South Africa spending the highest proportion on personnel costs at 66%. Expenditure on drugs and pharmaceuticals range between 12% and 14% in the region while capital expenditures are low ranging between 3% and 9% of total recurrent expenditures.





## Chapter 5: HIV/AIDS Subanalysis

### 5.1 Summary Statistics for NHA HIV/AIDS in Kenya

Overall, the total funds mobilised for health spending on HIV/AIDS from all sources in the country was approximately KSh. 8.2 billion (or US \$ 103.9 million). This was equivalent to 1% of the GDP at market rates and a sizeable 17.4% of the general total health expenditures (NHA 2001/2002). The latter amount is noteworthy, considering that the estimation was completed prior to the disbursement of large donor grants such as the Global Fund and the Presidential Emergency Fund for AIDS relief (PEPFAR). Households' HIV/AIDS contribution to the overall health expenditures in the country (NHA) stood at 4.6%.

The main findings for the HIV/AIDS subanalysis are summarised in Table 5.1 based on four HIV/AIDS specific matrices indicating sources to financing agents, financing agents to service providers and functions (Tables 5.2 - 5.5) among other data sources.<sup>29</sup>

**Table 5.1 Summary Statistics for NHA HIV/AIDS in Kenya 2001/2002**

Indicator	Value
Prevalence Rate (adults) 2003	6.7% <sup>30</sup>
Total Health Expenditures on HIV/AIDS (NHA 2001/2002)	KSh. 8,170,118,716 (US \$ 103,945,531)
Percent of general Total Health Expenditures (THE) spent on HIV/AIDS	17.4%
Total HIV/AIDS health expenditures as a % of GDP (at current market prices)	1%
<b>Distribution of Sources of HIV/AIDS Funds:</b>	
Public (health expenditures as a % of the THE for HIV/AIDS)	21%
Private	28%
Donor	51%
<b>Household Expenditure</b>	
As a % of the THE for general health care	4.6%
OOP payments as a % of the THE for HIV/AIDS	21%
<b>Uses of funds by provider type as a % of the THE for HIV/AIDS</b>	
Public	78.0%
Private - for-profit	10.3%
Private -not-for-profit	10.8%
Other providers (nsk)	0.9%
<b>Uses of funds by Functions as a % of the THE for HIV/AIDS</b>	
Expenditure on curative care services (inpatient and outpatient)	44.2%
Expenditure on preventive and public health services	47.1%
Expenditures on pharmaceuticals and other non-durables	4.9%
Expenditures on other services	3.7%

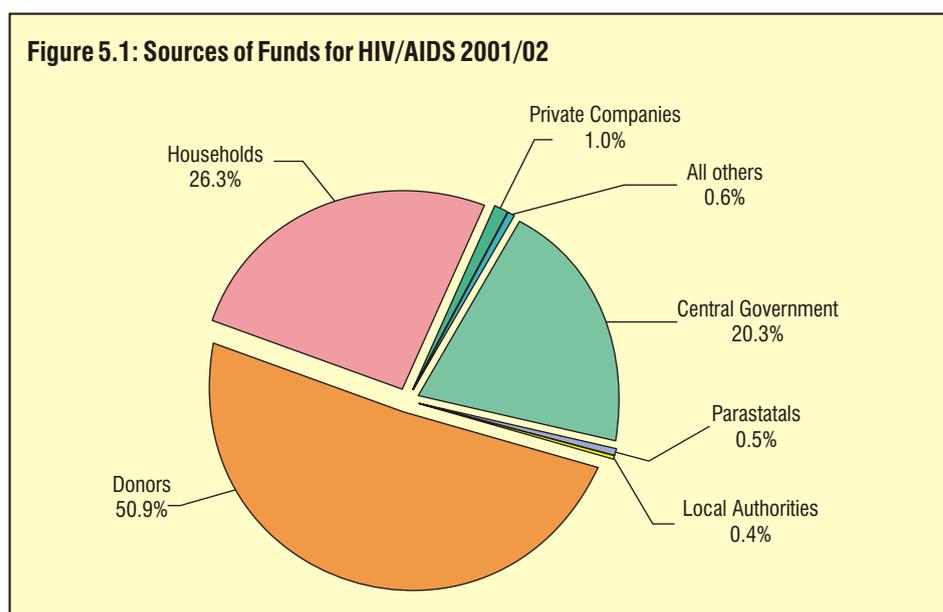
<sup>29</sup> Note, in this chapter "THE" if not specified, refers to total health expenditures on HIV/AIDS and not general health care

<sup>30</sup> Kenya Demographic and Health Survey, 2003.

## 5.2 Financing Sources of HIV/AIDS Funds in Kenya

Sources of funds for HIV/AIDS activities are analysed by looking at the institutions that originated the financing. Figure 5.1 show the relative contribution of each of the funding sources in Kenya. It is evident that the bulk of HIV/AIDS funds came from donor sources accounting for approximately 51% of the total health expenditures for HIV/AIDS in the country, followed by households' contribution of 26.3%: 21.3% through direct out-of-pocket payments (OOP) and 5.0% through contributions to medical insurance coverage. The public sector (mainly Ministry of Finance) accounted for 21.3%.

In comparison to the financiers for overall health care, sources of HIV/AIDS funds spent significant proportions of their health budgets for HIV/AIDS services. For example, the findings show that over half of all donor spending on health (54%) is targeted for HIV/AIDS. As donor fund already account for the largest portion of HIV/AIDS expenditures, this raises questions about the sustainability of such financing contributions and whether enough donor funds are available for other priority concerns. In view of the sustainability issue, the Government should aim at having enough reliable funding within the country's own resources to maintain current health services. The government on the other hand spends 13% of all its health contributions to target HIV-a substantial level of spending considering that the Government is responding to many competing priorities. Approximately, 9% of all household health spending goes towards paying for HIV/AIDS services (primarily curative care). This is also significant considering that 3% of the total Kenyan population (6.7% of adult population) incurs 9% of all household spending, raising questions about the burden of financing on people living with HIV/AIDS (PLWHA) in the face declining standards of living and increasing poverty levels. Options for consideration may include lessening the financing burden on the households through risk pooling mechanisms.



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## 5.3 Flow of HIV/AIDS Funds in the Health System

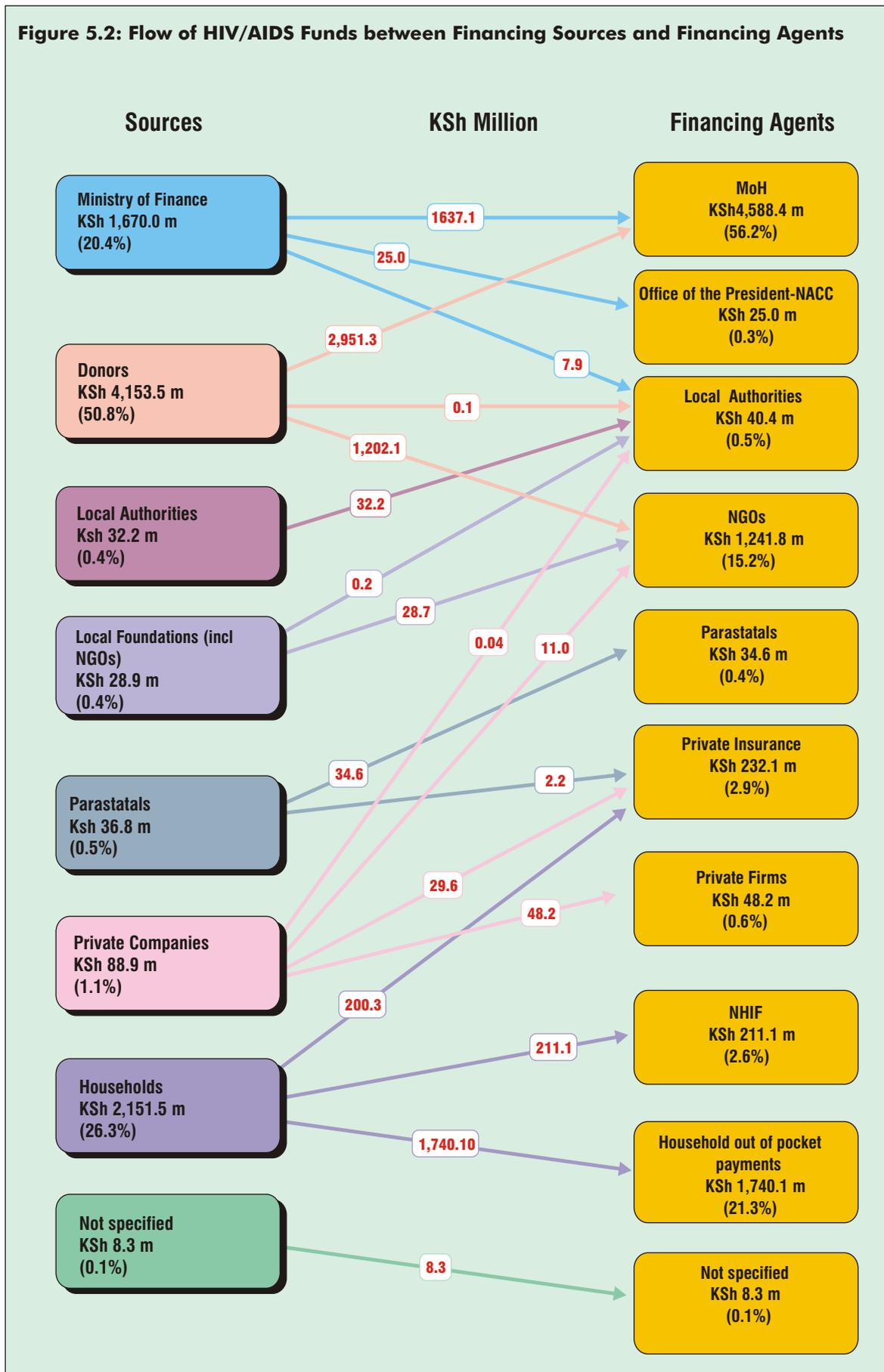
### 5.3.1 Financing Sources to Financing Agents

Figure 5.2 and Table 5.2 show the flow of HIV/AIDS funds from sources to financing agents. Clearly, the bulk of the funds mobilised for HIV/AIDS spending were transferred to public financing agents with the Ministry of Health (MoH) receiving 56% of total transfers. In terms of the private entities that manage health funds, local NGOs received 15% of the total funds mobilized for HIV/AIDS, with private insurance (employer and individual insurance) receiving minor share (3%). The largest private manager of health funds is households themselves through direct out-of-pocket to providers (21%).

The four major pathways of HIV/AIDS financing were:

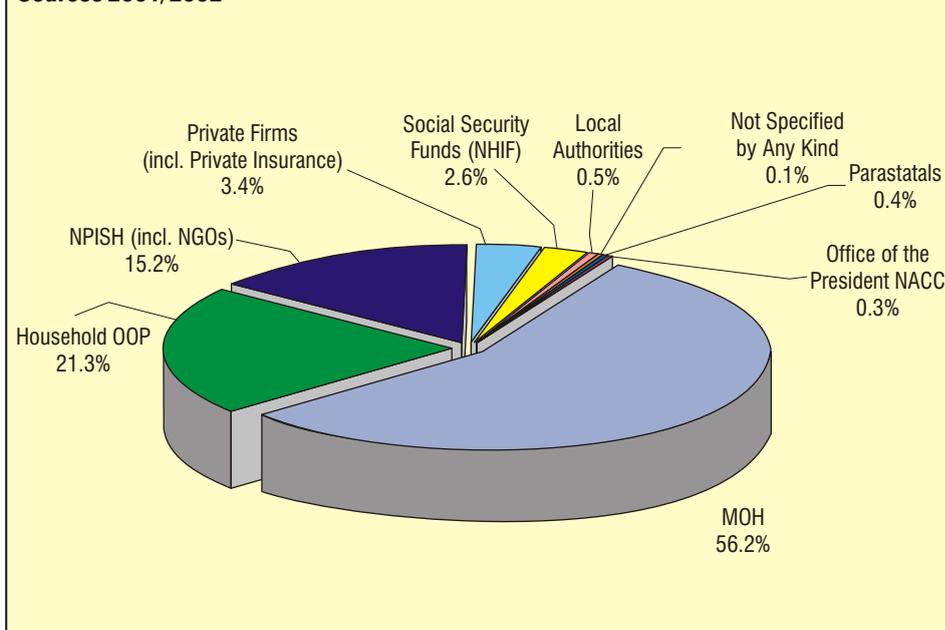
- From the Rest of the World (donors) to MoH (36%);
- From the Rest of the World (donors) to NGOs (15%);
- From MoF to MoH facilities through MoH budget (20%); and
- From households through out-of-pocket spending to health providers (21%) and insurance contributions (or premium payments) to NHIF (3%).

**Figure 5.2: Flow of HIV/AIDS Funds between Financing Sources and Financing Agents**



Donor financing is an important pathway of transferring funds to the MoH and local NGOs. Overall, 56% of HIV/AIDS resources were transferred through the Ministry of Health, followed by households (21%) through direct out-of-pocket payments to providers (Figure 5.3) although user fees (cost sharing) dissuade the poor from utilizing health care services. It is evident from the above analysis that multi-sectoral approach in combating the HIV/AIDS pandemic is skewed towards public provision of HIV/AIDS services.

**Figure 5.3: Percent Transfers of HIV/AIDS Funds through Financing Agents from Financing Sources 2001/2002**



**Table 5.2: HIV/AIDS Financing Flows in Kenya 2001/2002: Sources (FS) to Financing Agents (HF) (KShs)**

NHA codes	Financing Agent (HF)	Financing Source (FS)										Row Total	%		
		Public Funds					Private Funds								
		FS.1.1.1 Central Gov Revenue	FS.1.1.2 Local Authorities	FS.2.1.1 Parastatals	FS2.1.2 Private Companies	FS.2.2 Households	FS.2.3 NPISH - (Local foundations)	FS.2.4 Other private funds	FS.3 Rest of the world	Not specified by any kind					
HF.1.1.1.1	MoH	1,637,096,000												4,588,472,712	56.2
HF.1.1.1.3.1	Office of the President-NACC	25,013,331												25,013,331	0.3
HF.1.1.2	Local Authorities	7,938,662	32,190,514		39,547					164,084			64,016	40,396,822	0.5
HF.1.2	NHIF													211,096,852	2.6
HF.2.5.1	Parastatals			34,625,654										34,625,654	0.4
HF.2.1.2	Private Employer Insurance Programme			2,145,502	29,603,552									54,903,332	0.7
HF.2.2	Private Insurance Enterprises														
HF.2.3	Individual insurance														
HF.2.4.1	Household out-of-pocket payments													177,213,261	2.2
HF.2.5	Private firms and Corporations													1,740,055,023	21.3
HF.3	Rest of the World													1,241,807,507	15.2
	Not specified by any kind													48,211,414	0.6
	<b>Column Total (THE)</b>	<b>1,670,047,992</b>	<b>32,190,514</b>	<b>36,771,156</b>	<b>81,081,786</b>	<b>2,151,519,415</b>	<b>28,872,971</b>	<b>7,774,021</b>	<b>4,153,538,053</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,170,118,716</b>	<b>100.0</b>
	<b>Total (THE) %</b>	<b>20.4</b>	<b>0.4</b>	<b>0.5</b>	<b>1.0</b>	<b>26.3</b>	<b>0.4</b>	<b>0.1</b>	<b>50.8</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>100.0</b>		
HF.10	Financing agents covering health related activities	696,484	2,785,934											36,719,490	
	<b>Column Total (NHE)</b>	<b>1,670,744,476</b>	<b>34,976,448</b>	<b>36,771,156</b>	<b>81,081,786</b>	<b>2,151,519,415</b>	<b>28,872,971</b>	<b>7,774,021</b>	<b>4,186,775,125</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,206,838,206</b>	
	<b>Total (NHE) %</b>	<b>20.4</b>	<b>0.4</b>	<b>0.4</b>	<b>1.0</b>	<b>26.2</b>	<b>0.4</b>	<b>0.1</b>	<b>51.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>100.0</b>		
HF.11	Financing agents covering addendum activities	51,632	207,328											1,802,156,793	
	<b>Column Total (THAE)</b>	<b>1,670,796,308</b>	<b>35,183,776</b>	<b>36,771,156</b>	<b>81,081,786</b>	<b>2,151,519,415</b>	<b>28,872,971</b>	<b>7,774,021</b>	<b>5,988,672,758</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>8,322,809</b>	<b>10,008,994,999</b>	
	<b>Total (THAE) %</b>	<b>16.7</b>	<b>0.4</b>	<b>0.4</b>	<b>0.8</b>	<b>21.5</b>	<b>0.3</b>	<b>0.1</b>	<b>59.8</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>100.0</b>		

## 5.4 Uses of HIV/AIDS funds

### 5.4.1 Spending according to Type of Service Provider

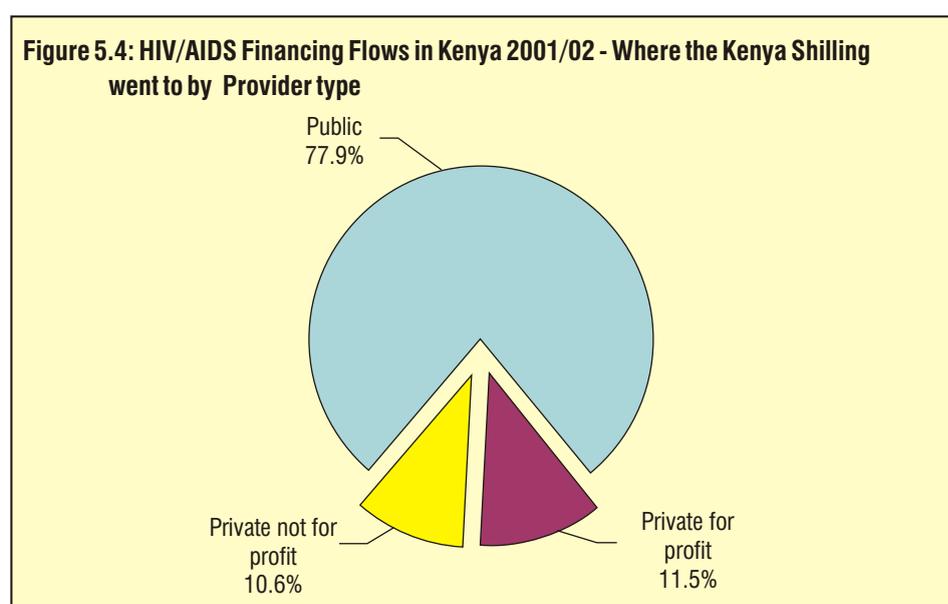
National health system's total health expenditure on HIV/AIDS was KSh 8.2 billion in 2001/02. In this regard, there is need to address how these funds were distributed among the service providers.

Figure 5.4 shows the percent distribution of spending outlays for HIV/AIDS funds by service provider type (financing agents as sources) while Table 5.3 provides details on the financial flows between financing agents and service providers.

About 78% of HIV/AIDS resources were received by public health providers, of which 47% went to the provision of prevention and public health programmes, 49% to Government hospitals, and approximately 5% to government outpatient centres. MoH was the largest provider of care and other HIV/AIDS health services nationally.

Private sector health providers accounted for 21% of the total health expenditures (with all remaining provider types accounting for 1%); of which 36% went to private hospitals (for-profit and not-for-profit), while the remainder was spent at private outpatient centres including private clinics and dispensing chemists.

It is worthwhile to note that primary level providers handled only a small share, of about 10% of the total HIV/AIDS resources spent by both the public and private facilities while secondary level consumed the bulk of the funds meant for HIV/AIDS (90%). This is because the secondary facilities have the capacity to handle those cases.





**Table 5.3 HIV/AIDS Financing Flows in Kenya 2001/2002: Financing Agents (HF) to Providers (HP) (KSh) .... Continued**

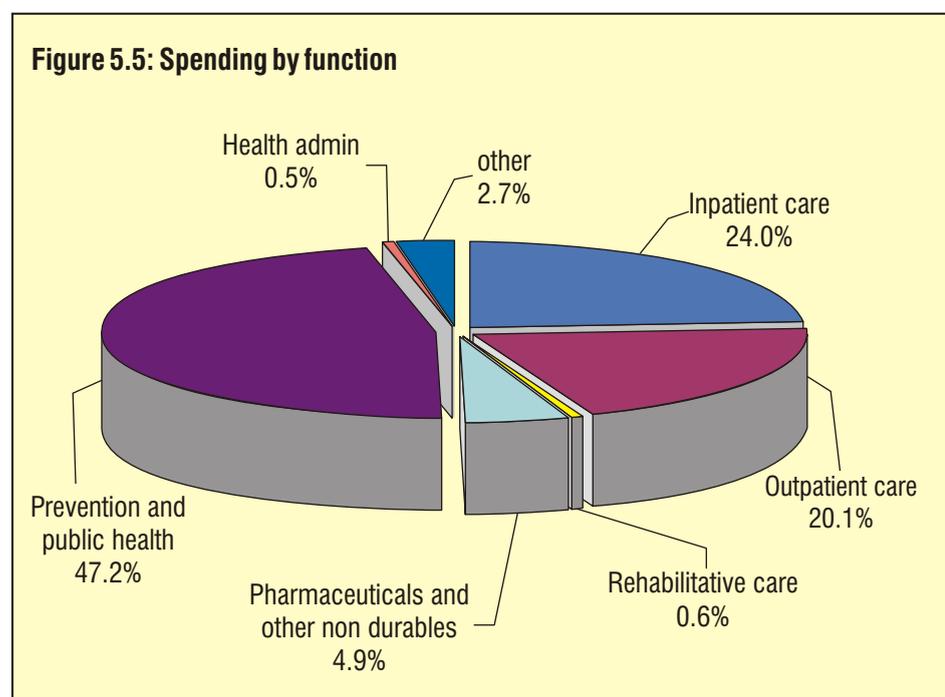
	Provider	Financing Agent													Row Total	%	
		HF. 1.1.1.1	HF 1.1.1.3.1	HF 1.1.2	HF 1.2	HF 2.5.1	HF 2.1.2 <sup>o</sup>	HF 2.2****	HF 2.3	HF 2.4.1	HF 2.5	HF 3	Not specified by any kind				
		MoH	Office of the President NACC	Local Authorities	Social Security Funds (NHIF)	Parastatals	Private Employer Insurance Programme	Private Insurance Enterprises (NHIF)	Household out-of-pocket payments	NPISH (incl NGOs)	Private firms and Corporations	Rest of the world					
HP6	General health administration and insurance		25,013,331													25,013,331	0.3
HP7.1	Establishments as providers of occupational health care services.															18,554,015	0.2
	Providers not specified															71,307,439	0.9
	Column Sub-Total-THE	4,588,472,712	25,013,331	40,396,822	211,096,852	34,625,654	54,903,332	177,213,261	1,740,055,023	1,241,807,507	48,211,414	-	8,322,809		8,170,118,716	100.0	
	Total (THE) %	56.2	0.3	0.5	2.6	0.4	0.7	2.2	21.3	15.2	0.6	-	0.1		100.0		
HP8	Providers of Health Related Services	-		3,482,418						33,237,072					36,719,490		
	Subtotal for health related	-	-	3,482,418	-	-	-	-	-	33,237,072	-	-	-	-	36,719,490		
	Column Total: NHE	4,588,472,712	25,013,331	43,879,240	211,096,852	34,625,654	54,903,332	177,213,261	1,740,055,023	1,275,044,579	48,211,414	-	8,322,809		8,206,838,206		
	Total (NHE) %	55.9	0.3	0.5	2.6	0.4	0.7	2.2	21.2	15.5	0.6	-	0.1		100.0		
	Providers of non-health HIV/AIDS services			259,160						1,801,897,633					1,802,156,793		
	Column Total: THAE	4,588,472,712	25,013,331	44,138,400	211,096,852	34,625,654	54,903,332	177,213,261	1,740,055,023	3,076,942,211	48,211,414	-	8,322,809		10,008,994,999		
	Total (THAE) %	45.8	0.2	0.4	2.1	0.3	0.5	1.8	17.4	30.7	0.5	-	0.1		100.0		

The analysis of financial flows between financing agents and service providers (Table 5.3) is made more complete by a detailed examination of the flows coming from households. The out-of-pocket payments (OOP) from households (more than KSh 1.7 billion) are made mainly to Hospitals: either Government (50% of total OOP), private for-profit (15% of OOP), private for not profit (11% of OOP). This is followed by OOP contributions to private clinics (8% of OOP) and dispensing chemists (6% of OOP).

#### 5.4.2 Spending by Financing Agents according to Function

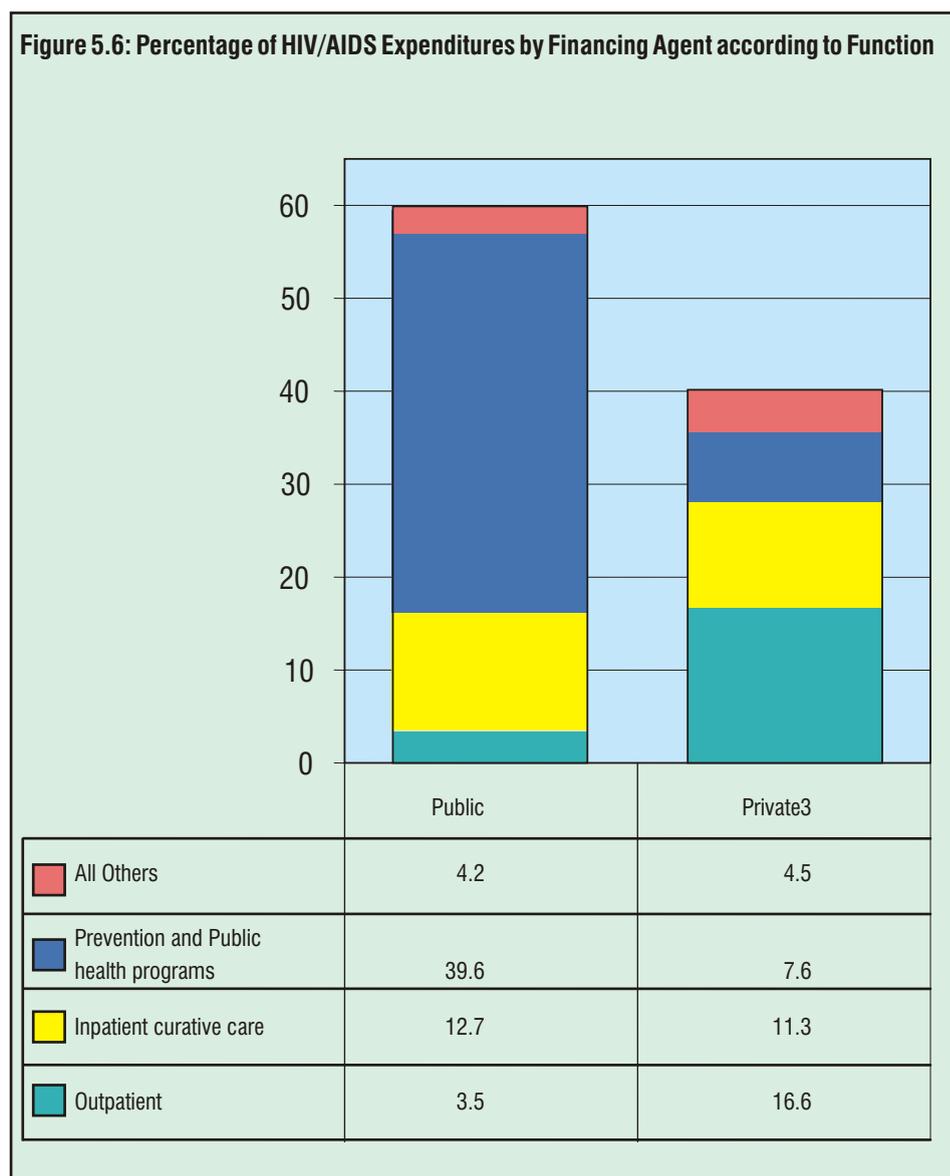
According to the Kenyan NHA conceptual framework, HIV/AIDS health expenditures were categorised by function. Expenditures on hospital services included expenditures on providing inpatient and outpatient services.

Figure 5.5 shows the distribution of HIV/AIDS spending by function while Table 5.4 provides further details. Clearly, the bulk of HIV/AIDS spending went to finance non-treatment costs such as prevention and public health programmes which accounted for almost half (47%) of the total expenditures. The big share of HIV/AIDS expenditure committed to prevention and public health programmes is an indication the prevention strategies are the most important long term approach to reducing the burden of HIV/AIDS. Expenditure on curative care accounted for about 44%; with 20% being expended on curative outpatient services and 24% on curative inpatient services mainly in public hospitals.



The distribution of HIV/AIDS spending by ownership of financing agents according to function is shown in Figure 5.6. The bulk of expenditure outlays was from the public financing agents (approximately 60%); 43% financed provision of preventive and public programmes.

The remainder (40%) was from private financing agents, mainly households' out-of-pocket payments. About 14% of total HIV/AIDS expenditures were made by households to purchase outpatient services and 6% inpatient services. On the whole, the bulk of private financing agent resources went to financing the provision of curative care services (17% and 11% of total HIV/AIDS expenditures went to outpatient and on inpatient care respectively).



**Table 5.4: Spending by Financing Agent according to Function**

Function	Financing Agent											Row Total	%
	HF. 1.1.1.1	HF. 1.1.1.3.1	HF.1.1.2	HF.1.2	HF.2.5.1	HF.2.1.2'	HF.2.2****	HF.2.3	HF.2.4.1	HF.2.5.5	Not specified by any kind		
Inpatient curative care	804,752,058		16,172,490	211,096,852	7,379,198	661,962	157,719,948	514,129,508	233,693,874	11,348,945		1,956,954,835	24.0
Outpatient curative care	237,637,643		22,447,675		26,454,430	54,241,370	19,493,313	1,127,764,682	119,224,999	35,295,882	8,322,802	1,650,882,802	20.0
Treatment and monitoring of OIs (including TB)	2,342,900		77,083						38,423,767			40,843,749	0.5
ARV Treatment										32,505,329	667,324	33,172,652	0.4
OP care that cannot be disaggregated	237,637,643		22,370,592		24,111,530	54,241,370	19,493,313	1,127,764,682	48,295,903	34,628,558	8,322,809	1,576,866,401	19.3
Services of Rehabilitative care (counselling)			761,982		96,215				47,036,693	1,566,587		49,461,477	0.6
Ancillary services			38,280		127,579							165,859	0.0
Clinical laboratory			8,580		79,171							87,751	0.0
Diagnostic imaging			29,700		48,408							78,108	0.0
Pharmaceuticals								98,160,834				8,160,834	1.2
Pharmaceuticals that cannot be disaggregated									98,160,834			88,160,834	1.2
Other medical non												300,300,000	3.7
Prevention and public	3,231,483,011		676,395		568,231				619,181,384			3,851,909,021	47.1
PMTCT treatment			253,000		43,422				52,783,838			53,080,259	0.6

**Table 5.4: Spending by Financing Agent according to Function ... Continued**

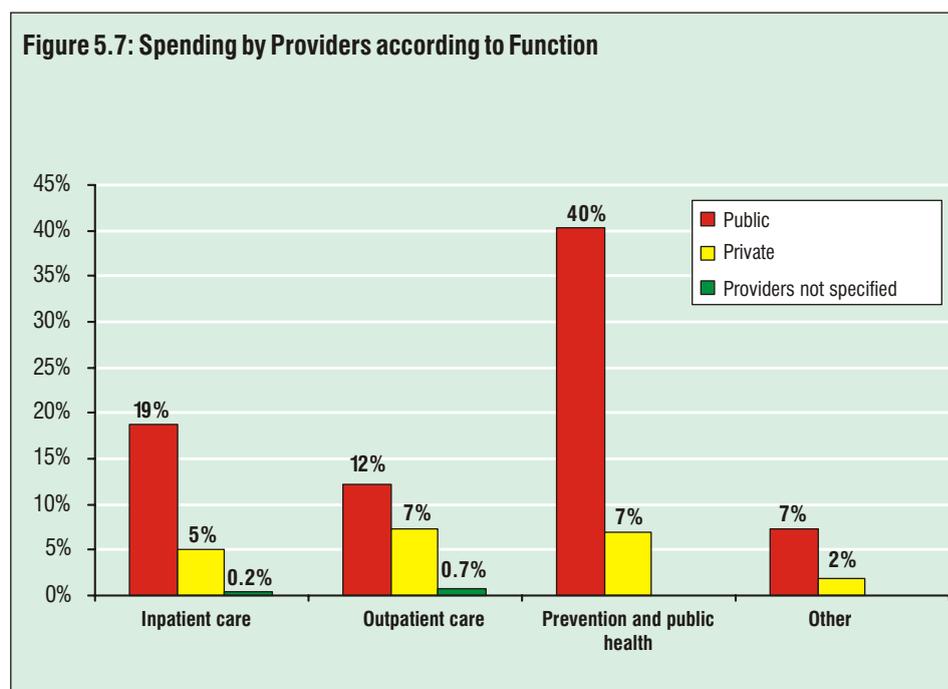
Function	HF. 1.1.1.1	HF. 1.1.1.3.1	HF. 1.1.1.2	HF. 1.2	HF.2.5.1	HF.2.1.2 <sup>i</sup>	HF.2.2****	HF.2.3	HF.2.4.1	HF.2.5.5	Not specified by any kind	Row Total	%
	MoH	Office of the President NACC	State Provincial Govt (local Authorities	Social Security Funds (NHIF)	Parastatals	Private Employer Insurance Programme insurance excluding Social health Insurance	Private Insurance Enterprises Individual	Household out-of-pocket payments	NPISH (incl NGOs)	Private firms and Corporations			
School health services	-	-	-	-	-	-	-	-	18,554,015	-	-	18,554,015	0.2
Prevention of communicable diseases	3,231,483,011	-	423,395	-	524,809	-	-	-	506,956,853	-	-	3,739,388,069	45.8
Voluntary Counselling and Testing (VCT)	280,106,299	-	-	-	-	-	-	-	-	27,425,829	-	307,532,128	3.8
Blood Safety	-	-	30,000	-	-	-	-	-	1,102,500	-	-	1,132,500	0.0
Post exposure prophylaxis	-	-	-	-	-	-	-	-	660,000	-	-	660,000	0.0
Information, Communication Program (IEC)	-	-	22,660	-	-	-	-	-	201,056,055	-	-	201,078,715	2.5
STI Prevention	-	-	60,000	-	524,809	-	-	-	-	76,298,313	-	76,883,122	0.9
Condom Distribution Programs	-	-	48,000	-	-	-	-	-	-	200,377,031	-	200,425,031	2.5
Other prevention programs (incl. specific for TB) and that which cannot be disaggregated	2,951,376,712	-	262,735	-	-	-	-	-	-	37,125	-	2,951,676,572	36.1
Monitoring and evaluation	-	-	-	-	-	-	-	-	-	40,886,679	-	40,886,679	0.5
Health admin & insurance	14,600,0	25,013,331	-	-	-	-	-	-	-	-	-	39,613,331	0.5

**Table 5.4: Spending by Financing Agent according to Function ... Continued**

Function	Financing Agent										Row Total	%	
	HF. 1.1.1.1	HF. 1.1.1.3.1	HF.1.1.2	HF.2.5.1	HF.2.1.2 <sup>i</sup>	HF.2.2 <sup>****</sup>	HF.2.3	HF.2.4.1	HF.2.5.5	Not specified by any kind			
Not specified by any kind	-	-	-	-	-	-	-	-	222,670,557	-	-	222,670,557	2.7
Sub-Total column-THE	4,588,472,712	25,013,331	40,396,822	211,096,852	211,096,852	211,096,852	211,096,852	211,096,852	211,096,852	211,096,852	211,096,852	211,096,852	100.0
<b>Total (THE) %</b>	<b>56.2</b>	<b>0.3</b>	<b>0.5</b>	<b>2.6</b>	<b>0.4</b>	<b>0.7</b>	<b>2.2</b>	<b>21.3</b>	<b>15.2</b>	<b>0.6</b>	<b>0.1</b>	<b>100.0</b>	
Research & Development	-	-	-	-	-	-	-	-	33,237,072	-	-	33,237,072	
Food, hygiene and drinking water control (incl nutritional support)	-	-	3,482,418	-	-	-	-	-	-	-	-	3,482,418	
Sub-Total column-NHE	4,588,472,712	25,013,331	43,879,240	211,096,852	34,625,654	54,903,332	177,213,261	1,740,055,023	1,275,044,579	48,211,414	8,322,809	8,206,838,206	
<b>Total (NHE) %</b>	<b>55.9</b>	<b>0.3</b>	<b>0.5</b>	<b>2.6</b>	<b>0.4</b>	<b>0.7</b>	<b>2.2</b>	<b>21.2</b>	<b>15.5</b>	<b>0.6</b>	<b>0.1</b>	<b>100.0</b>	
Services to orphans and vulnerable children	-	-	259,160	-	-	-	-	-	851,747,747	-	-	852,006,907	
Psychosocial support	-	-	-	-	-	-	-	-	950,449,886	-	-	950,449,886	
Sub-total column-THAE	4,588,472,712	25,013,331	44,138,400	211,096,852	34,625,654	54,903,332	177,213,261	1,740,055,023	3,076,942,211	48,211,414	2,809	10,008,994,999	
<b>Total (THAE) %</b>	<b>45.8</b>	<b>0.2</b>	<b>0.4</b>	<b>2.1</b>	<b>0.3</b>	<b>0.5</b>	<b>1.8</b>	<b>17.4</b>	<b>30.7</b>	<b>0.5</b>	<b>0.1</b>	<b>100.0</b>	

### 5.4.3 Spending by Health Providers according to HIV/AIDS Functions

Expenditures by type of provider ownership according to function are shown in Table 5.5 and illustrated in Figure 5.7. 40 % of spending was incurred in public facilities to finance prevention programme while 31% went to curative care in public facilities (12% to outpatient and 19% to inpatient curative care services).



Private sector spending accounted for about 21.4% of total HIV/AIDS expenditures. These funds went to finance outpatient curative care at private (7% of THE), prevention and public health programmes (done by NGO sector 7% of THE), inpatient curative (5%), and other services at 2%.

On the whole, most expenditures on HIV/AIDS was expended on preventive and public health programmes accounting for approximately 47% followed by expenditures on curative care 44% (inpatient and outpatient), and other expenditures (9%).

**Table 5.5: Spending by Providers according to Function**

Function	HP. 1.1.1	HP. 1.1.2.1	HP. 1.1.2.2	HP. 3.1-3.3	HP. 3.4.5.1	HP. 3.4.5.2	HP. 3.9.3	HP4.1	HP5	HP6	HP7.1	HP risk	Total THE	%	HP8	Providers of non health HIV/AIDS services
	Govt. Hospitals	Private hospitals for Profit	Private Hospitals not for Profit	Private clinics	Govt health centre and dispensaries	Private not for profit health centre and dispensaries	Traditional healer	Dispensaries and chemist	Provision and administration of public health programmes	General health administration and insurance	Establishment of occupational services	Provider not specified by any kind			Providers of health related service	
Inpatient curative care	1,489,233,579	161,839,709	102,039,594	154,024,374	37,153,062	350,184						12,314,332	1,956,954,835	24.0		
Outpatient curative care	783,281,238	184,354,453	139,132,435	214,020,389	214,973,918	28,841,482	27,285,780					58,993,107	1,650,882,802	20.2		
Treatment and monitoring of OIs (including TB)	31,205,960		7,217,807		2,419,982								40,843,749	0.5		
ARV Treatment	26,004,263	463,324	6,501,066	204,000									33,172,652			
OP curative care that cannot be disaggregated	726,071,016	183,891,130	125,413,562	213,816,389	212,553,936	28,841,482	27,285,780					58,993,107	1,576,866,401	19.3		
Services of rehabilitative care (counseling)	25,327,450	1,566,587	7,236,414		8,094,611	7,236,414							49,461,477	0.6		
Ancillary services					165,659								165,659	0.0		
Clinical laboratory					87,751								87,751	0.0		
Diagnostic imaging					78,108								78,108	0.0		
Pharmaceuticals								98,160,834					98,160,834	1.2		
Pharmaceuticals that cannot be disaggregated								98,160,834					98,160,834	1.2		
Other medical non-durables (e.g. condoms)	300,000,000				300,000								300,300,000	3.7		
Prevention and public health programs	494,432,964				26,434,081	17,553,773			3,262,667,363				3,851,909,021	47.1		
PMCT treatment	52,783,838				43,422								53,080,259	0.6		
School health services													18,554,015	0.2		

**Table 5.5: Spending by Providers according to Function ... Continued**

Function	HP1.1.1	HP 1.1.2.1	HP 1.1.2.2***	HP 3.1-3.3	HP 3.4.5.1	HP 3.4.5.2+	HP3.9.3	HP4.1	HP5	HP6	HP7.1	HP nsk	Total THE	%	Providers of health related service	Providers of non health HIV/AIDS services
	Govt. Hospitals	Private hospitals for Profit	Private Hospitals not for Profit	Private clinics	Govt health centre and dispensaries	Private not for profit health centre and dispensaries	Traditional healer	Dispensaries and chemist	Provision and administration of public health programmes	General health administration and insurance	Establishment of occupational services	Provider not specified by any kind				
Prevention of communicable diseases	441,640,877		32,013,825		26,390,660	17,553,773			3,221,788,934				3,739,388,069	45.8		
Voluntary Counselling and Testing (VCT)	302,046,962		5,485,166										307,532,128	3.8		
Blood Safety	1,102,500								30,000				1,132,500	0.0		
Post exposure prophylaxis	462,000		198,000										660,000	0.0		
Information, Education, Communication Program (IEC)	61,693,976		26,330,660		26,330,660	17,553,773			69,169,646				201,078,715	2.5		
STI Prevention Program	76,298,313				60,000				524,809				76,883,122	0.9		
Condom Distribution Programs									200,425,031				200,425,031	2.5		
Other prevention programs (incl TB) and prevention that cannot be disaggregated	37,125								2,951,639,447				2,951,676,572	36.1		
Monitoring and Evaluation	8,250								40,878,429				40,886,679	0.5		
Health admin & insurance									14,600,000	25,013,331			39,613,331	0.5		
Not specified by any kind									222,670,557	-			222,670,557	2.7		
<b>Sub-Total column-THE</b>	<b>3,092,275,231</b>	<b>347,760,750</b>	<b>280,675,269</b>	<b>368,044,763</b>	<b>287,121,532</b>	<b>53,981,853</b>	<b>27,285,780</b>	<b>98,160,834</b>	<b>3,499,937,920</b>	<b>25,013,331</b>	<b>18,554,015</b>	<b>71,307,439</b>	<b>8,170,118,716</b>			
Total (THE) %	37.8	4.3	3.4	4.5	3.5	0.7	0.3	1.2	42.8	0.3	0.2	0.9	100.0			

**Table 5.5: Spending by Providers according to Function ... Continued**

Function	HP1.1.1	HP. 1.1.2.1	HP 1.1.2.2	HP 3.1.3.3	HP. 3.4.5.1	HP. 3.4.5.2	HP3.9.3	HP4.1	HP5	HP6	HP7.1	HP risk	Total THE	%	HP8	Providers of non health HIV/AIDS services
	Govt. Hospitals	Private hospitals for Profit	Private Hospitals not for Profit	Private clinics	Govt health centre and dispensaries	Private not for profit health centre and dispensaries	Traditional healer	Dispensaries and chemist	Provision and administration of public health programmes	General health administration and insurance	Establishment of occupational services	Provider not specified by any kind				
Research & Development															33,237,072	33,237,072
Food, hygiene and drinking water control (incl. nutritional support)															3,482,418	3,482,418
<b>Sub-Total column-NHE</b>	<b>3,092,275,231</b>	<b>347,760,750</b>	<b>280,675,269</b>	<b>368,044,763</b>	<b>287,121,532</b>	<b>53,981,853</b>	<b>27,285,780</b>	<b>98,160,834</b>	<b>3,499,937,920</b>	<b>25,013,331</b>	<b>18,554,015</b>	<b>71,307,439</b>			<b>8,206,838,206</b>	
Total (NHE) %	37.7	4.2	3.4	4.5	3.5	0.7	0.3	1.2	42.6	0.3	0.2	0.9	-	-	100.0	-
Services to orphans and vulnerable children																852,006,907
Psychosocial support																950,149,886
Sub-total column-THAE	3,092,275,231	347,760,750	280,675,269	368,044,763	287,121,532	53,981,853	27,285,780	98,160,834	3,499,937,920	25,013,331	18,554,015	71,307,439			10,006,994,999	
Total (THAE) %	30.9	3.5	2.8	3.7	2.9	0.5	0.3	1.0	35.0	0.2	0.2	0.7	-	-	-	100.0

## 5.5 Utilisation of Outpatient and Inpatient Services by HIV Positive Individuals sampled

### 5.5.1 Sample Characteristics

Table 5.6 provides the socio-demographic characteristics of the individuals interviewed. Of this sample, 61% were females and about a half (51%) had at least secondary education. The high percentage of females in the sample indicates that women are more likely than men to enrol in support groups. The HIV prevalence rate among women is higher (8.7%) compared to that of men (4.6%)<sup>31</sup>.

The distribution of urban and rural respondents in the sample was very close (48% and 52% respectively). The age distribution of the sample was collapsed into three age groups. Some 63% of the sample were between the ages of 25 and 39; about a quarter of the individuals interviewed were widowed (24%) and 45% were married. About 40% of those interviewed were working, while a quarter were homemakers.

**Table 5.6: Sample Characteristics**

Category	Number	%	Category	Number	%
<b>Province</b>			<b>Marital Status</b>		
Nairobi	145,953	13.9	Never Married	161,322	15.3
Central	121,803	11.6	Married	472,542	44.9
Coast	84,421	8.0	Divorced	61,915	5.9
Eastern	95,946	9.1	Widowed	253,757	24.1
North Eastern	591	0.1	Separated	89,952	8.5
Nyanza	327,657	31.1	Missing	13,766	1.3
Rift valley	194,343	18.4	<b>Total</b>	<b>1,053,254</b>	<b>100.0</b>
Western	82,541	7.8	Level of education		
Total	1,053,254	100	None	64,299	6.1
Rural/Urban status			Primary	446,763	42.4
Rural	551,116	52.3	Secondary	473,622	45.0
Urban	502,139	47.7	University	64,369	6.1
Total	1,053,254	100	ns	4,201	0.4
Sex			<b>Total</b>	<b>1,053,254</b>	<b>100.0</b>
Male	406,476	38.6	Employment Status		
Female	642,086	61.0	Working	417,608	39.6
Not Stated	4,692	0.4	On leave/sick	44,528	4.2
<b>Total</b>	<b>1,053,254</b>	<b>100.0</b>	Seeking work	109,824	10.4
Age in Years			Retired	15,463	1.5
15-24	99,453	9.4	Homemakers	268,142	25.5
25-39	663,237	63.0	Students	9,272	0.9
40-54	290,564	27.6	Other	167,006	15.9
<b>Total</b>	<b>1,053,254</b>	<b>100.0</b>	Missing	21,411	2.0
			<b>Total</b>	<b>1,053,254</b>	<b>100.0</b>

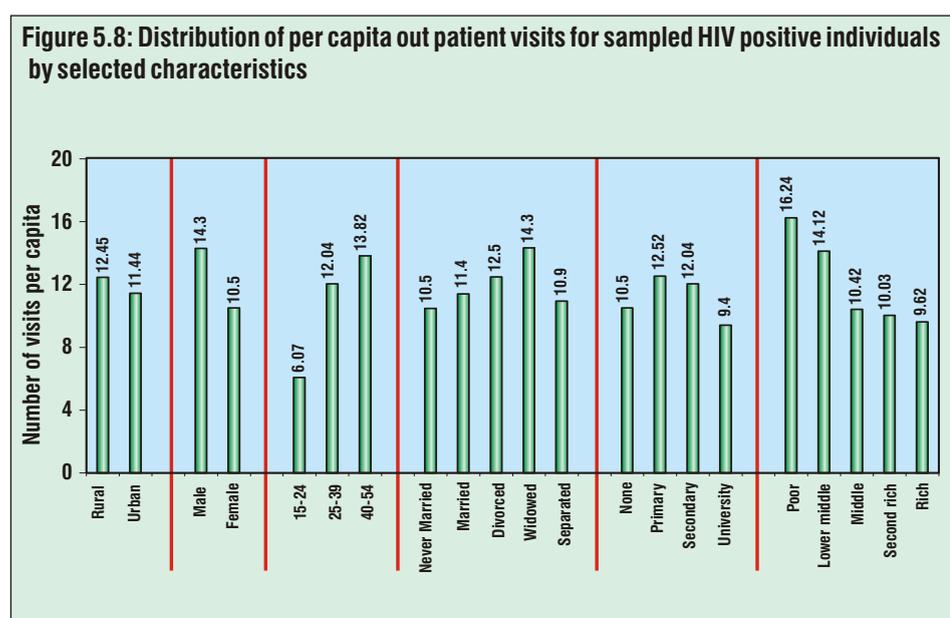
<sup>31</sup> KENYA  
Demographic and  
Health Survey, 2003

### 5.5.2 Annual per Capita Visits and Expenditures to Health Providers by Sero-positive Individuals

Outpatient visits in the four weeks preceding the survey were transformed into annual per capita use rates and these are presented in Figure 5.8 and Table 5.7. For the entire sample, the annual per capita use rate translated to 11.97 outpatient visits. This compares with a per capita use rate of 1.92 outpatient visits for the general population.

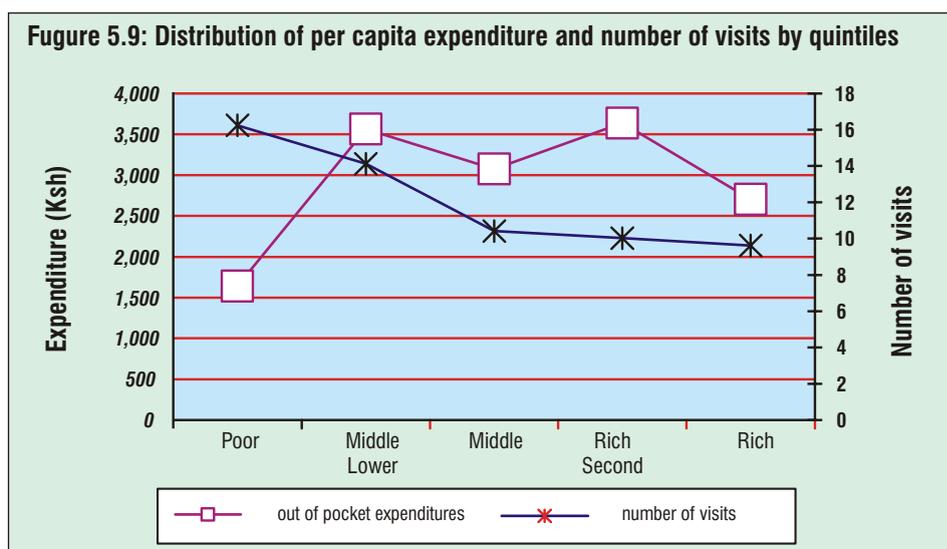
Some interesting findings emerge from the survey results. While women formed a greater proportion of the sample, males used more health care services per capita than females (14 and 10 visits respectively). Those living in urban areas made just about the same number of visits as those in rural areas.

Those who were widowed used more outpatient health care than the married while the lowest use rates were for those who were either never married or separated probably reflecting differences in health status.



Those in the poorest expenditure quintile had almost twice as many visits per capita as those in the richest expenditure quintile. However, it was noted that the poorest quintile actually had the lowest expenditure per capita (Figure 5.9). The lower number of visits accompanied by lower expenditures per capita among the respondents in the richest quintile means that this group may be having access to other services related to HIV management which are provided free by government and NGOs.

The highest level of healthcare use was found among those who had primary education. However, the difference in use was not substantial compared to the other educational categories.



While these findings cannot be generalized to the entire population that is HIV positive (results are not adjusted to reflect the various stages of HIV/AIDS progression), it is clear that once individuals who are HIV positive decide to seek care at a health facility or join support group they become high users of health care services.

Table 5.7 also shows that annual per capita outpatient health care expenditures by the respondents in the sample was KSh 2,939 which constituted a significant proportion of total household expenditures and was considerably above the average household per capita outpatient health expenditure of KSh 508 as reported by the total population.

Looking at the pattern of expenditures, it is seen that not only do males use more health services per capita; they also spend 1.6 times as much as females. Those living in urban areas spent nearly 1.3 times per capita as those living in rural areas. Individuals in the second richest expenditure quintile, the highest spending group, spent over twice as much as individuals in the poorest expenditure quintile while those who were widowed spent two times as much per capita as those who were divorced.

**Table 5.7: Per Capita Number of Visits and Out-of-pocket Expenditures on Outpatient Health Care**

Characteristic	Number	Per Capita number of visits	Per capita out-of-pocket expenditures
PROVINCE			
Nairobi	145,953	17.74	3,594.31
Central	121,803	11.57	4,038.04
Coast	84,421	7.87	1,204.82
Eastern	95,946	11.42	4,531.06
North Eastern	591	10.30	1,054.44
Nyanza	327,657	10.57	2,274.16
Rift valley	194,343	13.02	3,603.78
Western	82,541	10.24	1,171.78

**Table 5.7: Per Capita Number of Visits and Out-of-pocket Expenditures on Outpatient Health Care... Continued**

Characteristic	Number	Per Capita number of visits	Per capita out-of-pocket expenditures
Rural/Urban status			
Rural	551,116	12.45	2,556.56
Urban	502,139	11.44	3,359.21
Sex			
Male	406,476	14.30	3,849.03
Female	642,086	10.50	2,372.14
Not Stated	4,692	11.12	1,725.39
Age in Years			
15-24	99,453	6.07	1,503.29
25-39	663,237	12.04	3,054.00
40-54	290,564	13.82	3,168.71
Marital Status			
Never Married	161,322	10.48	2,647.17
Married	472,542	11.40	3,058.99
Divorced	61,915	12.48	1,693.41
Widowed	253,757	14.33	3,339.19
Separated	89,952	10.93	2,653.42
Missing	13,766	9.82	2,348.43
Level of education			
None	64,299	10.50	1,199.61
Primary	446,762	12.52	2,410.96
Secondary	473,622	12.04	3,504.06
University	64,369	9.40	3,309.79
NS	1,402	7.31	798.53
Employment Status			
Working	417,608	12.81	3,763.23
On leave/sick	44,528	16.52	5,217.70
Seeking work	109,824	10.52	2,004.36
Retired	15,463	10.33	6,562.33
Homemakers	268,142	9.19	2,190.31
Students	9,272	8.20	1,021.10
Other	167,006	14.44	2,002.29
Missing	21,410	11.73	1,825.49
Religion			
Catholic	329,848	12.75	3,519.36
Protestant	609,440	11.58	2,989.08
Muslim	47,026	11.63	693.00
Traditionalist	13,301	13.61	2,452.90
Atheist	3,168	14.33	3,648.09
Other	47,180	11.55	747.10
Not Stated	3,291	7.15	367.24
Insurance cover			
Insured	149,280	11.16	4,239.11
Not Insured	562,982	15.34	3,143.53
Not stated	340,992	6.75	2,032.84
Expenditure quintile			
Poor	202,155	16.24	1,637.96
Lower middle	182,440	14.12	3,565.04
Middle	280,031	10.42	3,073.69
Second rich	217,369	10.03	3,635.83
Rich	171,259	9.62	2,704.53
<b>Total</b>	<b>1,053,254</b>	<b>11.97</b>	<b>2,939.22</b>

### 5.5.3 Expenditures on Inpatient Health Care Services

The per capita cost of inpatient care for the sample of HIV positive respondents was KSh 1,531 as shown in Table 5.8. The distribution of inpatient health care expenditures per capita by quintile shows that, highest health expenditure was reported among individuals in the richest quintile, with expenditure almost 2.5 fold between the poorest and richest quintiles.

The distribution of per capita inpatient health care expenditures by residence shows that expenditures are higher in rural areas than urban areas probably as a result of longer length of stay. When the per capita expenditures are examined by demographic group, some gender imbalance is evident with males reporting higher expenditure while spending by those in the 25-39 year age group is considerably higher than those aged 15-24 years.

**Table 5.8: Per capita Expenditure on Inpatient Health Care**

Category	Number	Mean
<b>PROVINCE</b>		
Nairobi	145,953	4,347.62
Central	121,803	1,268.36
Coast	84,421	511.68
Eastern	95,946	856.79
North Eastern	591	672.22
Nyanza	327,657	972.66
Rift valley	194,343	1,576.71
Western	82,541	882.28
<b>Rural/Urban status</b>		
Rural	551,116	1,853.63
Urban	502,139	1,177.40
<b>Sex</b>		
Male	406,476	1,935.73
Female	642,086	1,273.52
Not Stated	4,692	1,756.82
<b>Age in Years</b>		
15-24	99,453	445.47
25-39	663,237	1,819.75
40-54	290,564	1,244.32
<b>Marital Status</b>		
Never Married	161,322	1,672.49
Married	472,542	1,527.89
Divorced	61,915	654.34
Widowed	253,757	1,833.86
Separated	89,952	1,052.01
Missing	13,766	1,488.00

Table 5.8: Per capita Expenditure on Inpatient Health Care .... Continued

Category	Number	Mean
<b>Level of education</b>		
None	64,299	880.70
Primary	446,762	1,014.79
Secondary	473,622	1,652.39
University	64,369	4,697.80
Nor specified	1,402	5,897.79
<b>Employment Status</b>		
Working	417,608	1,999.40
On leave/sick	44,528	5,881.52
Seeking work	109,824	414.46
Retired	15,463	2,797.14
Homemakers	268,142	710.85
Students	9,272	171.31
Other	167,006	1,280.64
Missing	21,410	984.51
<b>Religion</b>		
Catholic	329,848	1,601.54
Protestant	609,440	1,689.12
Muslim	47,026	352.09
Traditionalist	13,301	399.03
Atheist	3,168	1,621.98
Other	47,180	513.61
Not Stated	3,291	1,174.64
<b>Insurance cover</b>		
Insured	149,280	2,754.11
Not Insured	562,982	1,806.25
Not stated	340,992	541.83
<b>Expenditure quintile</b>		
Poor	202,155	1,082.94
Lower middle	182,440	1,981.20
Middle	280,031	1,259.30
Second rich	217,369	953.17
Rich	171,259	2,759.41
<b>TOTAL</b>	<b>1,053,254</b>	<b>1,531.24</b>



## Chapter 6: Conclusion

### Overall Health Spending

Health care financing in Kenya is complex, involving many health care stakeholders. The FY '02 National Health Accounts exercise has allowed the government to view this complexity in its entirety, not just public expenditures but private and donor as well thus serving as a useful dataset for evidenced-based planning purposes. In addition to the government, the NHA estimates can also serve to inform the programming processes of other key stakeholders such as donors, NGOs, and large insurance schemes.

In terms of the overall health resource envelope, Kenya spent 5.1% of its GDP on health, which is comparable to other countries in sub Saharan Africa (which averages 5.7%) but well below the OECD (high income countries) average of 9.8%. Per capita spending is KShs 1506 or US\$ 19, which is a 10% decline from spending level in 1998 (US \$21).

Financing for health care rests largely with households who contribute over half (51%) of all expenditures. This is significant considering that 56% of the population is considered poor, raising concerns about the financial accessibility of health care for those living below the poverty line. Findings from the NHA household health care utilisation and expenditure survey<sup>32</sup> show that the poor used fewer health services in comparison to the richest quintile. Over a third of the poor who were ill did not seek care compared to only 15% of the rich who did not seek care, suggesting that inability to pay is contributing to lower utilisation rates by the poor. Although public facilities received 60% of all health funds, public sources of funds only accounted for 30% of total health expenditures, or approximately 8% of all spending by the government. The share of public spending on health falls sizably short of the goal outlined in the Abuja declaration to spend 15% of government funds on health care. The other major financiers of health care in Kenya were the donor community, contributing 16% and employers, 3% of total health expenditures. Given the financial burden on households to pay for health care against the backdrop of poverty in Kenya and the sizably lower contribution of the government, the NHA findings raise concerns of equity and the need to explore alternative and sustainable financing mechanisms. Currently, the government is using the findings to inform its design of a social health insurance scheme as well as community health insurance programmes.

The flow of health funds through the system occurred through either direct transfer between financing sources and providers (51%) or through an intermediary/financing agent (49%)- testifying to the pluralistic nature of the health care system. The main entity involved in direct transfer of funds was households. Virtually all providers received funds from households; however these funds accounted for only one-third of all funds given to public providers

<sup>32</sup> Summarized in Household Health Expenditure and Utilisation Report 2003 published by the Ministry of Health.

as opposed to financing 77% of all private provider expenditures. The principal financing agent in the Kenyan health care system, or the entity with the programmatic control over the allocation of health funds, was the Ministry of Health, which transferred its funds to public providers. Examination of MoH spending by line item showed that the majority of public funds were spent on personnel costs (52% of MoH expenditures) perhaps to the detriment of other key patient- and quality-related inputs like pharmaceuticals (11% of MoH spending) as well as other medical supplies and upkeep of health facilities (10% of MoH spending). While other countries in the region observe similar proportions, it may be beneficial to pay closer attention to MoH resource allocation to determine the optimal combination of inputs for service delivery as well as a balance between human resources and other inputs.

As stated earlier, public providers were the largest consumer of health care funds, accounting for 60% of total health expenditures. Most of these expenditures were incurred at public hospitals, followed by public health centres. The MoH is using the NHA findings to assess and determine the most equitable distribution of its resources at public facilities. Private providers and others accounted for the remaining expenditures. Private hospitals consumed the largest share of private provider expenditure (15% of THE), followed by private clinics (11%) and pharmacies (11%). Traditional healers played a relative minor role in overall fund consumption accounting for only 2% of the THE.

The nation's health resources were spent in large part on curative care, principally on outpatient services (45%) delivered in both the public and private sector. This was followed by inpatient care (32%) delivered in largely the public sector. Spending on prevention and public health programmes only accounted for 9% of overall health spending and 20% of MoH total spending on health.

### **HIV/AIDS Spending**

In addition to examining sector-wide spending on health care, the GoK also addressed the spending patterns with respect to the critical policy issue of financing and delivering HIV/AIDS health care. With an adult prevalence rate of 6.7%, Kenya has felt the impact of the disease, which accounts in large part for the 15-year drop in life expectancy in just the span of 10 years (from 62 years in 1990 to 47 years in 2001). Given this catastrophic impact, the Government of Kenya is committed to stemming the spread of the disease. Through the implementation of the NHA HIV/AIDS subanalysis, the GoK was interested in obtaining expenditure information to guide their strategic planning in the area of HIV/AIDS health care and to establish a baseline dataset that will be able to help analyze the impact of allocations of recent large-scale donor commitments (e.g. the Global Fund, the President's Emergency Program for AIDS Relief).

Findings from the NHA HIV/AIDS subanalysis showed that the country spends approximately 17% of its health funds on HIV/AIDS (equivalent to 1% of the GDP). This amounts to KShs 8,314 or US \$105.80 per person living with HIV/AIDS. Such a resource envelope is certainly not adequate for the scaling up of anti-retroviral therapies (ARTs) which is estimated to cost \$480 per PLWHA.

In contrast to the financing patterns for overall health care, HIV/AIDS financing rests largely with the donor community who contributed over 51% of all HIV expenditures, followed by households (26%), the Government (21%) and other sources (1%). When comparing these spending patterns to those exhibited for overall health care, the investigators observed that over half of all donor spending on health care was targeted for HIV/AIDS. This raises two concerns: 1) whether such spending amounts is sustainable given the long-term challenges posed by HIV/AIDS- keeping in mind that the findings presented in this report represent donor expenditures prior to the influx of large-scale funds from the Global Fund, PEPFAR and so forth, and 2) whether donor funding for HIV/AIDS has taken away from or hurt spending on other priority programmes such as Malaria, another major cause of morbidity and mortality in the country.

Although financing by households/or people living with HIV/AIDS may not contribute the largest share of the total health expenditures, this share is by no means insignificant-particularly in the context of addressing the issue of equity. PLWHA spend approximately three times more on health care than the general population in Kenya. These individuals (HIV+) who account for approximately 3% of the national population spend 8% of total out-of-pocket spending on health, raising serious concerns on the burden of health care financing for PLWHAs. Further investigation into the types of inequities revealed that not only do men infected with HIV use more health services per capita but they also spend 1.6 times as much as infected females. This pattern is contrary to that seen among men and women in the general Kenyan population, where women tend to use more services than men. Also, those living in urban areas spent nearly 1.3 times per capita as those living in rural areas.

In terms of where households are spending their HIV/AIDS funds, they account for close to half of all curative expenditures in the country (46%). Donors on the other hand mainly finance prevention and public health programmes for HIV/AIDS via the Ministry of Health as a financing agent.

Overall, the majority of HIV/AIDS resources were consumed by public providers (78% of THE for HIV/AIDS) - these funds largely went to the provision of prevention and public health programmes (approximately 40%) followed by curative care. Private provider received only 21% of all HIV/AIDS resources the bulk of which was used for curative care services.

## Next Steps

In summary, the general and HIV/AIDS NHA findings reflect a need to address the issue of equitable resource allocation. To this end, the GoK is using the findings to inform its resource allocation formulas for the development of the social health insurance plan, community based health insurance schemes, and the distribution of MoH funds among public facilities. The MoH also plans to use the findings to carry out further analysis into the efficiency of hospital-based service delivery in order to monitor more closely the consumption of resources against outputs.

The GoK is committed to institutionalizing the NHA process, so that estimates like the ones presented in this report can be produced on a regular basis, as part of a requirement for evidence-based policymaking. Subsequent NHAs will aid in establishing trend data to monitor the effects of major health policy interventions, such as decentralisation of the health sector and the disbursement of large amounts of HIV/AIDS funds during the scale-up of ART delivery.



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# Annexes

**Annex 1: Allocation of the clusters and households, response rates by province, district and place of residence**

Province/District	Number of Clusters selected			Households selected			Responding Households			% of Households Responding		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
<b>Nairobi</b>	<b>0</b>	<b>90</b>	<b>90</b>	<b>0</b>	<b>1,080</b>	<b>1,080</b>	<b>0</b>	<b>940</b>	<b>940</b>	<b>0</b>	<b>87.0</b>	<b>87.0</b>
Kiambu	12	5	17	144	60	204	143	60	203	99.3	100.0	99.5
Kirinyaga	12	1	13	144	12	156	143	12	155	99.3	100.0	99.4
Murang'a	11	1	12	132	12	144	129	11	140	97.7	91.7	97.2
Nyandarua	11	2	13	132	24	156	132	24	156	100.0	100.0	100.0
Nyeri	12	4	16	144	48	192	142	48	190	98.6	100.0	99.0
Thika	11	5	16	132	60	192	131	60	191	99.2	100.0	99.5
Maragua	13	0	13	156	0	156	156	0	156	100.0	0.0	100.0
<b>Central</b>	<b>82</b>	<b>18</b>	<b>100</b>	<b>984</b>	<b>216</b>	<b>1,200</b>	<b>976</b>	<b>215</b>	<b>1191</b>	<b>99.2</b>	<b>99.5</b>	<b>99.3</b>
Kilifi	12	3	15	144	36	180	134	21	155	93.1	58.3	86.1
Kwale	12	3	15	144	36	180	111	33	144	77.1	91.7	80.0
Lamu	6	2	8	72	24	96	57	24	81	79.2	100.0	84.4
Mombasa	0	20	20	0	240	240	0	227	227	0.0	94.6	94.6
Taita Taveta	8	4	12	96	48	144	68	40	108	70.8	83.3	75.0
Tana River	8	1	9	96	12	108	85	10	95	88.5	83.3	88.0
Malindi	7	4	11	84	48	132	82	46	128	97.6	95.8	97.0
<b>Coast</b>	<b>53</b>	<b>37</b>	<b>90</b>	<b>636</b>	<b>444</b>	<b>1,080</b>	<b>537</b>	<b>401</b>	<b>938</b>	<b>84.4</b>	<b>90.3</b>	<b>86.9</b>
Embu	5	3	8	60	36	96	60	35	95	100.0	97.2	99.0
Isiolo	3	2	5	36	24	60	35	24	59	97.2	100.0	98.3
Kitui	8	2	10	96	24	120	96	24	120	100.0	100.0	100.0
Makueni	11	1	12	132	12	144	128	12	140	97.0	100.0	97.2
Machakos	11	1	12	132	12	144	130	12	142	98.5	100.0	98.6
Marsabit	4	1	5	48	12	60	47	12	59	97.9	100.0	98.3
Mbeere	6	0	6	72	0	72	67	0	67	93.1	0.0	93.1
Meru Central	7	3	10	84	36	120	80	31	111	95.2	86.1	92.5
Moyale	2	1	3	24	12	36	24	12	36	100.0	100.0	100.0

**Annex 1: Allocation of the clusters and households, response rates by province, district and place of residence ... Continued**

Province/District	Number of Clusters selected			Households selected			Responding Households			% of Households Responding		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Mwingi	7	1	8	84	12	96	83	12	95	98.8	100.0	99.0
Meru North	10	0	10	120	0	120	115	0	115	95.8	0.0	95.8
Tharaka	5	0	5	60	0	60	60	0	60	100.0	0.0	100.0
Meru South	6	0	6	72	0	72	72	0	72	100.0	0.0	100.0
<b>Eastern</b>	<b>85</b>	<b>15</b>	<b>100</b>	<b>1,020</b>	<b>180</b>	<b>1,200</b>	<b>997</b>	<b>174</b>	<b>1171</b>	<b>97.7</b>	<b>96.7</b>	<b>97.6</b>
Garissa	10	4	14	120	48	168	119	43	162	99.2	89.6	96.4
Mandera	11	4	15	132	48	180	111	48	159	84.1	100.0	88.3
Wajir	13	3	16	156	36	192	155	36	191	99.4	100.0	99.5
<b>North Eastern</b>	<b>34</b>	<b>11</b>	<b>45</b>	<b>408</b>	<b>132</b>	<b>540</b>	<b>385</b>	<b>127</b>	<b>512</b>	<b>94.4</b>	<b>96.2</b>	<b>94.8</b>
South Kisii	80	8	96	0	96	94	0	94	97.9	97.9	97.9	
Homa Bay	7	1	8	84	12	96	84	12	96	100.0	100.0	100.0
Central Kisii	8	1	9	96	12	108	94	12	106	97.9	100.0	98.1
Kisumu	4	7	11	48	84	132	46	84	130	95.8	100.0	98.5
Kuria	5	1	6	60	12	72	60	12	72	100.0	100.0	100.0
Migori	8	2	10	96	24	120	94	24	118	97.9	100.0	98.3
North Kisii	6	3	9	72	36	108	63	28	91	87.5	77.8	84.3
Rachuonyo	7	1	8	84	12	96	84	12	96	100.0	100.0	100.0
Siaya	9	1	10	108	12	120	106	12	118	98.1	100.0	98.3
Suba	6	0	6	72	0	72	72	0	72	100.0	0.0	100.0
Bondo	7	0	7	84	0	84	84	0	84	100.0	0.0	100.0
Nyando	7	1	8	84	12	96	83	12	95	98.8	100.0	99.0
<b>Nyanza</b>	<b>82</b>	<b>18</b>	<b>100</b>	<b>984</b>	<b>216</b>	<b>1,200</b>	<b>964</b>	<b>208</b>	<b>1172</b>	<b>98.0</b>	<b>96.3</b>	<b>97.7</b>
Baringo	5	1	6	60	12	72	60	12	72	100.0	100.0	100.0
Bomet	7	0	7	84	0	84	84	0	84	100.0	0.0	100.0
Keiyo	4	0	4	48	0	48	48	0	48	100.0	0.0	100.0

**Annex 1: Allocation of the clusters and households, response rates by province, district and place of residence .... Continued**

Province/District	Number of Clusters selected			Households selected			Responding Households			% of Households Responding		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Kajiado	5	2	7	60	24	84	59	23	82	98.3	95.8	97.6
Kericho	7	1	8	84	12	96	83	10	93	98.8	83.3	96.9
Koibatek	3	1	4	36	12	48	35	12	47	97.2	100.0	97.9
Laikipia	5	2	7	60	24	84	60	23	83	100.0	95.8	98.8
Marakwet	4	0	4	48	0	48	48	0	48	100.0	0.0	100.0
Nakuru	8	5	13	96	60	156	95	59	154	99.0	98.3	98.7
Nandi	8	0	8	96	0	96	96	0	96	100.0	0.0	100.0
Narok	6	1	7	72	12	84	68	12	80	94.4	100.0	95.2
Samburu	3	1	4	36	12	48	31	10	41	86.1	83.3	85.4
Trans Mara	4	0	4	48	0	48	47	0	47	97.9	0.0	97.9
Trans Nzoia	7	1	8	84	12	96	84	12	96	100.0	100.0	100.0
Turkana	7	1	8	84	12	96	82	12	94	97.6	100.0	97.9
Uasin Gishu	5	4	9	60	48	108	59	47	106	98.3	97.9	98.1
West Pokot	4	1	5	48	12	60	48	12	60	100.0	100.0	100.0
Buret	6	0	6	72	0	72	71	0	71	98.6	0.0	98.6
<b>Rift Valley</b>	<b>98</b>	<b>21</b>	<b>119</b>	<b>1,176</b>	<b>252</b>	<b>1,428</b>	<b>1,158</b>	<b>244</b>	<b>1,402</b>	<b>98.5</b>	<b>96.8</b>	<b>98.2</b>
Bungoma	12	4	16	144	48	192	140	43	183	97.2	89.6	95.3
Busia	7	3	10	84	36	120	85	35	120	101.2	97.2	100.0
Mount Elgon	7	1	8	84	12	96	84	12	96	100.0	100.0	100.0
Kakamega	13	2	15	156	24	180	153	23	176	98.1	95.8	97.8
Lugari	6	2	8	72	24	96	71	24	95	98.6	100.0	99.0
Teso	5	3	8	60	36	96	56	36	92	93.3	100.0	95.8
Vihiga	11	3	14	132	36	168	131	36	167	99.2	100.0	99.4
Butere/Mumias	11	3	14	132	36	168	132	36	168	100.0	100.0	100.0
<b>Western</b>	<b>72</b>	<b>21</b>	<b>93</b>	<b>864</b>	<b>252</b>	<b>1,116</b>	<b>852</b>	<b>245</b>	<b>1,097</b>	<b>98.6</b>	<b>97.2</b>	<b>98.3</b>
<b>National Total</b>	<b>506</b>	<b>231</b>	<b>737</b>	<b>6,072</b>	<b>2,772</b>	<b>8,844</b>	<b>5,869</b>	<b>2,554</b>	<b>8,423</b>	<b>96.7</b>	<b>92.1</b>	<b>95.2</b>

**Annex 2: Distribution of number of Patients/clients in Hospitals interviewed**

<b>PROVINCE</b>	<b>Inpatients</b>	<b>Outpatient TB-clinics</b>	<b>Total Clients</b>
<b>Kiambu:</b>			
Kiambu District Hospital	10	5	15
Kijabe AIC Hospital	7	5	12
<b>Maragua:</b>			
Maragua DH	8	4	12
Gaichanjiru Mission Hospital	4	3	7
<b>Muranga:</b>			
Muranga District Hospital	11	7	18
<b>Nyandarua:</b>			
Nyahururu District Hospital	4	3	7
<b>Nyeri:</b>			
Nyeri Provincial General Hospital	16	11	27
Tumutumu Hospital	8	5	13
<b>Thika:</b>			
Thika District Hospital	10	6	16
Central Memorial Hospital	1	1	2
<b>CENTRAL</b>	<b>80</b>	<b>50</b>	<b>129</b>
<b>Nairobi:</b>			
Kenyatta National Hospital	64	43	107
Mbagathi District Hospital	8	6	14
Pumwani Maternity Hospital	12	8	20
St. James Hospital	4	2	6
<b>NAIROBI</b>	<b>88</b>	<b>58</b>	<b>147</b>
<b>Kilifi:</b>			
Kilifi District Hospital	5	4	9
<b>Kwale:</b>			
Msambweni District Hospital	4	2	6
<b>Mombasa:</b>			
Coast Provincial General Hospital	18	12	30
Aga Khan Hospital	4	2	6
<b>Tana River:</b>			
Hola district Hospital	6	4	10
<b>COAST</b>	<b>37</b>	<b>24</b>	<b>61</b>
<b>Embu:</b>			
Embu Provincial General Hospital	12	8	20

## Annex 2: Distribution of number of Patients/clients in Hospitals interviewed ..... Continued

PROVINCE	Inpatients	Outpatient TB-clinics	Total Clients
<b>Kitui:</b>			
<b>Kitui DH</b>	10	5	15
Mutomo Mission Hospital	5	3	8
<b>Machakos:</b>			
Machakos District Hospital	14	9	23
<b>Meru central:</b>			
Meru District Hospital	9	6	15
Consolata Nkubu Hospital	9	6	15
<b>Meru North:</b>			
Meru North DH (Nyambene)	8	4	12
Maua (Methodist) Hospital	7	5	11
<b>EASTERN</b>	<b>73</b>	<b>45</b>	<b>118</b>
<b>Garissa:</b>			
Garissa Provincial General Hospital	5	3	8
<b>N/EASTERN</b>	<b>5</b>	<b>3</b>	<b>8</b>
<b>Gucha:</b>			
<b>Gucha DH</b>	10	5	15
Tabaka Mission Hospital	6	4	10
<b>Kisii:</b>			
<b>Kisii DH</b>	10	6	16
Christina Mariana Hospital	7	5	12
<b>Kisumu:</b>			
Provincial General Hospital, Kisumu	18	12	30
<b>Migori:</b>			
<b>Migori DH</b>	8	4	12
St. Joseph Mission Hospital, Ombo	6	4	10
<b>Nyamira:</b>			
Nyamira District Hospital	7	4	11
<b>Rachuonyo:</b>			
<b>Rachuonyo DH</b>	8	5	13
Kendu (SDA) Hospital	6	4	10
<b>Siaya:</b>			
Siaya District Hospital	7	5	12
<b>NYANZA</b>	<b>93</b>	<b>58</b>	<b>151</b>
<b>Buret:</b>			
<b>Buret DH</b>	8	4	12
Kaplong Catholic Hospital	7	5	12
<b>Kajiado:</b>			
Kajiado District Hospital	3	2	5

## Annex 2: Distribution of number of Patients/clients in Hospitals interviewed ..... Continued

PROVINCE	Outpatient Inpatients	Total TB-clinics	Clients
<b>Kericho:</b>			
Kericho DH	10	6	16
St. Leonard Hospital	4	3	7
<b>Marakwet:</b>			
Marakwet DH	6	2	8
Kapsowar (AIC) Hospital	6	4	10
<b>Nakuru:</b>			
Provincial General Hospital, Nakuru	18	12	30
Molo	4	3	7
Pine Breeze Hospital	3	2	5
<b>Nandi:</b>			
Kapsabet Dist Hosp	7	5	12
<b>Trans-Nzoia:</b>			
Kitale District Hospital	14	9	23
Kitale Cottage Hospital	3	2	5
<b>Uasin Gishu:</b>			
Moi referral Eldoret	13	9	22
Plateau (PCEA) Mission Hospital	3	2	5
<b>R/VALLEY</b>	<b>110</b>	<b>70</b>	<b>180</b>
<b>Vihiga:</b>			
Vihiga DH	10	6	16
Kaimosi (friends) Hospital	5	3	8
<b>Kakamega:</b>			
Provincial General Hospital, Kakamega	8	6	14
<b>Busia:</b>			
Busia District Hospital	6	4	10
Nangina Mission Hospital	1	1	2
<b>Bungoma:</b>			
Bungoma District Hospital	7	4	11
<b>WESTERN</b>	<b>37</b>	<b>24</b>	<b>61</b>
<b>Total</b>	<b>522</b>	<b>333</b>	<b>855</b>

### **Annex 3: Kenya's NHA Conceptual Framework**

The compilation of National Health Accounts (NHA) estimates for Kenya follows essentially the framework used in NHA work by most countries. The conceptual framework and structure for Kenya's NHA was developed according to the following criteria:

- It should be policy relevant and easily interpretable by health sector policy makers;
- It should be compatible with international practice and norms;
- Categories used in classifications must be mutually exclusive and;
- It should be feasible to estimate given data availability.

#### **Health Expenditure Definition**

Health expenditures were defined as all expenditures or outlays for prevention, promotion, rehabilitation, and care; population activities; nutrition, and programmes for the specific and predominant objective of improving health.

#### **Base Year for NHA**

Kenya's NHA were estimated for the financial year 2001/ 02. This year was chosen, as it is the latest for which Government appropriation accounts were available. The Government fiscal year runs from July 1 through June 30.

#### **Currencies**

All amounts are given in Kenyan Shillings (KSh) unless otherwise indicated. Any conversion to foreign currency, mainly US\$, was made using the average market exchange rate for the 2001/2002 year as published by the CBS Economic Survey. The rate used was 78.6 KSh for every 1 US\$.

#### **Classifications**

In Kenya's NHA, expenditures were measured and organized on the basis of the entities making the expenditures, and those entities passing or using the expenditures. The classification of entities within Kenya's health care system was thus critical for estimating and structuring NHA. Three sets of entities can be defined as financing sources, financing agents and providers.

**(a) Financing Sources**

Financing sources are defined as entities, which ultimately bear the expenses of financing the health care system.

**(b) Financing agents**

Financing agents are defined as entities, which pass funds from financing sources to other financing agents or providers in order to pay for the provision of health services.

**(c) Providers**

Providers are defined as institutional entities that produce and provide health care goods and services, which benefit individuals or population groups.

**(d) Functions**

Functions are health care activities or services rendered by health care providers to alleviate the health problems of individuals or population and/or activities undertaken by population group with the primary objective of improving or maintaining health.

## Annex 4: Estimation of Health Expenditure

Total health expenditure was estimated as the sum of several components, each estimated independently using a mix of methods. The components were:

- *Households Health Expenditure;*
- *Donors*
- *Private firms;*
- *Public Sector: Ministry of Health, Local Authorities and Parastatals;*
- *Insurance (Public and Private);*
- *Health Care Providers (For-profit health facilities, Not-for-profit health facilities, public health facilities and Traditional healers);*
- *Non-Governmental Organisations (NGOs) involved in health; and*
- *Individuals with HIV/AIDS identified from health facilities and support groups.*

Note, for the general NHA, the NHA tables presented show two different totals, one called Total Health Expenditure (THE) and another called National Health Expenditure (NHE). In accordance with the *Producer's Guide*, THE includes only those expenditures that contribute toward (HC1-HC7, HCR1). NHE refers to THE plus additional health-related items that the GoK chose to also track. As the THE estimate is used for international comparisons, this report specifically discusses the THE totals only.

With respect to the HIV/AIDS subanalysis, an additional total can also be seen in the NHA tables- called THAE- Total HIV/AIDS Expenditures. This refers to both health and non-health expenditures on HIV/AIDS. Again, for purposes of this report, the THE for HIV/AIDS was principally discussed.

### Household expenditures on health care services

These were defined as all expenditures by households to purchase medical goods and services from health providers. The goods and services included all services and goods directly provided by health providers, expenditures for the services of traditional healers as well as expenditures for the services of other health providers, such as chemists/pharmacists.

The annual total volume of outpatient visits (from the sample) to health providers was estimated by multiplying the total number of visits reported in the four weeks preceding the survey by thirteen (52 weeks in a year / 4 weeks recall period). The resulting figure was extrapolated to cover the entire population. During the four week recall period, the number of outpatient visits was compared to the reported costs. From these results, average cost per outpatient visit was obtained. Household expenditures for outpatient services were estimated as the product of the estimated annual volume of outpatients' visits and the estimated average cost associated with those visits. These estimates were then deflated to yield estimates for the period 2001/02 using the Medical price index (produced by Central Bureau of Statistics). Similar procedure was used to arrive at the household inpatient expenditure costs.

## Donors

All the donors financing health activities were surveyed. The completed questionnaires had details of expenditures classified according to financing agent and the subsequent type of service and support rendered. These data, after obtaining the aggregate expenditure from all donors by relevant categories were entered into the matrices.

## HIV/AIDS Estimation

The number of HIV positive targeted population (15-49 years) was estimated using the prevalence rates as reported by the Kenya Demographic and Health Survey, 2003 and the projected targeted population on a provincial basis.

This was achieved by follows:

Let  $r_h$  be the proportion of the population aged 15-49 years with HIV/AIDS in the  $h$ -th province as observed in the KDHS sample. If the projected population aged 15-49 years in 2003 in the  $h$ -th province is  $P_h$ , then the estimated HIV/AIDS population in this age range,  $P(HIV)_h$  is given by:

$$P(HIV)_h = r_h.P_h$$

The resulting figures are shown in the table below. It was estimated that there were 1,053,254 HIV/AIDS positive persons aged 15-49 years in the country.

Province	% Positive Prevalence	Population Aged 15-49	Population Aged 15-49 HIV +	Sample (15-49 Years)	Weight for the Population 15-49 Years
Nairobi	9.1	1,603,874	145,953	484	301.5548
Central	5.9	2,064,450	121,803	207	588.4181
Coast	6.0	1,407,017	84,421	196	430.7195
Eastern	4.1	2,340,140	95,946	151	635.4023
North Eastern	0.0	591,377	591	27	21.90285
Nyanza	14.0	2,340,407	327,657	326	1005.083
Rift Valley	5.2	3,737,367	194,343	290	670.1486
Western	5.0	1,650,815	82,541	219	376.8984
<b>Total</b>	<b>6.7</b>	<b>15,735,447</b>	<b>1,053,254</b>	<b>1,900</b>	<b>-</b>

Assuming that the HIV/AIDS positive patients in the survey constituted a random sample from the population HIV/AIDS aged 15-49 years, then, if the number of the patients selected for the HIV/AIDS in the survey in the  $h$ -th province is  $n_h$ , then the probability for selection of an HIV/AIDS patient from the province is given by:

$$Pr (HIV/AIDS) = n_h / P(HIV)_h$$

The inverse of this quantity was adjusted for non-response and was used for expansion of the sample to the HIV/AIDS population in the country.

Assuming a constant HIV prevalence (overall 6.7%), the average of the number of HIV positive population aged 15-49 years for 2001 and 2002 was calculated to yield an estimate for the period 2001/2002, the period under review.

The HIV+ inpatient and outpatient expenditures were apportioned. Initially, the number of visits and the corresponding costs during the four weeks preceding the survey were obtained. From these figures, average expenditure was calculated. This average cost was then used in order to obtain total estimated expenditure for the entire HIV +ve population.

However, it was apparent that subjecting the estimated HIV+ population to the average expenditure as obtained from the sample surveyed would, no doubt, overestimate the total HIV expenditures. According to the survey data on PLWHAs, 27% of the total PLWHAs sample had been admitted in the one year recall period. This proportion was assumed to be in critical stages three and four of the disease. This is further collaborated by the work done by others which estimate that the proportion in stages 3 and 4 is between 25-35%.

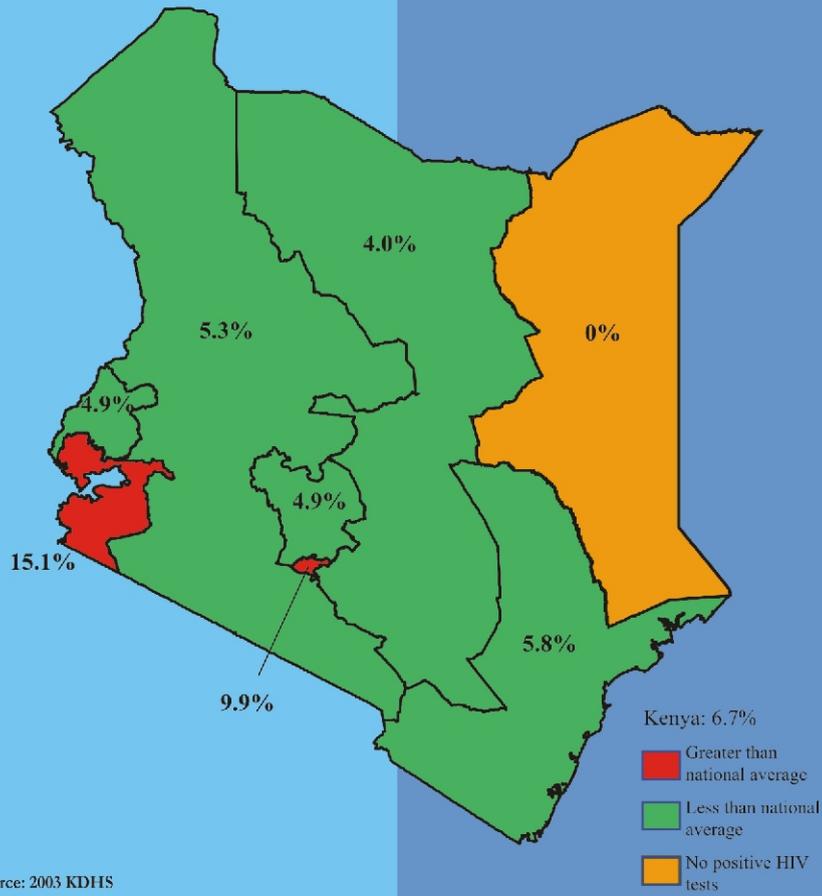
Thus, the estimated population was broken down into two categories: one constituting 27% of the HIV +ve population and subsequently subjected to the average expenditure found among the sampled population while the remaining 73% was subjected to the average expenditure applicable to the general population based on the data from the household survey. This procedure was applied in the estimation of both outpatient and inpatient expenditures.

In order to split the MoH HIV expenditures for inpatient, workload statistics obtained from the Health Information Systems were used. First, since the HIV questionnaire covered respondents aged 15-49 years, a review of the distribution of inpatients by age group showed that this age bracket constituted about 41% of total inpatients. In addition, when the causes of admissions were analysed, it was apparent that about 23% of them were due to HIV and associated conditions.

These figures were then used to make estimates for MoH HIV expenditures by multiplying the total MoH HIV expenditures by 0.41 and then by 0.23. The MoH HIV outpatient expenditures were assumed to be shared out according to HIV prevalence. Hence the outpatient expenditure was obtained by multiplying the total outpatient expenditure by 6.7%, the HIV prevalence.



### HIV Prevalence by Province



Source: 2003 KDHS

