

Republic of Kenya



Ministry of Health

Kenya

Household Health Expenditure and Utilisation Survey Report

2007

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Foreword

This is Kenya's second Household Health Expenditure and Utilisation Survey, the first having been conducted in 2003. The survey findings continue to attract the attention of policymakers, health managers, and health stakeholders alike.

Public policymakers and stakeholders are debating the best arrangements of financing health and how best to organise and deliver health services. This entails efficient allocation of scarce resources and works towards a healthier society.

To achieve effective and efficient health management, it is crucial to assess the utilisation of health services, as well as out-of-pocket expenditures on health at the national and regional levels, and by socioeconomic and demographic groups. An analysis of the use of health care is relevant because of the high priority the government places on equity in the provision of its services. In addition, information on household health expenditure is important because of its significant contribution to the financing of health services. This survey, therefore, should be regarded as an important tool for identifying the size of out-of-pocket health expenditures and guiding current and future reforms of health financing.

This survey addresses a set of interrelated questions. What are the determinants of utilisation? How do rich and poor individuals make decisions about their treatment? What are the implications for equitable access to health care and health status of the people across wealth quintiles?

Health systems deliver services aimed at making a difference in people's health – improved health status can enable poor households to escape poverty. However, the financial burden of high out-of-pocket payments at the time of health care utilisation – especially in the case of chronic or catastrophic care – can consume a major portion of household income, forcing household members to reduce spending on other needs, perhaps pushing them into poverty, or, alternatively, preventing the sick individual from seeking or obtaining care.

Therefore, it is a major challenge for health systems to protect households from the excessive health expenditure that risks impoverishing them, and to ensure that the population seeks and receives health services when needed. This means getting away from reliance on out-of-pocket payments and instituting financial

risk protection measures. Improving health systems is critical to meet this challenge.

I strongly hope that this survey will be useful for all stakeholders and actors in the health sector and extend my sincere thanks to all who made invaluable contribution to the survey.

Hon. Prof. Peter Anyang' Nyong'o, EGH, MP
Minister for Medical Services

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Abbreviations and Acronyms

AIDS	Acquired Immunodeficiency Syndrome
ALOS	Average Length of Stay
EA	Enumeration Area
FBO	Faith-based Organisation
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
KNBS	Kenya National Bureau of Statistics
NASSEP	National Sample Survey Evaluation Programme
NHA	National Health Accounts
NHIF	National Health Insurance Fund
NHSSP	National Health Sector Strategic Plan
OOP	Out-of-Pocket
SPSS	Statistical Package for Social Scientists
USAID	United States Aid for International Development

Map of Kenya



Executive Summary

Introduction

The 2007 Household Health Expenditure and Utilisation Survey was undertaken as part the National Health Accounts (NHA) estimation. NHA estimates give information not only on the distribution of health funding by financing sources but also by the entities through which the funds pass (financing agents), the health services providers that consume the funds, and ultimately the health functions on which the funds are spent. Households are key sources and also “managers” of funds because they exercise control over where the funds are spent. Thus, households are important actors in the overall health accounts.

Objectives: The overarching goal of the survey was to obtain information on household health care utilisation and expenditures in Kenya. Specifically, the following were the key objectives:

- a) To document health care seeking behaviour amongst the Kenyan population and assess how care seeking behaviour varied with demographic characteristics;
- b) To collect detailed information on health care service utilisation;
- c) To gain insight into the health expenditures made by the household members when they consult health care providers and analyse how these expenditures vary with socioeconomic and demographic characteristics and type of health care sought;
- d) To investigate patterns of outpatient and inpatient health care use and choice and perception of provider type.

Survey implementation: This household survey was implemented by the Ministry of Health in collaboration with the Kenya National Bureau of Statistics. Financial support for the survey was provided by the United States Agency for International Development (USAID). The USAID Health Systems 20/20 project, led by Abt Associates Inc., provided technical assistance.

Methodology and Response Rates

The Household Health Expenditure and Utilisation Survey was a nationally representative sample survey. It covered Kenya's eight provinces and all its districts. In all, 737 clusters were selected; 506 (68.7 percent) were rural and 231 urban. In each cluster, 12 households were systematically randomly selected; whenever possible, the households selected for the 2007 survey were the same households that had been interviewed in the 2003 survey. The sample, therefore, consisted of 8,844 households, 6,072 of them rural and 2,772 urban. A total of 8,453 households were successfully interviewed, giving a response rate of 96 percent; this ranged, however, from 89 percent in Western province to 98 percent in Rift Valley province. Data collection was carried out in September and October 2007.

Demographic Characteristics

Age distribution: Survey results showed almost an equal proportion of female (51 percent) and male (49 percent) respondents. A large proportion of household members are young: the population age less than 15 years is 42 percent, while those under 25 years represent 62 percent. Only 4 percent are 65 years and over.

Household size: The poorest households have the highest household size (5.2 persons); the richest households average 3.7 persons. Rural areas have bigger households (4.8) than urban areas (3.6). Regionally, the largest household size is in North Eastern province (5.4 persons), smallest in Nairobi (3.5 persons). Overall, the average household size for Kenya is 4.5 persons which compares favourably with the 4.4 persons found in the Kenya Demographic and Health Survey 2003.

Household Amenities

Water supply: Overall, 61 percent of all households in Kenya have access to safe drinking water: 91 percent of the urban households have access to safe drinking water, compared with 51 percent of rural ones.

Toilet facility: Eighty-seven percent of Kenya households have a toilet facility. The most common type of toilet facility is the pit latrine, reported by two thirds (66 percent) of the households. A higher proportion of households (98 percent) in urban areas have toilet facilities compared with 83 percent in rural areas. Sixteen

percent of rural households report no toilet facilities compared with about 1 percent in urban areas.

Cooking fuel: Firewood is overwhelmingly used for cooking in most households (67 percent): 86 percent of rural households use firewood for cooking compared with only 7 percent in urban areas. Charcoal (17 percent of households) is the next most frequently used fuel, followed by kerosene (12 percent of households).

Lighting fuel: Nearly three out of four households (74 percent) use kerosene for lighting, followed by electricity (19 percent of households).

Utilisation of Outpatient Health Care Services

Overall, 15 percent of all individuals reported an illness during the four-week recall period for outpatient care. Of these, 84 percent sought health care. This is significantly higher than the 78 percent of sick people who got care in 2003. Amongst those who did not seek care in 2007, over a third (38 percent) identified lack of money as the reason while another third said they self-medicated.

During the recall period, 7.4 million outpatient visits were made to health care providers for treatment of illness. This gives an average utilisation rate of 20 visits per 100 people and 132 visits per 100 sick people. Using these figures and assuming that the seasonal variation in the level of utilisation was not marked, the annual utilisation rate for the population is approximately 2.6 visits per person, an increase from 1.9 visits in 2003.

The population in Nairobi is more likely to report being ill (18 percent) than that of any other province. The North Eastern province has the lowest reported incidence of illness.

The health care provider use rate range is about half as large in North Eastern province (1.2 annual visits per capita) as in the country as a whole (2.6). Residents in urban areas tend to have a higher number of outpatient visits (3.2) per capita compared with their rural counterparts (2.5).

Women make 1.3 times as many outpatient visits per capita (2.9 visits per year) as males (2.3). The young and the old make significantly more visits than those of intermediate age.

In 2003, the poor were significantly more likely than the rich to let an illness go untreated. By 2007, this gap had not only been

eradicated, but the poorest are slightly more likely to obtain care than the richest.

In both 2003 and 2007, a large majority of sick children received medical care. In 2003, however, access to care decreased markedly with age. By 2007, the effect of age had been greatly diminished, with the greatest improvement amongst the elderly.

At every age, Kenyans reported fewer illnesses in 2007 than they had in 2003. Although some of this improvement may result directly from improved access to care, 2003 to 2007 was also a period of substantial attempts to reduce the incidence of malaria. Malaria fell significantly as a cause of visits to medical providers. This decrease in malaria could be sufficient to explain the change in total illness

Choice of health provider. Government facilities account for 57 percent of total outpatient visits. About 15 percent of outpatients rely on a chemist for care. Private and mission health facilities account for 18 percent and 6 percent of visits, respectively, while traditional healers attract a negligible proportion of patients (1 percent).

Per capita expenditure. The data from the household survey show that the relatively well to do (richest wealth index quintile households) use health care services more and spend more on these services. Overall, the cost per capita of outpatient visits was KSh 328 with a range from KSh 159 in North Eastern province to KSh 1,089 per capita in Nairobi. Further, the average out-of-pocket (OOP) expenditure made by the urban population (KSh 699) was significantly higher than that by rural population (KSh 236).

Utilisation of Inpatient Health Care Services

Approximately 2 percent of Kenya's 37 million people reported that they were inpatients during the 12 months prior to the 2007 survey.

Admission rates: The analysis indicates an overall annual rate of admissions of 27 admissions per 1,000 population. This is a sharp increase from the admission rate of 15 per 1,000 in 2003. Females are hospitalised more often (33 admissions per 1,000 population) than males (19.8 per 1,000 population). About half of the difference between males and females is due to childbirth and other reproductive health services. Women between the ages of 15 and 50 require significantly more admissions than men of the same age. The age group 5-14 years has the lowest hospitalisation rate (8 per 1,000 population).

Urban individuals have a higher admission rate (38 per 1,000 population) than their rural counterparts (24 admissions per 1,000 population). Nairobi and Central province reported the highest admission rates (34 admissions per 1,000 population), North Eastern province the lowest (7 percent). This is similar to the rates found in 2003.

There is a strong correlation between wealth index and use of inpatient care. In 2007, individuals in the richest wealth index quintile were about twice as likely to use inpatient care (37 admissions per 1,000 population) as those in the poorest quintile (20 per 1,000 population). Comparison with 2003 admission rates reveals similar trends and again raises concerns about the equity of the health care system.

Choice of health provider: Government hospitals account for 59 percent of all admissions, with private and mission hospitals each providing 14 percent of inpatient care. Differences between 2003 and 2007 in choice of provider are not statistically significant.

Cause of admission: Malaria is the most common illness amongst hospitalised individuals, accounting for 23 percent of total admissions. The next highest reported cause is respiratory infections (18 percent). Accidents (6 percent) are amongst the top ten causes of admission while chronic illnesses like diabetes are increasingly common.

Reason for choosing admitting health provider: Most of the reasons for choosing a provider involve quality of care (availability of medicine, qualifications of staff, etc.) The facility's geographic proximity to the patient's home represented 15 percent of responses. About 12 percent of respondents mentioned lower facility costs.

Source of funds to pay for inpatient health care: For nearly two thirds (67 percent) of the admissions, cash was available to pay for the hospitalisation. However, this varied by wealth quintile (75 percent amongst the richest households compared with 55 percent amongst the poorest households).

The cash was provided by friends, relatives, and family members in 19 percent of the admissions. For 7 percent, households had to borrow money; for another 7 percent, household assets were sold.

Per capita expenditure: The annual per capita OOP expenditure on admissions is KSh 245. In urban areas, it is KSh 674, in rural areas KSh 139. Women are more likely to be admitted for inpatient

care than men are. However, women's per capita OOP spending is less probably because their cost per admission is somewhat lower than men's cost per admission.

Results show that insured individuals make substantially higher per capita OOP expenditures (KSh 1,273) than the uninsured (KSh 137). Per capita OOP expenditure is highest (KSh 887) for individuals in the richest quintile group and lowest (KSh 59) for those in the poorest quintile group.

Insurance Coverage

The survey data show that about 10 percent of the population has some form of insurance cover, about the same as in 2003, when coverage was 9.7 percent. By region, Nairobi has the highest coverage – nearly one in four individuals has insurance cover – while coverage is lowest in North Eastern province.

1 Introduction

This Household Health Expenditure and Utilisation Survey survey was undertaken to inform the National Health Accounts (NHA) estimation and the development of the health care financing strategy. The NHA give information not only on the distribution of health financing sources but also on the entities through which funds pass (financial agents), the health services providers that receive the payments, and ultimately the health functions on which funds are spent. Households are both sources and “managers” of funds because they exercise control over where the funds are spent. Thus, they are a crucial actor in the overall health accounts.

The aim of the household survey was to understand the health care seeking behaviour and health expenditure patterns of the Kenyan population. The survey intended to complement, not duplicate, the data that were already available in Kenya.

Use of health services is not only influenced by quality and quantity of services but also by individual background factors and perceived needs for health services. The use of health services thus becomes an important indicator for measuring equity in health care provision.

1.1 Organisation of the Survey

The survey was organised by the Ministry of Health. The Kenya National Bureau of Statistics (KNBS) provided substantial support, particularly in the sample design, survey methodology, interviewer training, field data collection, and data processing and analysis.

Overseeing all technical aspects of the survey was a Technical Working Group under the direction of National Steering Committee, the latter composed of representatives from the Ministry of Health, KNBS, civil society, the private sector, and technical experts from development partners involved in the health sector.

1.2 Socioeconomic Indicators and Epidemiological Profile

Despite rapid economic growth in recent years, Kenya remains a low-income country. The new Kenya Vision 2030, the long-term development blueprint for the country, therefore, aims at transforming Kenya into “a newly-industrialising, middle income, globally competitive and prosperous country with a high quality of life to all its citizens in a clean and secure environment by 2030.”

The population of Kenya was estimated to be 37 million in 2007 while life expectancy was estimated to be 54.3 and 59.1 years for males and females respectively for 2006 (KNBS, 2007a) (Table 1.1). According to the Kenya AIDS Indicator Survey (Ministry of Health, 2007), the prevalence of AIDS amongst adults age 15-49 years is 7.8 percent. The fertility rate increased marginally, from 4.9 in 2003 to 5.0 in 2006.

Overall, morbidity and mortality remain high, particularly amongst children. However, there is evidence of reversal in vital indicators. For example, infant mortality rate declined by 22 percent, from 77 per 1,000 live births in 2003 to 60 per 1,000 in 2006. Under-five mortality also fell over the same period by 20 percent and stood at 92 per 1,000 in 2006. Levels of stunting amongst children under the age of five years remained high averaging about 33 percent in the last decade.

Maternal mortality related to pregnancy or childbirth complications is high. A 2003 report estimated maternal mortality at 414 per 100,000 live births (Central Bureau of Statistics 2003). Only 40 percent of deliveries are performed in a health facility. Overall, malaria, respiratory disease, diarrhoeal disease, skin infection, and intestinal worms are the commonest causes of illness, accounting for about 70 percent of all outpatient morbidity. This pattern has persisted during the past decade. Poverty has declined from 56 percent in the 1990s to 46 by 2006 (KNBS 2006). The national coverage of nurses is 120 nurses per 100,000 population while that of medical doctors is 15 per 100,000 population (KNBS 2007b).

Table 1.1: Selected Socioeconomic Indicators for Kenya

Indicators	Value	Year
Population (millions)	37	2007 projection
GDP per capita (KSh)	48,770	2007
Infant mortality (per 1,000 live births)	60	2006
Under-five mortality (per 1,000 live births)	92	2006

Life expectancy (years)	Male	54.3	2006 estimates
	Female	59.1	
Total fertility rate		5.0	2006
Maternal mortality (per 100,000 live births)		414	2003
Childhood stunting (percent)		34.7	2006

Sources: KNBS 2006, 2007a, 2007b

1.3 Health Care Delivery System in Kenya

A large network of government, faith-based organisation (FBO), and private sector health facilities deliver most health care services in Kenya. Kenya also has a very small non-formal private sector, comprising traditional healers/herbalists and traditional birth attendants and shops, which are major outlet for over-the-counter medicines. The public and private health sectors are complementary.

Kenya's public health care system delivers the largest share of services. It is organised as a multi-tiered referral pyramid. At the bottom of the pyramid are dispensaries and health centres responsible for providing primary health care and inpatient services, mainly maternity services at the health centres. Above this level are sub-district and district hospitals.

Provincial general hospitals form another tier of the health care system. At the top of the pyramid are the national hospitals, which function as tertiary care referral facilities and professional training and medical research hubs.

The private health sector (including FBOs) comprises hospitals, health centres, and clinics. There are also traditional healers and herbalists.

The second National Health Sector Strategic Plan (NHSSP II 2005–2010), launched in 2005, sets out the agenda for the sector, and defines the vision of *“creating an efficient and high quality health system that is accessible, equitable and affordable for every Kenyan household”*. Its mission is to *“promote and participate in the provision of integrated and high quality curative, preventive, promotive and rehabilitative health care services to all Kenyans.”*

The Ministry of Health, therefore, expects better access to contribute to the improvement of health outcomes and elimination

of disparities. The low level of cost recovery in Kenyan public health facilities implies that the public health facilities will continue to depend substantially on the government budget for most of their resources.

1.4 Role of Households in Health Care Financing

Kenya's health financing system consists of three main sub-systems: the public sector, health insurance, and the private sector, including households. The Kenyan government continues to implement programmes to increase accessibility of health care services amongst the population. The implications on the financing of health care services are substantial, partly due to high population growth. Kenyans continue to be overburdened by the out-of-pocket (OOP) health financing, which may be a barrier to access of health care. However, due to the increased investment in health by the government and donors, the levels of OOP expenditures have declined over the last five years.

1.5 Objectives of the Household Survey

The goal of the survey was to obtain information on the health care seeking behaviour and expenditures in Kenya. Specifically, the following were the key objectives:

- a) To document the health care seeking behaviour amongst the Kenyan population and assess how care seeking behaviour varies with demographic characteristics;
- b) To collect information on health care service utilisation;
- c) To gain an insight into the health expenditures made by the household members when they consulted health care providers and analyse how these expenditures vary with socioeconomic and demographic characteristics; and
- d) To investigate the patterns of outpatient and inpatient health care use and choice and perception of provider type.

1.6 Rationale for the Survey

Access to health care services is an important policy concern, reflecting both efforts to improve health outcomes and to meet international obligations. Although the need to improve physical access through expansion of the network of facilities continues,

individuals make active choices about whether or not to use the provided services.

Actual utilisation of health services may differ in accordance with demand factors such as income, cost of care, education, social norms and traditions, and the quality and appropriateness of the services provided. Hence, apart from addressing the issue of physical access, there is need to understand what factors affect health care decisions, and why low levels of utilisation persist amongst certain socioeconomic groups or geographic regions.

Health care utilisation is interesting to study from an efficiency perspective, as health is the foundation for work productivity, education (the capacity to learn), and the capacity to grow physically and emotionally. At the macroeconomic level, good health in the population is a critical input into poverty reduction, economic growth, and long-term economic development.

Very few studies provide information about Kenyan populations' health care use and expenditures in relation to their socioeconomic and demographic characteristics. Increased knowledge about which population groups have high health expenditures and their utilisation patterns will aid policymakers and health care providers in developing services for specific population groups. Furthermore, it is important to understand how households finance their health care. As public health sector budgets remain tight, health care expenditures become increasingly important to policymakers exploring alternative mechanisms to finance health care services.

This survey was conducted while the Ministry of Health was working on a health care financing strategy whose focus was to develop a policy framework that will ensure a long-term, fiscally sustainable, equitable, and efficient approach to financing health services in Kenya. Assessment of utilisation and coverage of health services and determinants of household decisions regarding the choice of provider and utilisation of health care services can assist policymakers during the development of the health care financing strategy to:

- Identify bottlenecks in the provision of health care services;
- Help to analyse the constraining factors and to select effective measures to improve services; and
- Identify patterns of service use by various socioeconomic factors.

Knowledge of these issues can point to certain policy instruments that will promote appropriate use as well as enhance equity in health service utilisation.

1.7 Organisation of the Report

The structure of the report is as follows. Chapter 2 presents the survey methodology, which highlights the survey design and sampling, training, data collection, and data analysis. Chapter 3 deals with demographic and socioeconomic information of the households, while Chapter 4 presents the housing and household amenities. Chapter 5 presents the utilisation of outpatient health services, OOP expenditures, and factors contributing to utilisation of outpatient health care. Utilisation of inpatient health care is presented in Chapter 6, while Chapter 7 presents the health insurance coverage. Annexes show detailed survey results.

1.8 Principal Questions Addressed in this Survey

This report presents the findings of analyses of utilisation of health care and the determinants of use and the levels of OOP health care payments by households in Kenya. The household survey addresses the following questions:

- a) What are the health status perceptions of household members?
- b) What is the utilisation pattern of health care services?
- c) What are household OOP health care expenditure patterns?
- d) How does health care expenditure differ amongst various socioeconomic groups?
- e) How well are households able to meet household members' health needs?
- f) What factors influence health care seeking behaviour by households? How do these factors vary by socioeconomic conditions of households?
- g) What policy recommendations do the data suggest, especially for health care financing?

2 Survey Methodology

This chapter presents the survey methodology. The topics discussed are the sample size and allocation to the provinces, training, data collection, and data processing. The household survey was conducted during the last quarter of 2007 in all the provinces of the country.

2.1 Sample Size and Allocation to the Provinces

Kenya is divided into eight provinces. The provinces are in turn subdivided into districts. Each district is subdivided into divisions, each division into locations, and each location into sub-locations. During the 1999 population census, each sub-location was subdivided into smaller units called Enumeration Areas (EAs). The EAs provided census information on households and population. This information was used in the design of the National Sample Survey Evaluation Programme IV (NASSEP) master sample. The cartographic records for each EA in the master sample are regularly updated in the field.

The frame covered all the districts of the country. The frame extended to the rural areas of the North Eastern Province and other areas of the Arid and Semi Arid Lands in Rift Valley province, which were not covered by earlier sampling frames (NASSEP I-III).

The survey covered all provinces and districts of the country. A total of 737 clusters were selected and divided into 506 (68.7 percent) rural and 231 urban clusters (Table 2.1). The sample of households interviewed in 2007 consisted, to the extent possible, of the same households that were in the sample for the 2003 household survey.

Thereafter, 12 households were systematically randomly selected from each cluster. The sample, therefore, consisted of 8,844 households, 2,772 urban and 6,072 rural. The sample was selected in a way that ensured that:

- The entire sample was nationally representative;
- The urban (rural) sample was representative of urban (rural) households; and
- Each provincial sample was representative at the province level.

This design allowed for analysis at national, provincial, and urban/rural levels.

Table 2.1: Distribution of Clusters and Households, by Province and Place of Residence, 2007

Province	Cluster			Household		
	Rural	Urban	Total	Rural	Urban	Total
Nairobi	0	90	90	-	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
TOTAL	506	231	737	6,072	2,772	8,844

2.2 Survey Data Collection Instrument

The household survey questionnaire was developed by a core team based upon a review of similar household survey conducted by the Ministry of Health in 2003. The questionnaire was designed using categorisations that would make the data comparable with other relevant studies. The questionnaire had 10 main sections:

Section A	Identification information;
Section B	Composition of household and its characteristics – giving demographic details of all usual household members;
Section C 1	Utilisation of outpatient and other health-related services – a series of questions relating to the utilisation of health care services for any household members who had been ill in the past four weeks prior to the survey;
Section C2	Routine health expenses in the past four weeks;
Section C3	Inpatient admissions in the past 12 months prior to the survey;
Section D	Mortality;
Section E	Access to health insurance;
Section F	Housing conditions and household assets – questions about wall, roof, and floor materials of the main house and household possessions, which in turn were used to construct a measure of the overall household wealth index;
Section G	Household expenditure; and
Section H	Household income.

2.3 Training

The questionnaire was pre-tested to, amongst other reasons, test its length and wording of the questions. All issues were rectified.

Subsequently, two levels of training were held. First, a training of trainers was undertaken. The participants became trainers in the provinces/regions to which they were subsequently deployed.

The second level of training was conducted in ten regional centres. The participants were the survey interviewers and the district statistical officers who became the survey coordinators in their respective districts. During the training, the participants were informed of the main objectives of the survey and how the collected information would be used. They were also informed that their participation in the survey would provide valuable input toward improving the health services. The participants received a detailed interviewer manual that included guidelines for conducting an interview and specific instructions for the questions. On the whole, the training included:

- General training related to basic interview techniques;
- Special sessions on how to fill out the questionnaire;
- Opportunities for the role play and mock interviews; and
- Field practice conducted in locations not selected for the survey.

2.4 Data Collection

The fieldwork for the survey was carried out in September and October 2007. Respondents were informed that information provided would be treated in a confidential manner.

The head of the household was targeted to be the main respondent for the survey. However, if the head could not be contacted, another adult in household who was knowledgeable about household expenditures and utilisation of health care was interviewed. These household representatives provided information on the household's health situation, health care utilisation, health expenditures, households' expenditures in other areas, and household income and assets.

2.5 Data Processing

Completed questionnaires were sent by the field supervisors as soon as sufficient numbers were accumulated. Data processing was conducted by a team assembled specially for the task. The data were entered into computers using CSPro software. Data from all questionnaires were re-entered for verification using a different data entry team. Data editors reviewed the entered data for consistency and completeness, and corrected any errors found.

2.6 Data Analysis

A tabulation plan was developed prior to data processing and reviewed by the Technical Working Group. Upon completion of data entry and editing, a clean data file was imported into SPSS and a set of preliminary tabulations produced. Weights were applied to the estimates to reflect the probability of inclusion of each household in the sample, and to bring the age and sex distribution into conformity with KNBS projections. These were reviewed and, where necessary, additional tabulations were made to clarify the preliminary findings.

2.7 Wealth Index

A wealth index was calculated based on various household amenities, convenience facilities, and other socioeconomic characteristics. The index categorised the households into five quintiles: 1) Poorest, 2) Second poorest, 3) Middle, 4) Fourth richest and 5) Richest.

2.8 Sample Coverage and Response Rates

A summary of the outcome of the fieldwork for the survey is presented in Table 2.2 broken down by place of residence and province. Overall 8,844 households had been selected for interviews. During the fieldwork, a total of 8,453 households were successfully interviewed giving an overall response rate of 95.6 percent; the rate ranged from 89 percent in Western province to 98.5 percent in Rift Valley province. The interviewed households were friendly and were convinced of their role in assessing and improving health services in Kenya.

Table 2.2: Household Response Rates by Province and Place of Residence, 2007

Province	Urban		Rural		Total		% Response		
	Selected	Responded	Selected	Responded	Selected	Responded	Urban	Rural	Total
Nairobi	1,080	1,012	-	-	1,080	1,012	93.7	NA	93.7
Central	216	213	984	953	1,200	1,166	98.6	96.8	97.2
Coast	444	419	636	624	1,080	1,043	94.4	98.1	96.6
Eastern	180	173	1,020	975	1,200	1,148	96.1	95.6	95.7
North Eastern	132	128	408	383	540	511	97	93.9	94.6
Nyanza	216	207	984	966	1,200	1,173	95.8	98.2	97.8
Rift Valley	252	251	1,176	1,156	1,428	1,407	99.6	98.3	98.5
Western	252	251	864	753	1,116	993	99.6	87.2	89.0
TOTAL	2,772	2,654	6,072	5,810	8,844	8,453	95.7	95.7	95.6

3 Household Demographic and Socioeconomic Characteristics

This chapter presents results on basic socioeconomic and demographic characteristics of Kenyan households based on information collected in the survey household questionnaire. The information was collected for persons who usually live in the sampled households.

3.1 Household Demographic and Socioeconomic Characteristics

Table 3.1 shows the demographic and socioeconomic characteristics of the population. Women slightly outnumber men: there are 95 males for every 100 females in 2007. That is, 49 percent of the population is male and 51 percent is female. A large proportion of household members are under the age of 25 years (62 percent), and 42 percent are under 15 years. This reflects the high fertility prevailing in the country. Further, the age group 15-64 years accounts for 54 percent of the population. Only 4 percent are age 65 years and over.

Table 3.1: Percentage Distribution of Sampled Population by Various Characteristics, 2007

Characteristics		Number	Percent
Sex	Male	18,158,265	48.8
	Female	19,025,659	51.2
Age	0- 4	5,392,218	14.5
	5-14	10,248,679	27.6
	15 -24	7,433,501	20
	25 -34	5,129,525	13.8
	35-44	3,457,160	9.3
	45-54	2,477,870	6.7
	55-64	1,576,752	4.2
	65 +	1,440,847	3.9
	Age not stated	27,372	0.1
Marital status	Never married	23,240,959	62.5
	Married	11,864,316	31.9
	Divorced	661,964	1.8
	Widowed	1,416,686	3.8

Table 3.1: Percentage Distribution of Sampled Population by Various Characteristics, 2007

Characteristics		Number	Percent
Level of education	None	9,833,525	26.4
	Nursery	1,466,033	3.9
	Primary	18,301,299	49.2
	Post primary	252,111	0.7
	Secondary	5,691,285	15.3
	College	897,869	2.4
	University	307,616	0.8
	DK	434,186	1.2
Employment status	Working	10,379,138	27.9
	Seeking work	1,752,332	4.7
	Homemakers	4,002,305	10.8
	Students	12,024,291	32.3
	Other	1,677,783	4.5
	Under age	6,874,730	18.5
	Not stated	473,346	1.3
Cluster type	Urban	7,362,023	19.8
	Rural	29,821,901	80.2
Province	Nairobi	3,181,618	8.6
	Central	4,260,440	11.5
	Coast	3,224,356	8.7
	Eastern	5,714,743	15.4
	North Eastern	1,142,569	3.1
	Nyanza	5,571,258	15
	Rift Valley	9,450,376	25.4
Western	4,638,562	12.5	
Health insurance cover	Insured	3,649,475	9.8
	Not insured	31,855,579	85.7
	Not stated	1,678,869	4.5
Rating of own health	Very good	9,669,665	26
	Good	21,865,873	58.8
	Satisfactory	3,727,996	10
	Poor	1,209,621	3.3
	Not stated	61,987	0.2
	Don't know	648,782	1.7
Total		37,183,924	100

3.2 Education Levels

Education is a human right and one of the major stimuli of development; as such, its importance cannot be overemphasised. Education is commonly seen as an indicator for socioeconomic development. Education insufficient to achieve basic literacy is unlikely to confer much benefit. As seen in Table 3.1, nearly half of the household members have a primary level of education.

3.3 Employment Status

Examining the composition of household population by employment status is vital for monitoring the development of a country. Employment of household members is an important indicator of the economic status of the household and hence a key determinant of wealth of the population.

Information was collected with a reference period of the 12 months prior to the date of survey. Table 3.1 highlights the findings. Of the total population, only 28 percent are reported to be working (both formal and informal). An additional 5 percent of the population are seeking work. A third of the population are students. The student category was singled out because schooling is viewed as the most important means of drawing persons away from the labour market. Another 19 percent of the total population were too young to work.

3.4 Residence and Wealth Index

Eighty-two percent of the wealthiest households live in urban areas, while the majority of households in rural areas were in the poorest quintiles (Table 3.2). Thus, geography and wealth status are closely linked. However, because the wealth index is computed as a weighted sum of household goods and amenities, it may not value the possessions of agricultural households in the same way that the household assets would. While most urban households probably are wealthier than the average rural household, the index may overstate the disparity.

Table 3.2: Percentage Distribution of Population by Wealth Index Quintiles and Urban/Rural Residence, 2007

Quintile	Urban	Rural
Poorest	1.2	98.8
Second	1.7	98.3
Middle	7.9	92.1
Fourth	31.0	69.0
Richest	82.0	18.0
Total	19.8	80.2

3.5 Household Size

Figure 3.1 shows that the poorest households are larger (5.2 persons) than the richest households (3.7 persons). Rural areas have higher household size (4.8) than urban areas (3.6). The overall average household size is 4.5 persons.

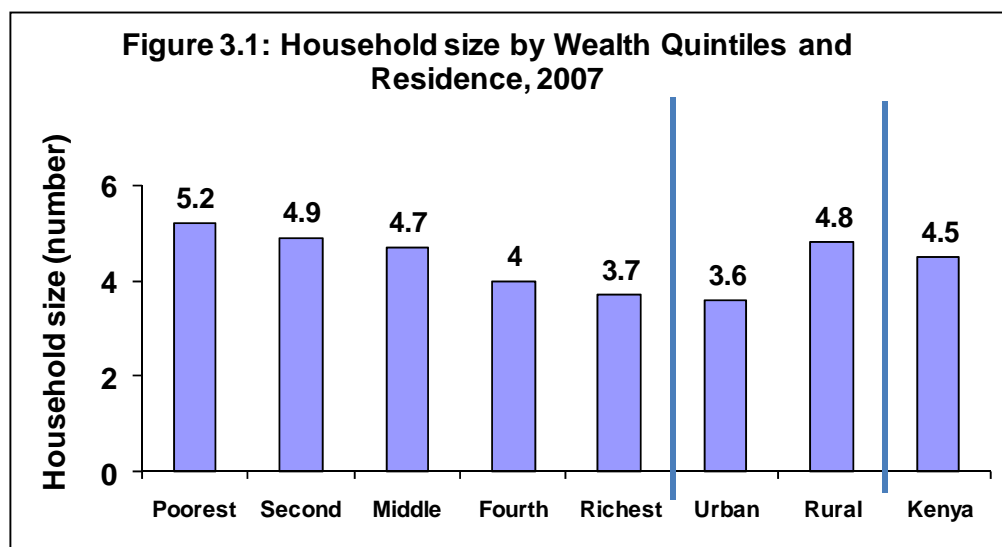
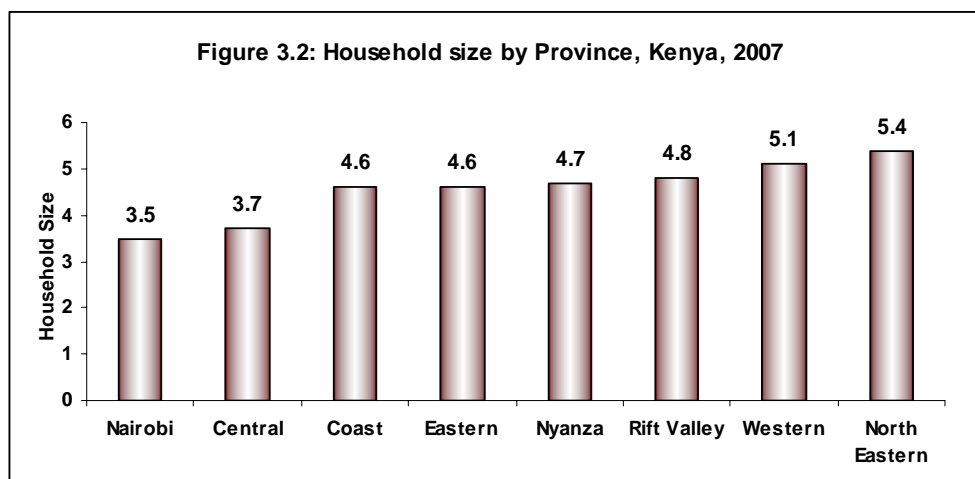


Figure 3.2 shows that the largest household size is reported in North Eastern province (5.4 persons), the smallest in Nairobi (3.5). Overall, the average household size of 4.5 persons is not significantly different from the size of 4.4 persons found in the Kenya Demographic and Health Survey 2003.



3.6 Self-assessment of Health Status

Most household members describe their health status as either “good” (59 percent) or “very good” (26 percent) (Table 3.3). Only 3 percent have “poor” health status. There is no substantial difference between females and males in self-reported health status.

Table 3.3: Self-assessment of Health Status by Gender, 2007

Health Status	Male	Female	Total
Very good	27.2	24.9	26.0
Good	58.5	59.1	58.8
Satisfactory	9.5	10.5	10.0
Poor	2.9	3.6	3.3
Don't know	0.2	0.2	0.2
Not stated	1.7	1.8	1.7
Total	100.0	100.0	100.0

Table 3.4 shows a strong association between wealth quintile and the respondents' assessment of household members' health status. In general, the proportion with higher reported health status (very good) increases with higher household wealth index.

The survey found that individuals in poorest quintile are twice as likely as those in the richest quintile to report their health as only satisfactory or poor (13.7 percent versus 6.6 percent). For some of the poorer group, poor health is the cause of being in the poorest wealth quintile. For others, health may be diminished by factors associated with poverty. It is important to note, however, that reported health status measures a perception of need.

Table 3.4: Distribution of Population according to Household Wealth Index and Reported Health Status, 2007,

Wealth Index Quintile	Health Status					Total
	Very Good	Good	Satisfactory	Poor	Not Stated	
Poorest	23.7	60.7	10.0	3.7	1.9	100.0
Second poorest	20.4	61.2	12.2	4.4	1.7	100.0
Middle	22.2	62.0	10.7	3.1	1.9	100.0
Fourth richest	29.4	55.3	10.1	2.8	2.4	100.0
Richest	40.4	51.5	5.2	1.4	1.4	100.0
Total	26.0	58.8	10.0	3.3	1.9	100.0

4 Housing and Household Amenities

One objective of the survey was to measure development indicators in the country by looking at the type of dwellings in which households live, and access to amenities such as piped water, electricity, and toilet facilities. Comparisons of 2003 and 2007 household survey results are made.

The survey collected information on housing characteristics and household amenities. The housing characteristics included the type of dwelling occupied by the household, type of tenure, and type of roof, wall, and floor. Information on main water sources, toilet facilities, and type of fuel used by the households for both lighting and cooking was also collected. Information on these characteristics is useful in that it reflects on the households' socioeconomic status from a public health point of view.

4.1 Distribution of Type of Dwellings

Only less than a third (28 percent) of the housing units in Kenya are permanent, while close to a half (49 percent) are semi-permanent (Table 4.1). As expected, Nairobi has the highest proportion of housing units that are permanent (64 percent) followed by Eastern province (36 percent); Nyanza province reports the least (15 percent). In urban areas, more than half (56 percent) of the housing units are permanent, compared with 19 percent in rural areas.

Table 4.1: Percentage Distribution of Households by Housing Characteristic

Province/Residence	Type of Dwelling			Total
	Permanent	Semi-permanent	Temporary	
Nairobi	64.1	20.6	15.3	100.0
Central	28.8	49.9	21.3	100.0
Coast	28.9	41.7	29.4	100.0
Eastern	35.5	48.0	16.5	100.0
North Eastern	16.9	23.0	60.1	100.0
Nyanza	15.1	63.0	21.9	100.0
Rift Valley	22.3	52.8	24.9	100.0
Western	14.6	64.5	21.0	100.0
Urban	56.2	32.6	11.3	100.0
Rural	19.3	54.6	26.1	100.0
Total	28.3	49.2	22.5	100.0

4.2 Type of Roof

Nearly three in four (75 percent) of all main houses in Kenya are roofed with iron sheets while the percentage of houses with thatched roofs is only 16 percent. As expected, the highest percentage of thatched roofs is in the rural areas (20 percent) compared with only 4 percent in urban areas. Table 4.2 presented further details.

Table 4.2: Percentage distribution of Households by Roofing material, 2007

Roof Material	Province								Cluster Type		Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Urban	Rural	
Corrugated iron	60.0	93.7	55.4	87.8	18.4	79.1	73.0	77.5	73.2	75.8	75.2
Thatch	0.9	1.7	35.5	10.1	77.2	18.2	18.3	21.9	3.8	20.2	16.2
Concrete	21.3	0.9	1.9	0.4	0.0	0.2	1.1	0.2	10.8	0.4	3.0
Tiles	11.0	1.6	2.4	0.5	0.0	1.0	1.2	0.0	7.3	0.5	2.1
Other	0.3	0.1	3.4	0.6	3.7	0.0	5.0	0.0	0.4	2.1	1.7
Asbestos sheet	3.5	0.5	1.2	0.1	0.0	0.8	0.8	0.2	3.2	0.2	0.9
Tin cans	1.8	1.3	0.2	0.1	0.0	0.2	0.5	0.2	0.9	0.5	0.6
Not stated	1.1	0.2	0.1	0.4	0.7	0.4	0.2	0.0	0.5	0.3	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.3 Type of Wall

In rural areas, almost half (45 percent) of the houses are constructed of mud reinforced with bamboo or trunks (Table 4.3). Another quarter are constructed of wood planks (12 percent) or brick (13 percent) In urban areas, about half (49 percent) have stone walls held together by cement. The remaining urban houses are built of cement blocks (10 percent), iron sheets (10 percent), or other materials.

Table 4.3: Percentage Distribution of Households by Type of Wall of Main House, 2007

Wall Material	Province								Cluster Type		Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Urban	Rural	
Bamboo /Trunks with mud	4.3	13.9	29.1	12.3	34.0	69.3	47.0	67.5	8.8	44.9	36.0
Stone with cement	59.6	22.8	31.3	7.8	3.3	6.0	11.2	2.8	48.7	7.3	17.4
Wood planks	2.4	27.6	0.4	23.3	17.4	0.6	9.8	0.0	5.5	12.1	10.5
Bricks	0.6	7.4	7.4	36.9	1.9	6.7	5.9	7.3	3.4	12.8	10.5
Other	3.1	5.8	4.8	5.2	30.5	3.8	13.0	1.2	3.1	8.1	6.9
Stone with mud	6.3	2.7	17.6	6.4	1.2	5.8	2.7	14.6	8.5	6.0	6.6
Cement blocks	4.7	2.3	8.5	3.1	11.0	5.5	5.6	5.8	10.3	3.4	5.1
Iron sheets	16.1	13.0	0.6	2.0	0.1	1.9	3.3	0.1	10.1	3.3	5.0
Reused wood	0.4	3.6	0.0	0.7	0.3	0.0	0.4	0.1	0.4	0.9	0.8
Plywood	0.9	0.5	0.1	1.6	0.0	0.1	0.4	0.1	0.5	0.6	0.5
Cardboard	0.1	0.2	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.2	0.1
Not stated	1.5	0.1	0.2	0.6	0.3	0.4	0.5	0.4	0.7	0.4	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.4 Type of Floor

Most rural houses (58 percent) had earth floors. In urban areas 80 percent of the houses have cement floors (Table 4.4).

Table 4.4: Percentage Distribution of Households by Type of Floor Material of Main House, 2007

Floor material	Province								Cluster Type		Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Urban	Rural	
Earth	9.2	54.0	51.8	62.8	84.3	51.1	53.1	22.0	14.4	57.5	46.9
Cement	81.7	43.6	46.2	34.5	12.8	28.0	37.0	18.0	79.6	26.2	39.2
Dung	1.9	1.5	0.9	1.6	0.5	20.1	8.7	59.5	2.3	15.3	12.1
Wood planks	0.9	0.3	0.4	0.3	2.0	0.3	0.8	0.4	0.8	0.5	0.5
Tiles	2.8	0.1	0.5	0.1	0.0	0.2	0.1	0.1	1.4	0.1	0.4
Not stated	0.9	0.3	0.1	0.7	0.3	0.3	0.3	0.0	0.4	0.4	0.4
Polished wood	2.4	0.2	0.0	0.0	0.0	0.1	0.0	0.0	1.1	0.1	0.3
Other	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.5 Sources of Cooking and Lighting Energy

As seen in Table 4.5, nearly all rural households cook with either firewood (86 percent) or charcoal (10 percent). In urban areas, the main fuels used are kerosene (42 percent of households) or charcoal (37 percent). Nearly three out of four households (74 percent) use kerosene for lighting. Only 19 percent of the households use electricity. In rural areas, only 7 percent of the households have electric lights, compared with 57 percent in urban areas.

Fuel Type	Province								Cluster Type		Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Urban	Rural	
Cooking energy											
Firewood	1.1	70.1	53.8	86.1	84.3	80.2	66.4	89.2	6.6	86.0	66.6
Charcoal	11.6	17.3	25.6	9.6	13.9	15.3	25.8	8.2	36.9	10.4	16.9
Kerosene	61.2	8.4	17.8	3.2	1.1	2.8	5.0	2.1	41.6	2.0	11.7
Gas	23.2	2.4	2.0	0.2	0.3	0.6	1.8	0.5	13.1	0.6	3.6
Electricity	2.0	0.2	0.5	0.4	0.2	0.6	0.3	0.0	1.1	0.3	0.5
Other	0.1	0.3	0.0	0.1	0.0	0.1	0.4	0.0	0.1	0.2	0.2
Not stated	0.9	1.4	0.2	0.4	0.2	0.3	0.4	0.0	0.6	0.5	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Lighting energy											
Kerosene	23.1	75.7	73.0	85.6	58.1	90.9	72.9	94.2	40.3	85.3	74.3
Electricity	73.5	19.6	25.1	6.5	9.6	7.8	13.5	4.2	57.2	6.5	18.9
Firewood	0.0	1.0	0.5	3.0	14.5	0.3	11.0	0.3	0.3	4.8	3.7
Solar	0.0	3.1	0.3	3.6	0.0	0.5	1.5	0.7	0.2	1.9	1.5
Other	0.7	0.2	0.1	0.5	16.3	0.1	0.5	0.3	0.4	0.9	0.8
Gas	0.8	0.2	0.3	0.0	1.3	0.0	0.3	0.2	0.6	0.2	0.3
Candle	1.0	0.0	0.6	0.3	0.0	0.1	0.1	0.0	0.6	0.1	0.2
Not stated	0.9	0.1	0.2	0.4	0.2	0.3	0.2	0.1	0.4	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Figure 3.1: Percentage Distribution of Households by Source of Lighting Energy, 2007

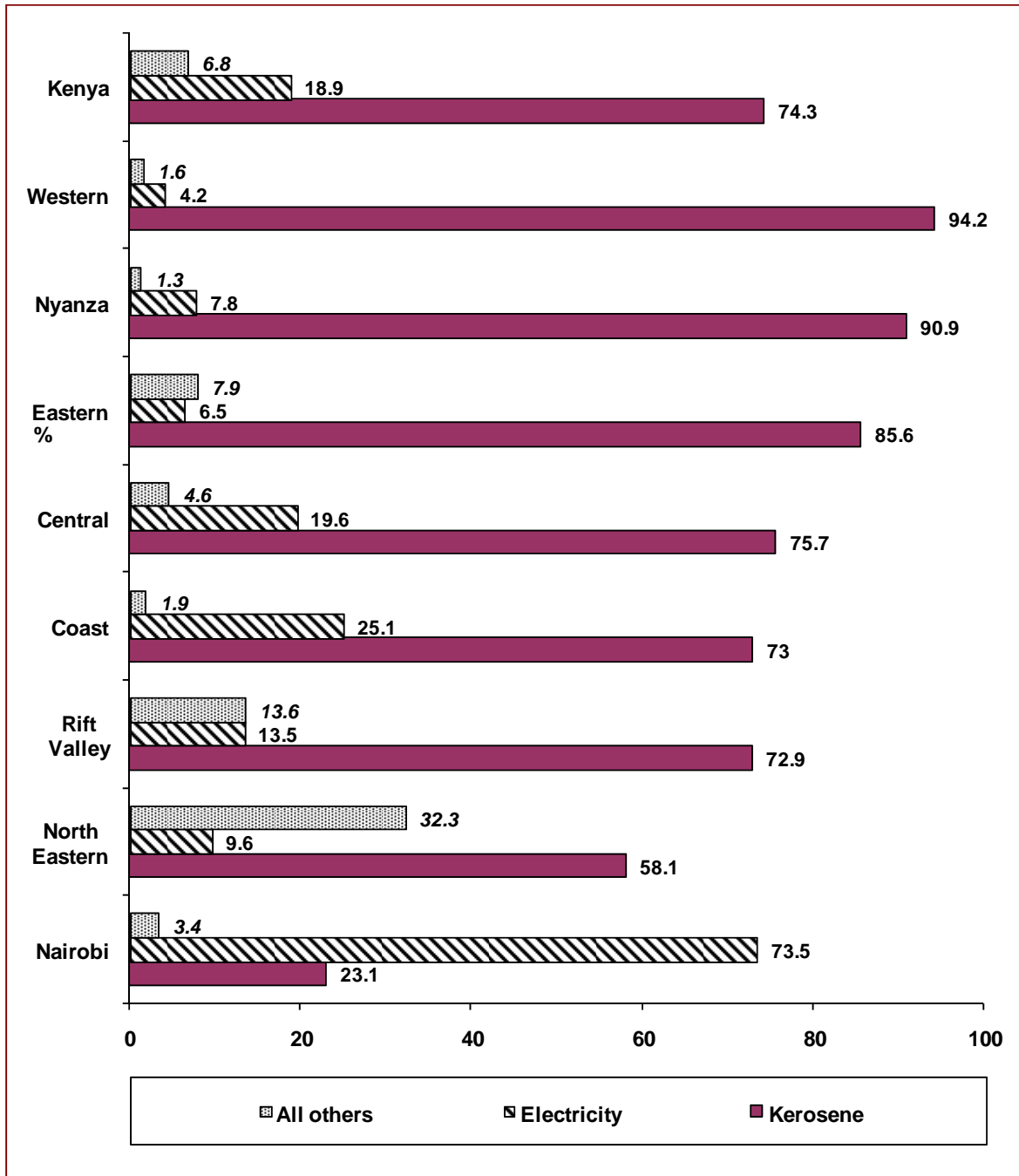
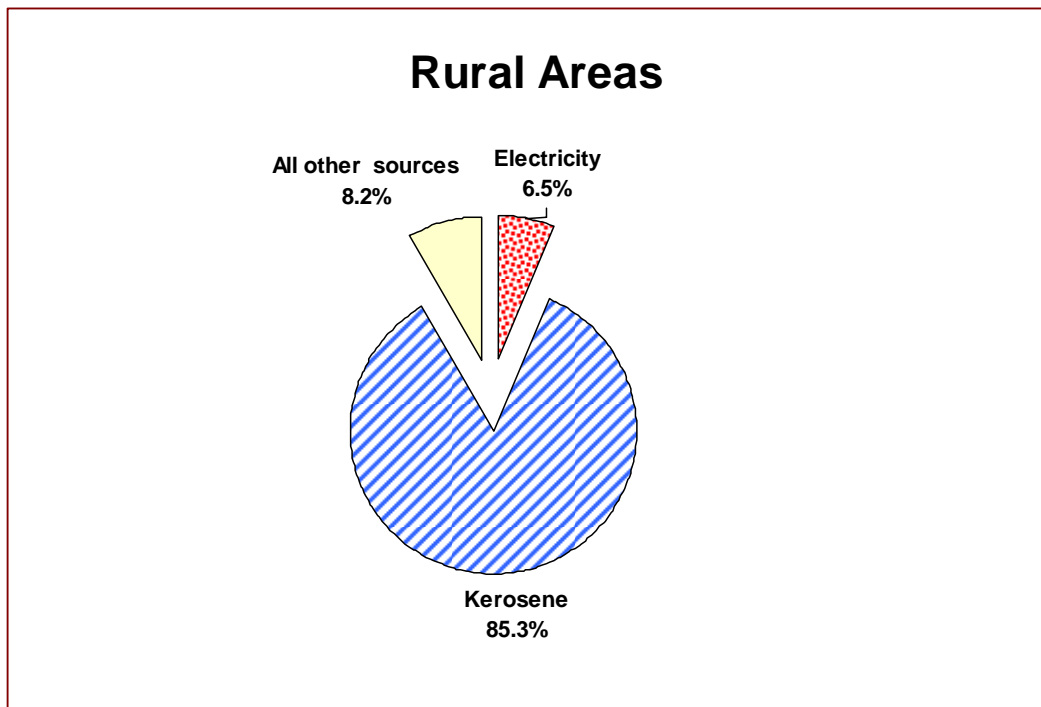
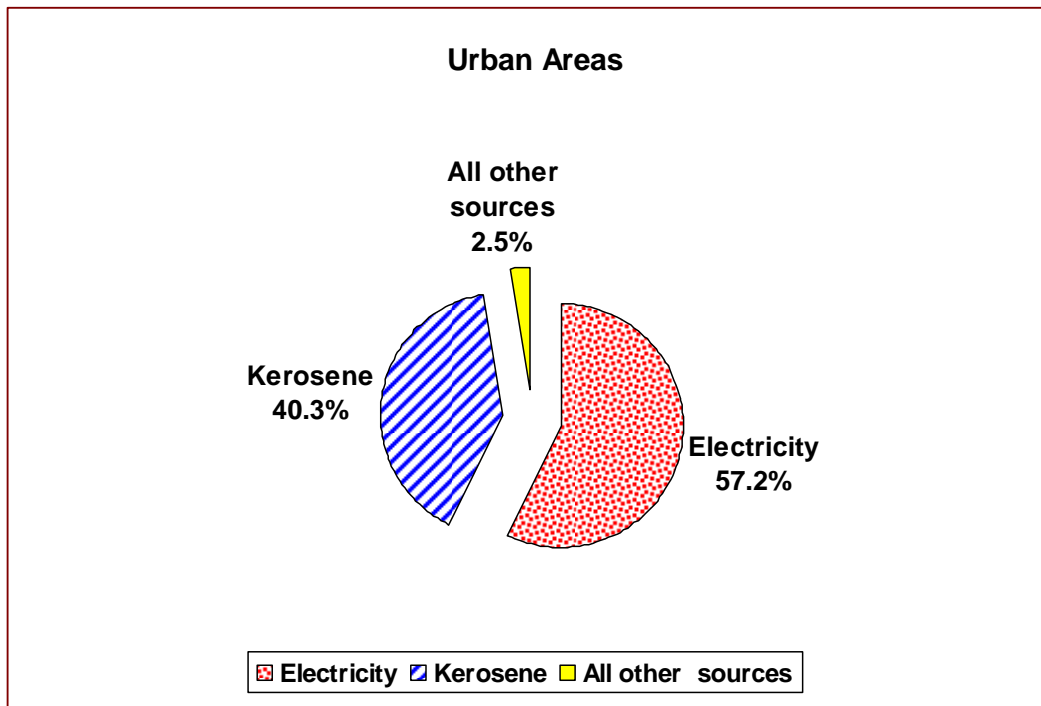


Figure 3.2: Percentage Distribution of Households by Type of Fuel for Lighting and Residence, 2007



4.6 Water Sources

Drinking water is considered safe when it is from any of the following sources: piped water, boreholes or protected wells and protected springs, or rainwater (roof catchment). Overall, 60 percent of all households in Kenya have access to safe drinking water. Ninety-one percent of the urban households have access to safe drinking water, compared with 51 percent of their rural counterparts (Table 4.6).

Table 4.6: Percentage Distribution of Households by Sources of Water, 2007

Source of water	Province								Cluster Type		Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Urban	Rural	
Piped into dwelling	28.3	14.0	10.3	7.3	6.3	2.1	7.8	2.5	21.2	5.9	9.6
Piped to yard	37.1	17.9	7.7	15.8	7.4	2.1	13.8	3.3	33.3	7.4	13.7
Public tap	27.9	6.1	45.9	11.9	3.3	8.0	7.5	3.9	29.9	7.6	13.0
Borehole	0.3	0.9	6.1	1.6	23.3	4.5	6.1	8.8	1.5	5.6	4.6
Protected well	1.3	18.3	6.4	10.6	5.1	9.4	10.3	17.8	3.6	13.0	10.7
Protected spring	0.0	1.1	0.6	1.5	0.5	18.5	2.0	33.2	1.3	9.0	7.2
Rainwater (Roof)	0.0	4.5	0.2	0.3	0.2	1.5	2.1	1.2	0.1	2.0	1.6
Tanker truck	0.0	0.0	0.4	0.1	5.3	0.1	0.1	0.0	0.1	0.3	0.2
Unprotected well	0.1	7.2	3.8	18.7	18.6	6.8	13.1	6.2	2.7	11.6	9.4
Unprotected spring	0.0	4.7	1.6	5.1	0.6	13.6	9.9	13.7	0.3	9.7	7.4
Cart with small tank	0.4	0.5	0.9	0.1	4.2	1.8	0.7	0.0	1.9	0.4	0.7
Surface water	0.0	21.2	15.3	23.1	23.4	30.1	24.6	8.5	0.8	25.5	19.5
Other	3.8	2.2	0.2	3.4	1.5	0.8	1.6	0.3	2.9	1.5	1.8
Not stated	0.8	1.4	0.5	0.3	0.2	0.7	0.3	0.5	0.6	0.6	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Safe sources	94.8	62.8	77.3	49.1	46.2	46.1	49.7	70.8	90.9	50.5	60.4
Unsafe sources	5.2	37.2	22.7	50.9	53.8	53.9	50.3	29.2	9.1	49.5	39.6

A significant proportion (54 percent) of the households in Nyanza province gets water from an unsafe source, surface water from lakes and rivers.

4.7 Toilet Facilities

Table 4.7 shows the proportion of households by type of toilet facility, with rural-urban breakdown. The most common type of toilet facility is the pit latrine reported by two thirds (66 percent) of the households. It is noted that a higher proportion of households (73 percent) in rural areas have pit latrines than those in urban areas (46 percent). Forty-one percent of the urban households have access to flush toilets. Sixteen percent of rural households report no toilet facilities compared with about 1 percent in urban areas.

Table 4.7: Percentage distribution of Households by Sources of water, sanitation facilities, 2007

Toilet Type	Province								Cluster Type		Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Urban	Rural	
Traditional pit latrine	31.4	83.1	51.9	75.6	23.6	72.4	63.2	86.4	46.2	72.7	66.2
Flush or pour flush toilet	62.5	8.2	13.8	3.7	2.2	3.2	6.9	2.3	41.2	2.6	12.0
Ventilated improved pit latrine	4.2	7.5	9.4	8.9	4.5	6.0	10.2	7.7	10.4	7.1	7.9
Other	0.9	0.1	0.1	0.1	0.3	1.0	1.4	0.0	0.6	0.6	0.6
Bucket latrine	0.0	0.0	0.2	0.2	1.2	0.2	0.2	0.1	0.1	0.2	0.2
Not stated	0.9	0.9	0.4	0.6	1.0	0.8	0.8	0.1	0.7	0.7	0.7
No facility	0.1	0.2	24.3	10.9	67.3	16.4	17.4	3.4	0.8	16.1	12.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

There is considerable regional variation in excreta disposal facilities. Analysis of the distribution of households with toilet facilities by province reveal that pit latrine coverage is highest in all the provinces except Nairobi, where flush toilet dominated. However, in the North Eastern province, 67 percent of the households did not have a toilet facility.

4.8 Household Possessions

The survey covered household possessions: radio, television, bicycle, motorcycle, car, telephone/mobile, and refrigerator. Table 4.8 presents the proportions of households that have these possessions. Overall, 94 percent of the households own a radio; about 38 percent own a bicycle. However, almost twice as many households in rural areas (44 percent) had bicycles as in urban areas (23 percent). Nairobi province had the highest proportion of households (67 percent) that own a television while North Eastern

province had the least (6 percent). Both urban and rural areas had almost the same proportion of households that own radio.

Table 4.8: Household Possessions by Province and Cluster Type

Durable Consumer Goods	Province								Cluster Type		Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Urban	Rural	
Radio	90.9	97.7	88.0	94.7	93.6	93.9	94.1	91.6	92.5	93.8	93.5
Telephone	85.9	55.6	61.5	40.3	33.0	41.2	55.4	42.1	79.5	43.9	53.7
Bicycle	18.7	33.4	42.4	43.0	4.7	44.1	34.3	62.7	23.2	44.1	38.4
Television	67.4	37.3	26.9	18.9	5.9	18.6	28.8	22.2	55.0	21.5	30.8
Refrigerator	25.1	2.0	7.4	0.4	4.1	1.4	3.4	0.6	15.4	1.3	5.2
Car	15.8	4.1	2.0	3.3	1.7	2.6	5.8	1.7	9.7	3.4	5.1
Motor cycle	1.3	0.9	1.9	1.3	0.2	1.2	1.7	0.8	1.2	1.3	1.3

Ten percent of the households in urban areas own cars, compared with 3 percent in rural areas. Asset ownership disparities of this kind are the primary source of the difference in the computed wealth index between urban and rural areas.

There has been an increase in the percentage of households owning radios, bicycles, and televisions and telephones (including mobile phones) since the 2003 survey was done. The percentage of those owning radios increased, from 77 percent in 2003 to 94 percent in 2007, while those owning television sets increased from 19 percent in 2003 to 31 percent in 2007. The percentage of households owning bicycles also increased, from 28 to 38 percent. Finally, a substantial increase in households with telephones (including mobile phones) in 2007 is evident.

5 Utilisation of Outpatient Health Services and OOP Expenditures

This chapter presents the pattern of utilisation of outpatient health care services, frequency of use, and factors that determine this use.

5.1 Frequency of Illness and Per Capita Visits for Outpatient Health Care Services

In all the households visited during the survey, respondents were asked to state if any member of their households had been sick during the four weeks preceding the survey, and, if so, whether medical care had been sought. As Table 5.1 shows, 15 percent of individuals overall reported having had an illness reported during the recall period. Of these, 84 percent sought health care service (Table 5.2). In addition, about 5 percent of those who were not sick visited a health care provider for preventive purposes.

During the recall period, 7.4 million visits were made to providers of health care for treatment of illness. This gives an average utilisation rate of 20 visits per 100 people and 132 visits per 100 sick people. Using these figures and assuming that the seasonal variation in the level of utilisation was not marked, the annual utilisation rate for the population is approximately 2.6 visits per person.

Table 5.1: Total Number of Visits and Utilisation Rates, 2003 and 2007

Description	2003		2007	
	Number (millions)	%	Number (millions)	%
People with no sickness reported	26.5	82.5	31.6	84.9
People with some sickness reported	5.6	17.5	5.6	15.1
TOTAL	32.1	100	38.2	100

Table 5.2: Total number of visits and utilisation rates, 2003 and 2007

	2003	2007	
Percent of people with some sickness reported but did not seek health care	22.8	16.4	
Total number of visits made in 4-week recall period to all health care service providers (millions)	4.8	7.4	
Average number of visits (in 4 weeks)	a) per 100 people	15	20
	b) per 100 sick people	85	132
Average number of visits (utilisation rate) per person per year*	1.9	2.6	

* The calculation of this rate is based on the formula:

$$\text{Annual utilisation rate} = \frac{\text{Number of visits made in 4 weeks}}{\text{Number of people in the sample (weighted)}} \times 52/4$$

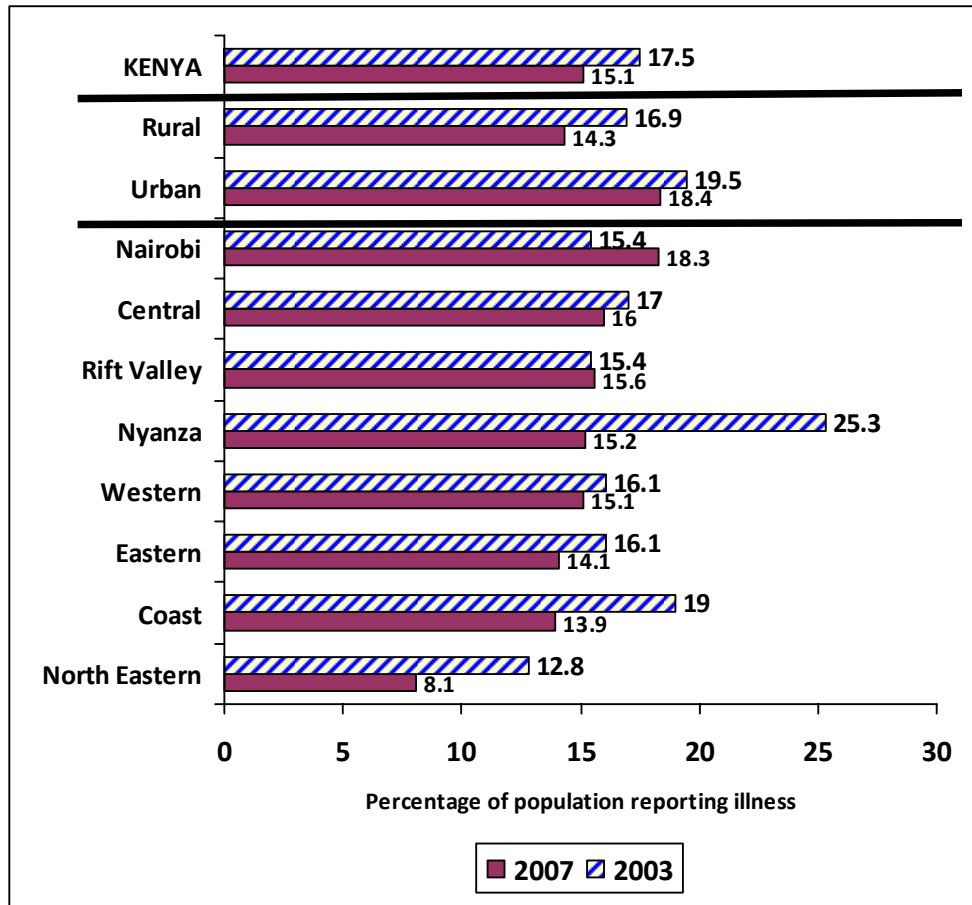
Estimates based on surveys have a margin of error because they are based on samples, rather than on total population. The margin of error for population totals in this table is 6-8% of the total. For the utilisation rate, the margin is 0.13 visits.

5.1.1 Proportion of Population Reporting Illness in the Four Weeks Prior to the Survey, by Province and Residence

The population in Nairobi is more likely to report being ill (18 percent) than people in any other province (Figure 5.1(a)). The North Eastern province reported the lowest incidence. The differences amongst the other provinces are not statistically significant. It should be noted that this measure of illness depends on a subjective assessment of how severe a condition must be before it is classified as an illness, and this, in turn, may be influenced by the range of response options available. Members of wealthy households are significantly more likely to report an illness than are those in poor households, although they are probably actually healthier. Individuals in urban households are more likely (18 percent) to report an illness than their rural counterparts (14 percent), and are more likely to visit a provider when ill (87.5 percent in sick urban individuals compared with 82.5 percent of sick rural individuals). The differences amongst Nairobi, the North Eastern Province, and the rest of the country are thus a product of reporting behaviour superimposed on actual health.

Analysis shows that, except for Nairobi province, all provinces experienced a drop in the proportion of population reporting illness in 2007 compared with 2003. Nyanza province reported the largest decline, 10 percentage points, followed by Coast and North Eastern.

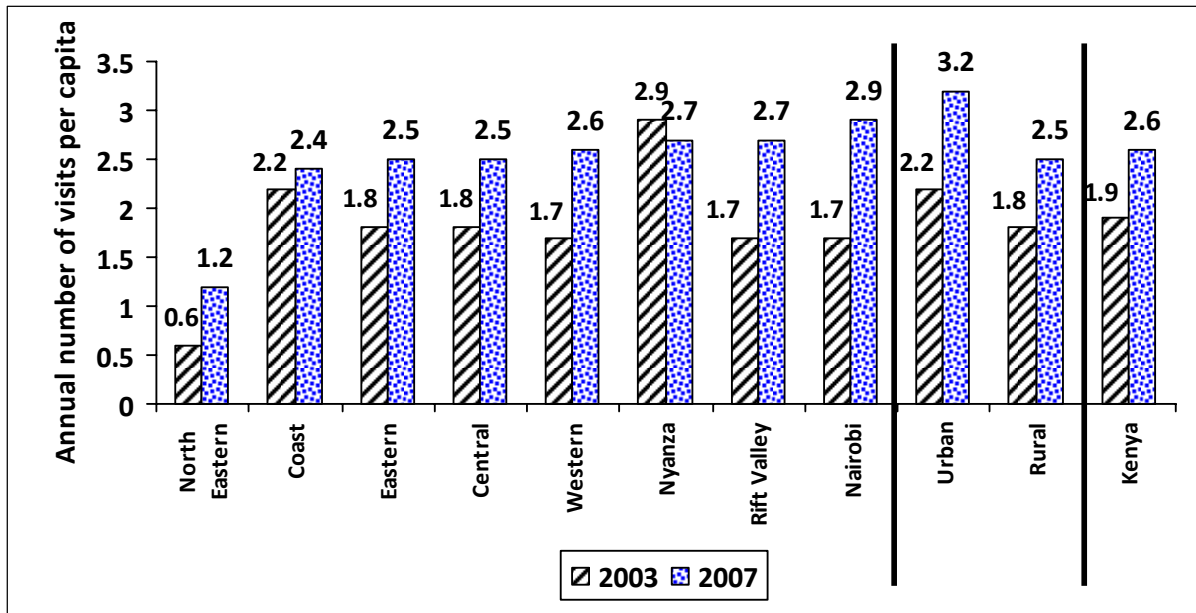
Figure 5.1(a): Percentage of the Population Reporting Illness in the Four Weeks Prior to Survey, 2003 and 2007



5.1.2 Utilisation of Outpatient Health Care Services, by Province and Residence

The health care provider use rate range is about half as large in North Eastern province (1.2 annual visits per capita) as in the country as a whole (2.6) (Figure 5.1(b)). Residents in urban areas tend to have a higher number of outpatient visits (3.15) per capita compared with their rural counterparts (2.5). Urban populations have readier access to health care because they need to travel shorter distances. In addition, they have greater financial resources, and so can afford higher levels of use. Urban and rural individuals of similar wealth are equally likely to seek care.

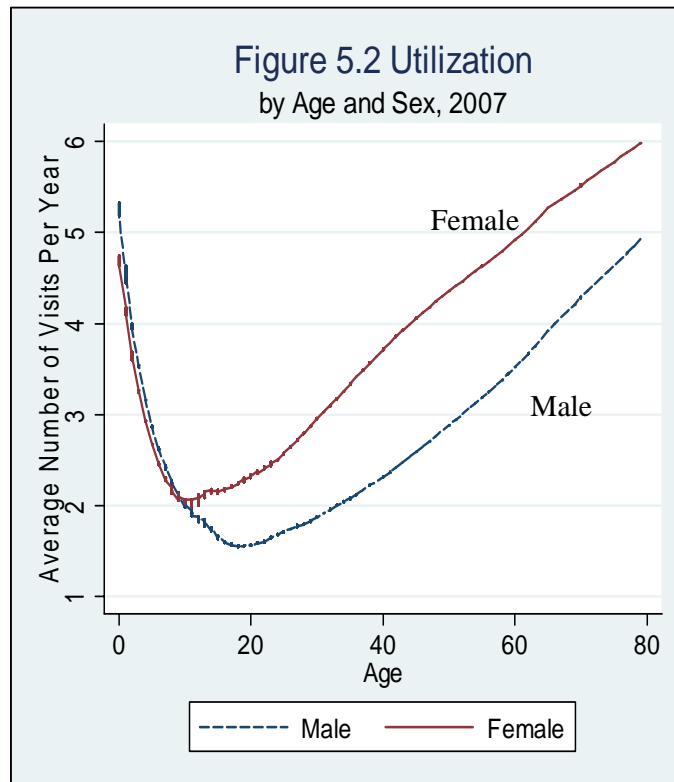
Figure 5.1 (b): Annual Number of Visits Per Capita



5.1.3 Utilisation of Outpatient Health Care Services, by Gender and Age Group

Women make 1.3 times as many outpatient visits per capita (2.9 visits per year) as males do (2.3). The young and the old make significantly more visits than those of intermediate age (Figure 5.2). After the age of 16, women average 1 to 1½ more visits per year than do men of the same age.

The very young and the elderly are more likely to be ill than those of intermediate age are. In addition, children under four have the highest rate of preventive visits.



Persons with insurance coverage had a higher use rate (2.9 visits per capita annually) than those without insurance (2.6). However, amongst households with equal wealth, and after controlling for age and sex, there is no remaining statistically significant effect of insurance. People with a chronic health condition report about three times as many visits as those without (6.8 vs. 2.3).

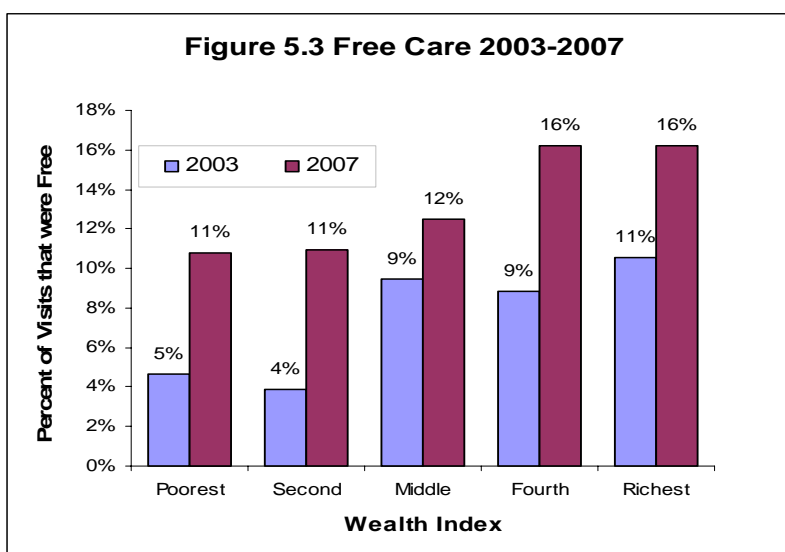
5.1.4 Changes from 2003 to 2007

During the four weeks preceding the 2007 household interviews, 15 percent of Kenyans reported an illness. This section describes some of the factors that influence whether and where these sick people obtain medical care. Most (84 percent) of those who reported an illness were able to visit a medical provider (Table 5.3). This is significantly higher than the 78 percent of sick people who got care in 2003.

Table 5.3: Utilisation of Outpatient Care, 2003-07

	2003	2007
Respondents who were sick in the past 4 weeks	18%	15%
<u>Of those who were sick:</u>		
Respondents who got medical care	78%	84%
<u>Of those who got care:</u>		
Respondents who paid no fee	8%	12%

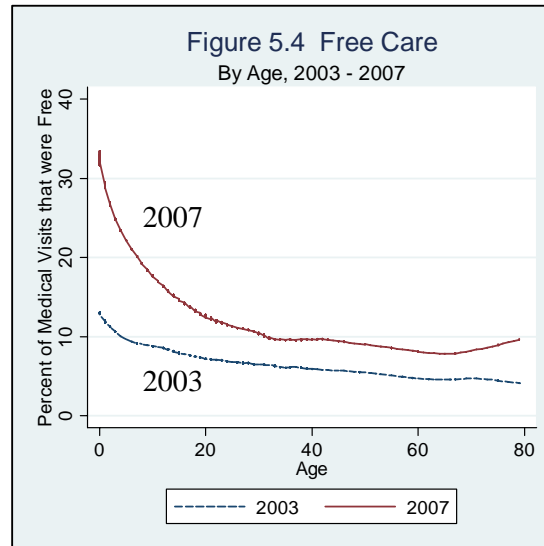
Between 2003 and 2007, Kenya instituted a package of programs intended to improve access to medical services by providing free care. During this period, free visits increased from 8 percent to 12 percent of all visits. In 2003, the richest fifth of the population was twice as likely to



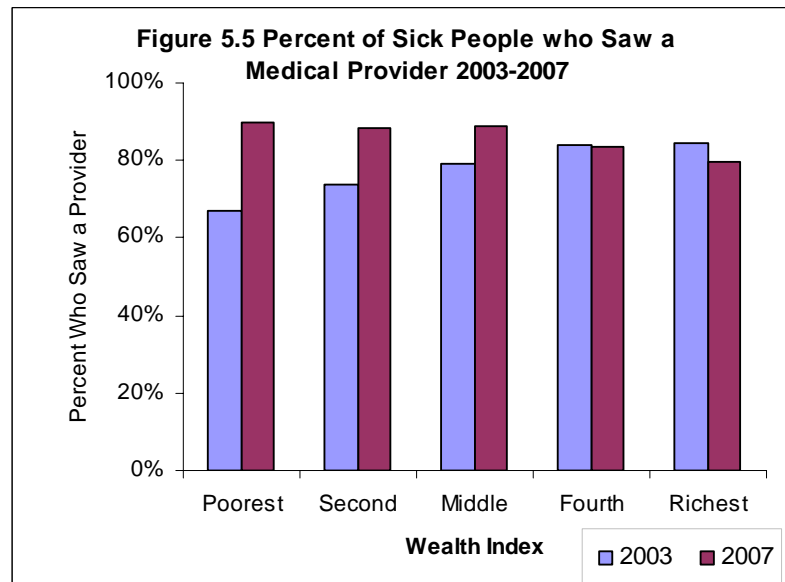
receive free care as the poorest fifth. This is because almost none of the poor are covered by health insurance, while about one quarter to one third of those in the richest fifth are covered.

The richest fifth still are more likely than the poorest to receive free visits, but the rate of free visits amongst the poor in 2007 was approximately as high as the rate amongst the rich had been in 2003 (Figure 5.3). The gap between the richest and poorest remained at about 5 percentage points, probably reflecting the fact that private insurance coverage did not change over the period.

Children were most likely to receive free care, and were most affected by the changes between 2003 and 2007 (Figure 5.4). Nearly a third of the visits by the youngest children were free, compared with 10-15 percent of visits in 2003. Even amongst older respondents, however, significantly more visits were free in 2007 than in 2003.



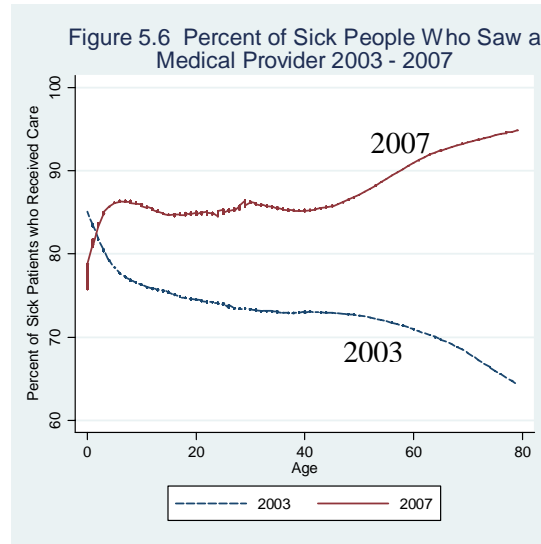
Providing free care to the poor appears to have increased their utilisation of medical services. In 2003, the poor were significantly more likely than the rich to let an illness go untreated



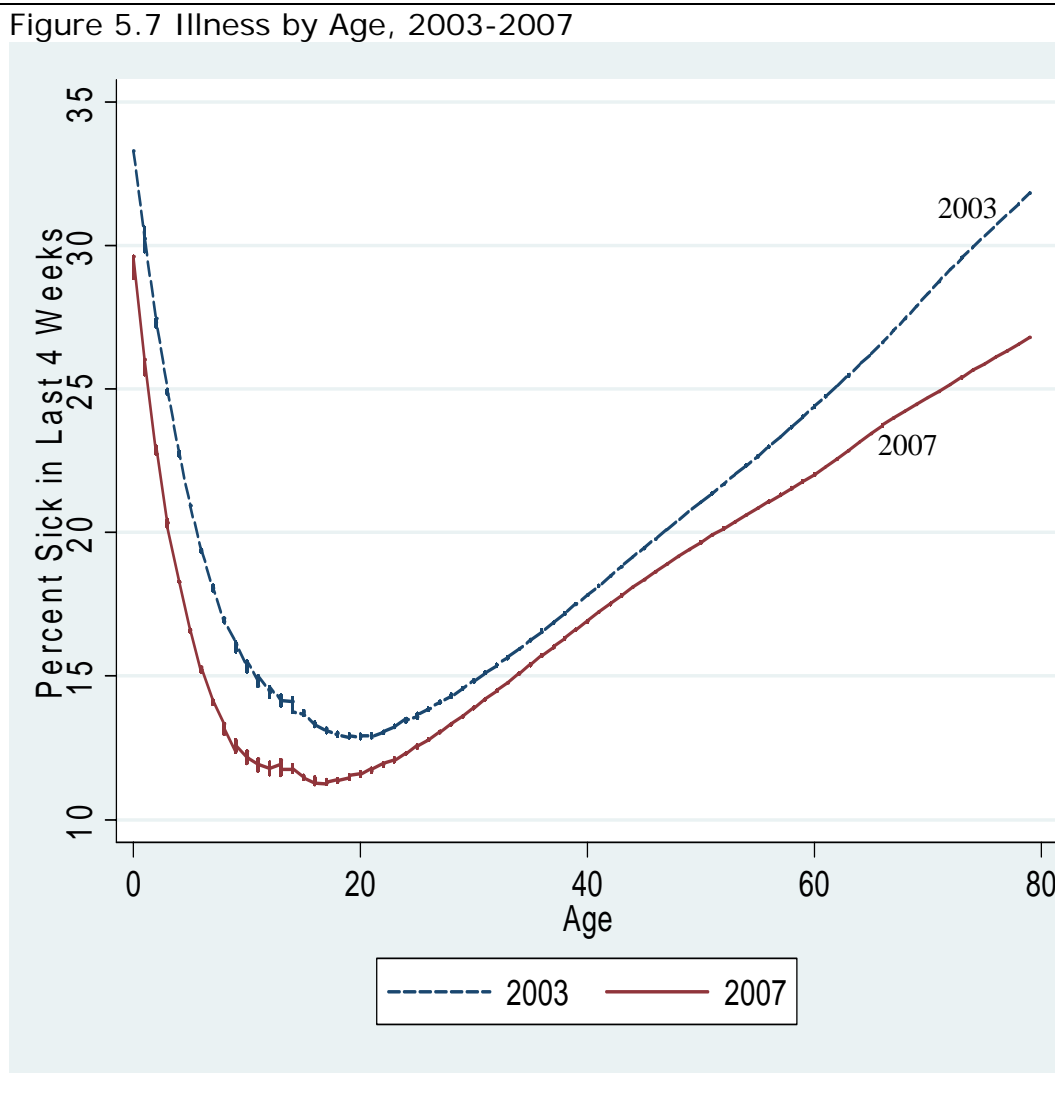
(Figure 5.5). By 2007, this gap had not only been eradicated, but the poorest were slightly more likely to obtain care than the richest.¹

¹ The slight decrease in utilisation from 2003 to 2007 among the wealthiest quintile is not statistically significant. In 2007, the difference in access between wealthy and poor is statistically significant, and remains so with statistical control for **MISSING TEXT**

Although children were the main beneficiaries of free care, the increase in utilisation came mainly amongst adults. In both 2003 and 2007, a large majority of sick children received medical care (Figure 5.6). In 2003, however, access to care decreased markedly with age. By 2007, the effect of age was greatly diminished, with the greatest improvement amongst the elderly.



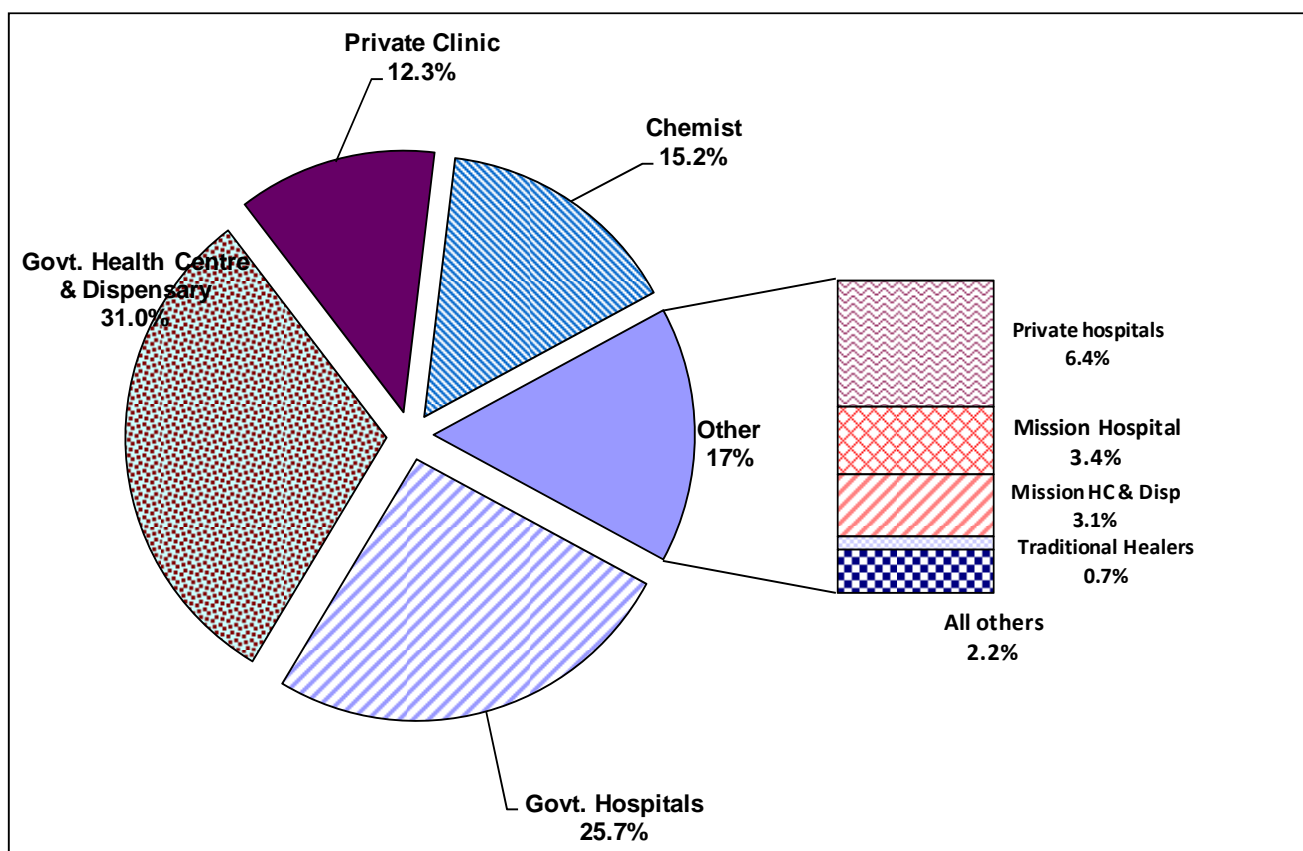
At every age, Kenyans report fewer illnesses in 2007 than they had in 2003 (Figure 5.7). Although some of this improvement may result directly from improved access to care, 2003-07 was also a period of substantial attempts to reduce the incidence of malaria.



5.2 Choice of Provider: Distribution of Outpatient Visits by Provider Type

Figure 5.8 (details in Annex C) shows the providers chosen by patients who sought health care in response to illness. Government facilities account for 57 percent of total outpatient visits. About 15 percent of visits are to a chemist. Private and mission health facilities account for 18 percent and 6 percent of outpatient visits, respectively, while traditional healers attract a negligible proportion (1 percent) of patients.

Figure 5.8: Percent Distribution of Outpatient Visits by Type of Health Provider, 2007



Insert above table: Table 5.4: Visits to Providers, by Province, 2007

Province	Public	Private	FBO	Chemist	Others	Total
Nairobi	34.6	34.6	8.3	18.6	3.9	100.0
Central	69.1	18.0	10.5	2.3	0.0	100.0
Coast	56.3	27.0	2.6	12.5	1.6	100.0
Eastern	66.4	18.4	10.2	4.6	0.4	100.0
North Eastern	79.8	17.1	0.0	2.5	0.6	100.0
Nyanza	60.1	12.4	2.9	20.9	3.7	100.0
Rift Valley	55.4	20.4	8.7	12.3	3.2	100.0
Western	47.8	15.5	3.4	30.5	2.9	100.0
Cluster Type						
Urban	45.5	29.0	4.8	18.7	2.0	100.0
Rural	59.5	16.8	6.8	14.3	2.7	100.0

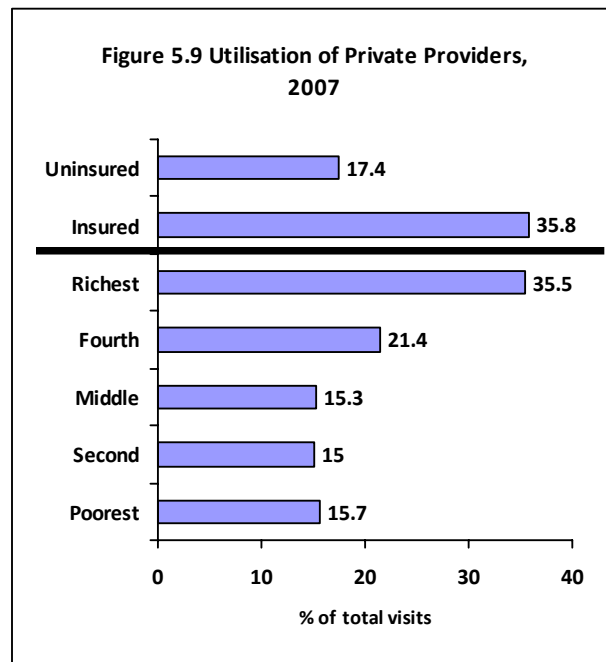
(Table 5.4).²

In Nairobi, the rate of these visits is twice as high (35 percent) as in rural areas. Apart from cost considerations, **public** health facilities

² In this discussion, “private” includes private hospitals and private clinics. It does not include chemists and other retail sources because these represent a qualitatively different level of care from that provided at the “private” health facilities.

are generally well spread in both urban and rural areas and hence accessible.

Only the wealthiest fifth of the population show substantially elevated use of private providers (Figure 5.9). Kenyans with insurance are twice as likely to use a private provider as are the uninsured, and the wealthy are more likely to have insurance than are poorer people. However, even after statistically controlling for wealth, age, and geographic location, the insured are still significantly more likely to visit a private provider than the uninsured are.



5.3 Annual OOP Expenditures Per Capita on Outpatient Visits

The relationship between annual per capita OOP health expenditure and socioeconomic characteristics of Kenyans is shown in Table 5.5. Overall, the cost per capita of outpatient visits was KSh 328. However, there were large differences in health care spending across the provinces. In 2007, residents of Nairobi spent KSh 1,089 per capita, compared with KSh 205 in Western province (about 5 times as much). Further, the average OOP expenditure made by urban populations (KSh 699) was significantly higher than that by rural ones (KSh 236) in terms of absolute amounts.

Table 5.5: Per Capita OOP Expenditures on Outpatient Visits, 2007			
Characteristics		Number	KSh
Province	Nairobi	3,181,618	1,089
	Central	4,260,440	398
	Coast	3,224,356	199
	Eastern	5,714,743	238
	North Eastern	1,142,569	159
	Nyanza	5,571,258	232
	Rift Valley	9,450,376	276
	Western	4,638,562	205
Cluster type	Urban	7,362,023	699
	Rural	29,821,901	236
Sex	Male	18,158,265	263
	Female	19,025,659	389
Age in years	0-4	5,392,218	213
	5-14	10,248,679	109
	15 -49	17,445,264	375
	50 -64	2,629,545	630
	65 +	1,440,847	1,200
Marital status	Never married	23,240,959	173
	Married	11,864,316	549
	Divorced	661,964	1,253
	Widowed	1,416,686	589
Level of education	Not stated	9,833,525	229
	Nursery	1,466,033	91
	Primary	18,301,299	275
	Post primary	252,111	301
	Secondary	5,691,285	667
	College	897,869	674
	University	307,616	832
Employment status	Working	10,379,138	567
	Seeking work	1,752,332	373
	Homemakers	4,002,305	457
	Students	12,024,291	116

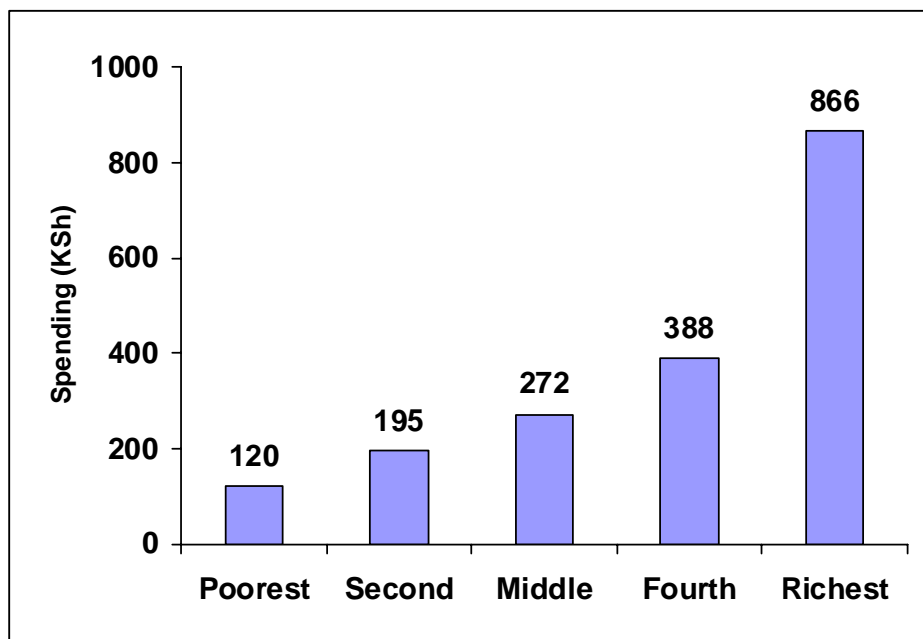
Table 5.5: Per Capita OOP Expenditures on Outpatient Visits, 2007			
Characteristics		Number	KSh
	Other	1,677,783	471
	Under age	6,874,730	217
	Not stated	473,346	319
Rating of own health	Very good	9,669,665	264
	Good	21,865,873	274
	Satisfactory	3,727,996	629
	Poor	1,209,621	1,014
	Not stated	648,782	97
Presence of chronic problem	Not present	34,530,376	243
	Present	2,653,548	1,432
Total		37,183,924	328
Religion	Catholic	10,375,717	288
	Protestant	22,227,235	363
	Muslim	3,365,904	267
	Traditionalist	623,060	253
	Atheist	145,910	86
	Other	446,098	149
Health insurance cover	Insured	3,649,475	605
	Not insured	31,855,579	299
	Not stated	1,678,869	278
Wealth index quintiles	Poorest	7,677,393	120
	Second	8,697,537	195
	Middle	8,566,131	272
	Fourth	7,034,143	388
	Richest	5,208,720	866
Expenditure quintiles	Poorest	6,567,957	148
	Second	8,063,993	191
	Middle	7,943,953	221
	Fourth	7,754,879	363
	Richest	6,853,142	745
Total		37,183,924	328

5.3.1 Expenditure by Wealth Index Quintile

The wealthiest fifth of the population spend twice as much on outpatient care as the next wealthiest quintile, and seven times as much as the poorest quintile (Figure 5.10). This higher level of spending is attributable to the fact that individuals in the richest quintile more often seek care in private facilities that offer greater convenience and more amenities than public providers do. These facilities also charge substantially higher fees, which are rarely waived. Although the poor make about the same number of outpatient visits, they pay less per capita for the services because they select lower-price, subsidised service providers.

In this sense, the wealthy are buying “better” care, but from this survey it cannot be concluded that the choice results in better medical outcomes.

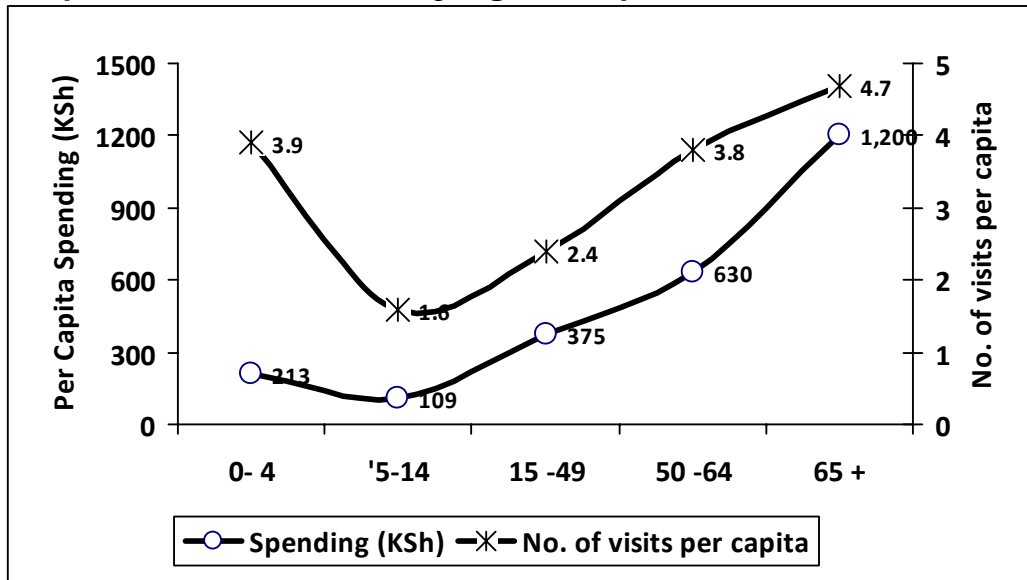
Figure 5.10: Annual Per Capita Spending for Outpatient Health Care



5.3.2 Health Care Expenditure, by Age Group

The young and the old are the most intensive users of outpatient care (Figure 5.11). Care for children under five is often free. When fees are charged, the charge tends to increase with age. On average, the median cost of an outpatient visit (excluding those that are free) increases by 5 to 15 percent for each additional decade of age. Consequently, Kenyans 65 years of age and older spent about five times more per capita as children under five years.

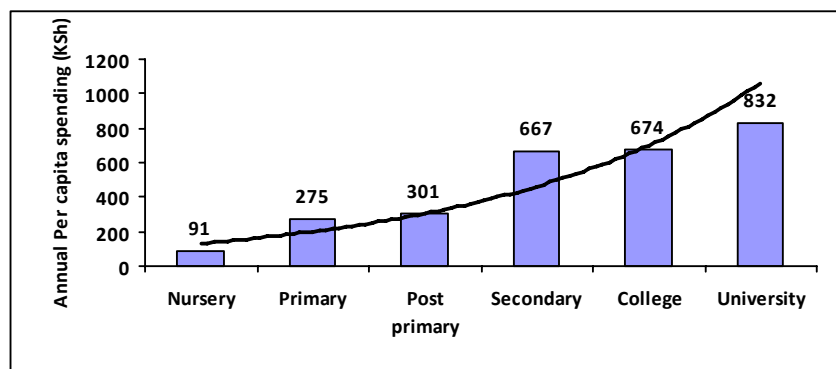
Figure 5.11: Annual Per Capita Spending and Visits for Outpatient Health Care, by Age Group, 2007



5.3.3 Expenditure by Education

Educational differences in health care spending are significant with a clear gradient of increased OOP expenditure as education increases. The educated spend more for outpatient visits than those with less education (Figure 5.12). Education contributes to higher incomes (and higher incomes contribute to education). In addition, the educated are more likely to live in urban areas, where spending levels are higher. These two facts explain the higher spending of educated Kenyans.

Figure 5.12: Annual Per Capita Spending and Visits for Outpatient Health Care, 2007



5.4 Leading Causes for Seeking Outpatient Care

Although malaria visits are much less frequent than they were in 2003, malaria still accounts for 31 percent of outpatient visits (Table 5.6). Diseases of the respiratory system account for another 25 percent.

Table 5.6: Causes of Seeking Outpatient Care, 2007

Cause	%
Malaria	30.6
Respiratory disease including pneumonia	25.0
Immunisations (prevention)	6.4
Skin diseases (boils, lesions etc.)	5.5
Diarrhoeal diseases	5.5
Prenatal/antenatal care	4.6
Intestinal worms	4.3
Accidents and injuries	3.7
Physical check-up (prevention)	3.1
Eye infections	2.9
All others	8.4
TOTAL	100.0

5.5 Reasons for Those Ill Not Seeking Health Care

The vast majority (84 percent) of people with an illness saw a medical provider. Amongst those who did not, over a third (38 percent) identified lack of money as the reason for not seeking care (Table 5.7). Another third said they self-medicated – the practice is common because of the argument that self-medication reduces the burden on medical practitioners and decreases the cost of treatment. While the results of this survey cannot address the merits of self-medication, they do underscore the contribution that it makes to treatment. Further, because the survey considered chemists as medical providers, the individuals who self-medicated may represent respondents who incorrectly understood what was meant by obtaining care. No other reason accounts for a significant number of foregone visits.

Table 5.7: Percentage of Persons Reporting Being Ill in the Four Weeks Prior to the Survey And Not Seeking Care, and Their Reason for Not Doing So, 2003 and 2007

Reason	2003	2007
Lack of money	39.4	37.7
Self-medication	37.2	34.5
Poor quality service	1.7	0.5
Religious	1.2	3.1
Fear of discovering serious illness	1.2	0.2
Long distance to provider	16.4	11.2
Others	3.0	12.8
Total	100.0	100

5.6 Reasons for Avoiding Nearest Health Provider (All Visits)

About two thirds of rural residents and more than half of urban dwellers who sought care used the provider closest to their homes. About 20 percent of those who did not said that the medicine they needed was unavailable at the nearest provider (Tables 5.8). Another 18 percent, mostly those whose nearest facility was privately owned, said the cost was too high. A few (14 percent) questioned the staff qualifications at their nearest facility. No relationship was found between the ownership of the facility and any of the reasons for avoiding it other than cost.³

Table 5.8: Distribution of the Reasons for Avoiding the Nearest Provider, 2007

Reason	%
Medicine unavailable	20.2
More expensive services	18.4
Staff are unqualified	14.4
Long waiting time	9.9
Was referred	7.6
Unfriendly staff	6.5
Would have paid	5.9
No privacy	2.4
Dirty facility	1.4
Other	13.2
Total	100

³ The number of respondents eligible for this analysis is very small; consequently, the percentages in these tables have large margins of error, and most apparent differences are not statistically significant.

5.7 Reasons for Choosing Provider

The health provider being “close to home” was the main reason given for choosing a health provider – nearly one quarter of patients gave the response (Table 5.9). The other common reasons mirrored the reasons for not choosing the closest provider: cost (15 percent) and availability of medicine (19 percent). No other reason earned a substantial number of responses.

Table 5.9: Percent Distribution of Responses by Reason for Choice of Health Provider, 2007

Reason	%
Close to home	23.6
Medicine available	19.0
Less costly	14.6
Staff are qualified	9.5
Staff give good advice	7.1
Less waiting time	6.6
Good staff attitude	6.1
Felt not seriously ill (minor ailment)	3.1
Do not have to pay	2.8
Knew someone in the facility	2.4
Was referred	2.4
Cleaner facility	1.2
More privacy	0.9
Employer/Insurance requirement	0.7
Total	100

5.8 Distribution of Expenditures on Outpatient Care by Component

Most people who paid for outpatient services could not itemise the components of their bill. For those who could, medication accounted for about two thirds of total spending; registration, consultation fees, and diagnosis each accounting for about 10 percent.

6 Utilisation of Inpatient Health Services and Out-of-Pocket Expenditures

Data on the utilisation of inpatient health care are useful for monitoring patterns of care as a key part of the health care system as well as for describing health conditions in the population. They also permit a fuller understanding of access to inpatient care. Barriers to care that are associated with differences in health care utilisation may be more significant than barriers that do not affect utilisation patterns. Besides access to care, health care utilisation is strongly affected by health care need and patient preferences and values.

Approximately 900,000 (slightly more than 2 percent) of Kenya's 37 million people reported that they were inpatients during the 12 months prior to the survey. This section describes their utilisation patterns.

6.1 Utilisation of Inpatient Health Care Services

Because hospitalisation is a relatively rare occurrence in a population, the 2007 survey obtained information on individual hospitalisations during a 12-month period prior to the survey.⁴ Hospitalisation refers to admission to a facility for an overnight stay. Table 6.1 presents a summary statistics on admissions.

Table 6.1: Summary Statistics on Admissions

Description	2003	2007
Percent of population requiring admission	2.0	??
• Percent admitted	1.5	2.0
• Percent not admitted	0.5	??
Admissions per 1000 populations	15	27
• Admissions in rural areas per 1,000 population	14	24
• Admissions in urban areas per 1,000 population	20	38
Average length of stay	8.5	6.6

Table 6.2 presents the annual hospitalisation rates per 1,000 people by socioeconomic and demographic characteristic and perceived health status. The analysis indicates an overall annual rate of admissions of 27 admissions per 1,000 population. This is a sharp

⁴ This increases the number of cases available for analysis, but introduces some bias, because patients sometimes forget events that happened long ago, and often forget the exact dates.

increase from the admission rate of 15 per 1,000 populations in 2003.

Females are hospitalised more often (33 admissions per 1,000 population) than males (19.8 per 1,000 population). About half of the difference is attributable to childbirth and other reproductive health services.

Table 6.2: Average Annual Number of Admissions per 1,000 Population to Health Facilities by Selected Characteristics, 2007

Characteristics		Number of admissions per 1,000 population
Province	Nairobi	34.4
	Central	33.6
	Coast	23.0
	Eastern	24.5
	North Eastern	7.2
	Nyanza	26.5
	Rift Valley	27.0
	Western	24.7
Cluster type	Urban	37.5
	Rural	24.0
Sex	Male	19.8
	Female	33.2
Age in years	0- 4	20.8
	5-14	8.1
	15 -49	35.7
	50 -64	35.0
	65 +	57.2
Marital status	Never married	14.5
	Married	45.4
	Divorced	61.9
	Widowed	52.9
Level of education	Not stated	27.4
	Nursery	14.4
	Primary	22.2
	Post primary	8.7
	Secondary	40.1
	College	39.5

Table 6.2: Average Annual Number of Admissions per 1,000 Population to Health Facilities by Selected Characteristics, 2007

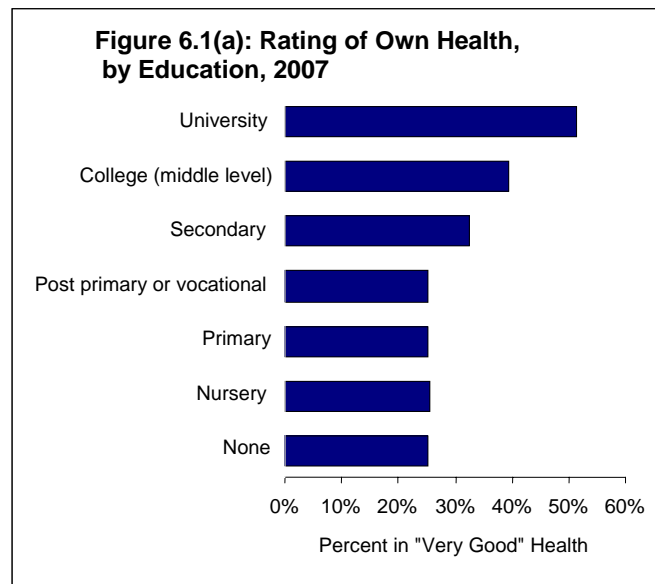
Characteristics		Number of admissions per 1,000 population
	University	69.7
Employment status	Working	37.3
	Seeking work	19.9
	Homemakers	60.5
	Students	10.1
	Other	34.9
	Under age	18.9
	Not stated	38.2
Rating of own health	Very good	19.3
	Good	20.3
	Satisfactory	47.6
	Poor	142.3
	Not Stated	18.1
Presence of chronic problem	Not Present	21.4
	Present	94.8
Religion	Catholic	29.2
	Protestant	27.5
	Muslim	18.7
	Traditionalist	7.4
	Atheist	40.3
	Other	9.3
Health insurance cover	Insured	47.6
	Not insured	24.7
	Not stated	18.6
Wealth index quintiles	Poorest	20.4
	Second	24.3
	Middle	23.9
	Fourth	32.3
	Richest	36.8
Expenditure quintiles	Poorest	23.0
	Second	24.1
	Middle	23.8
	Fourth	28.7

Table 6.2: Average Annual Number of Admissions per 1,000 Population to Health Facilities by Selected Characteristics, 2007

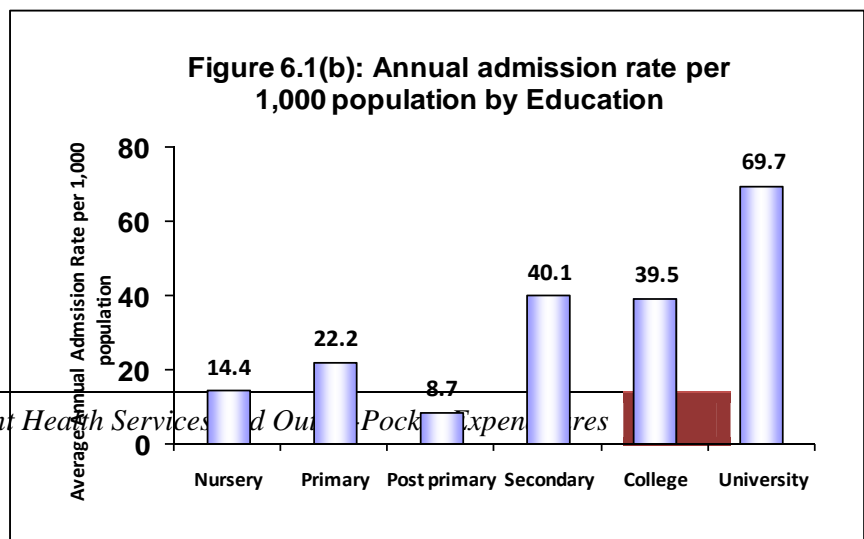
Characteristics	Number of admissions per 1,000 population
Richest	34.3
Total	26.7

6.2 Admission Rate by Education

Education can lead to a healthier lifestyle, either directly or through increased earning capacity. It also improves access to care, through better information and, again, through higher earnings. As Figure 6.1(a) shows, university graduates are about twice as likely as those with less than secondary education to rate their own health as "very good."



The demand for inpatient health care increases with education (Figure 6.1(b)). Individuals who have a university education are more likely to get inpatient care than those with less



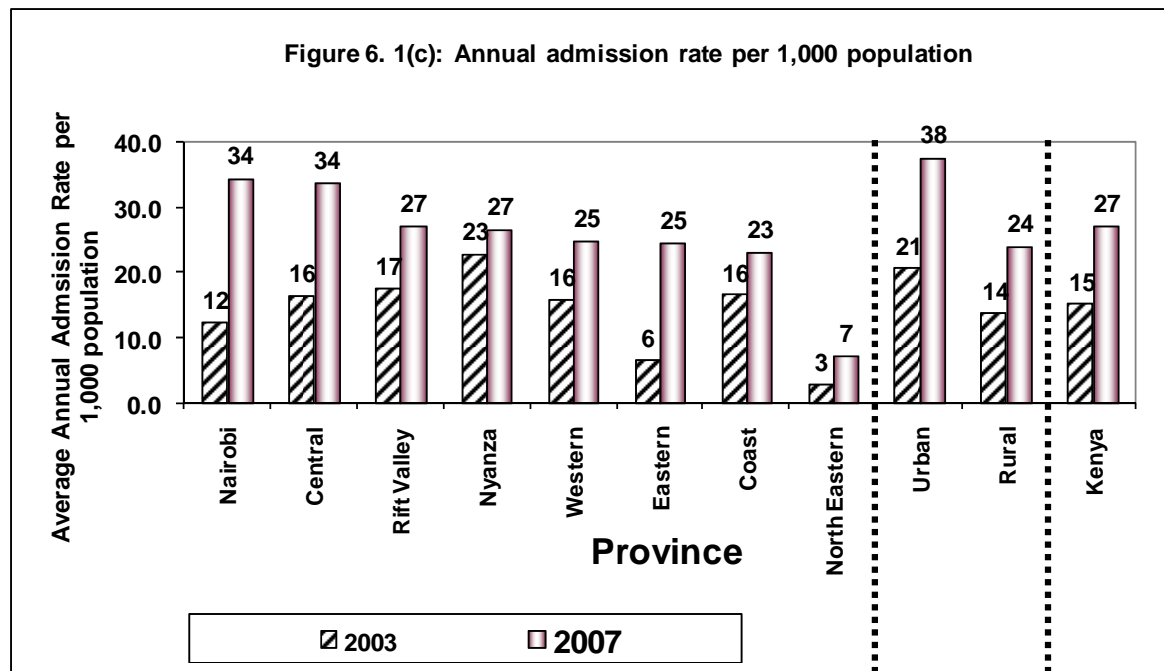
education. Clearly, the educated have greater access to and incentive to use care.

6.3 Admission Rate by Province and Residence

Nationally, urban individuals have a higher admission rate (38 per 1,000 population in 2007) than rural (24 admissions per 1,000 population) (Figure 6.1(c)). This is likely due to two reasons:

- First, the relatively higher incidence of hospitalisation in urban areas may be indicative of greater access health care;
- Second, urban residents can afford to pay for the health services.

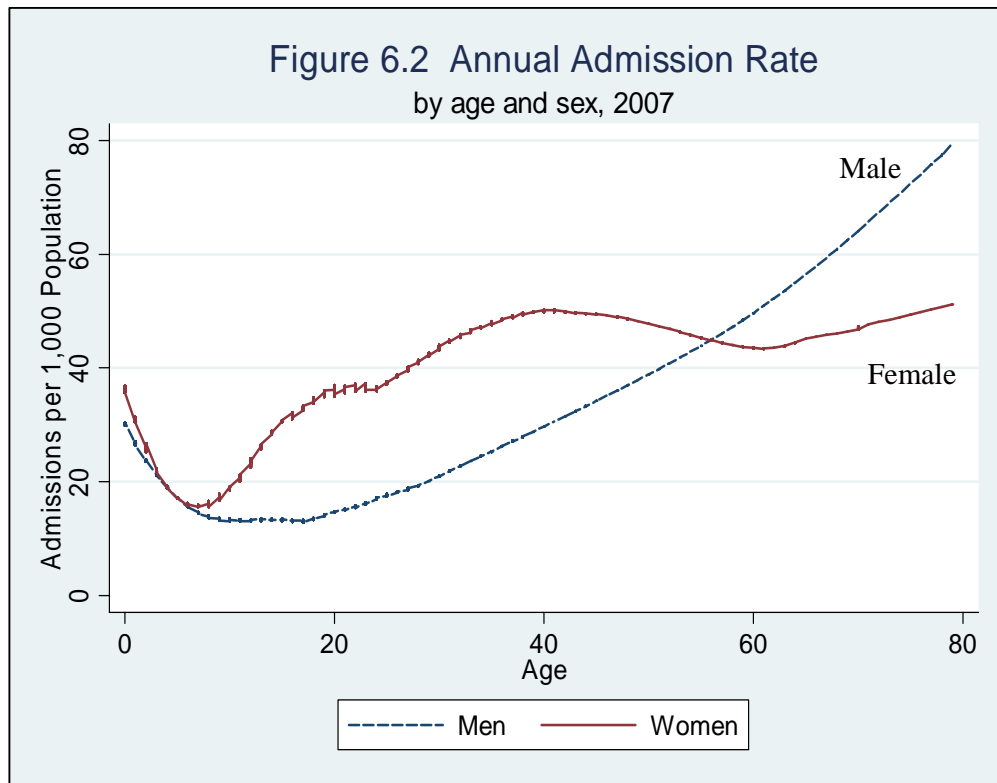
There is also much provincial variation of hospitalisation rates. Nairobi and Central province reported the highest admission rates (34 admissions per 1,000 population). North Eastern province had the lowest admission rate (7 percent). A similar pattern existed in 2003.



6.4 Admission Rates, by Age Group and Gender

There were differences in hospitalisation rates across age groups (Figure 6.2). Women between the ages of 15 and 50 required

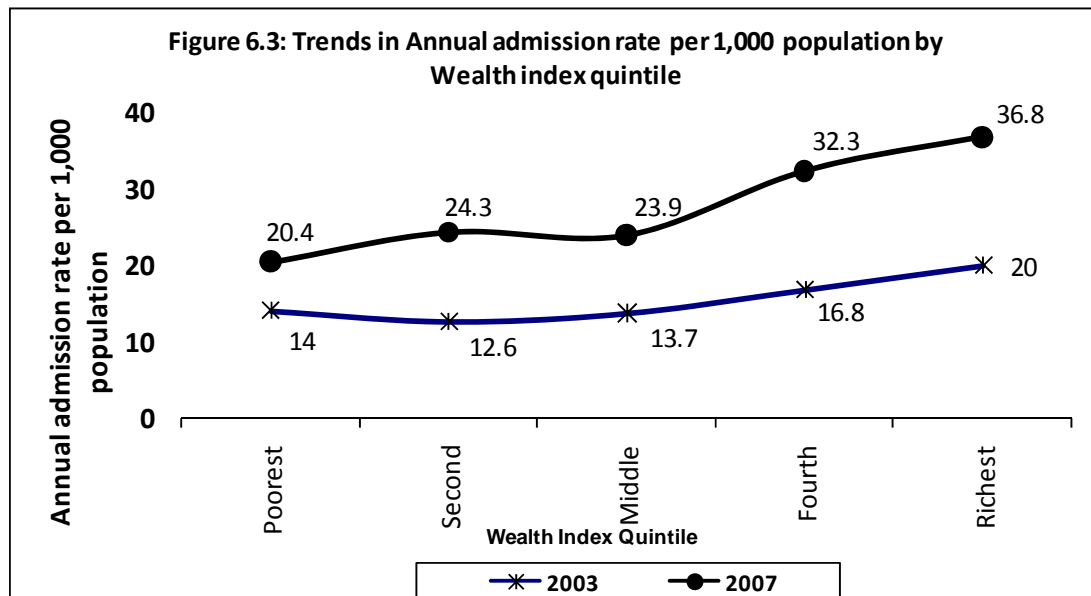
significantly more admissions than men of the same age. Thereafter, inpatient utilisation increased with age for men, but not for women. Individuals over 65 years of age utilised inpatient services at a higher rate (57 admissions per 1,000 population) than other age groups possibly because of the increasing prevalence of chronic illnesses associated with greater age. The age group 5-14 years recorded the lowest hospitalisation rate (8 per 1,000 population).



6.5 Admission Rate, by Wealth Index

This section examines the role wealth might play in explaining the disparities in utilisation of inpatient health care. The economic differences within society limit the choice of health provider for the poor, and may limit whether they see a provider at all. Poverty not only excludes people from the benefits of the health care system but also restricts them from participating in decisions that affect their health, resulting in greater health inequalities.

As seen in Figure 6.3, there is a strong correlation between wealth index and use of inpatient care. In 2007, individuals in the richest wealth index quintile were about twice as likely to use inpatient care (37 admissions per 1,000 population) as those in the poorest quintile (20 per 1,000 population). This raises equity concerns about the health care system. Comparison of the 2003 and 2007 admission rates reveals similar trends. Since the poor are likely to bear a much larger burden of illnesses than the rich, the data in Figure 6.3 suggest that patients view many admissions as synonymous with better-health seeking behaviour, and the better-off are willing (and able) to pay for this better care. They also are more likely to have insurance, but this explains only a small part of the disparity.

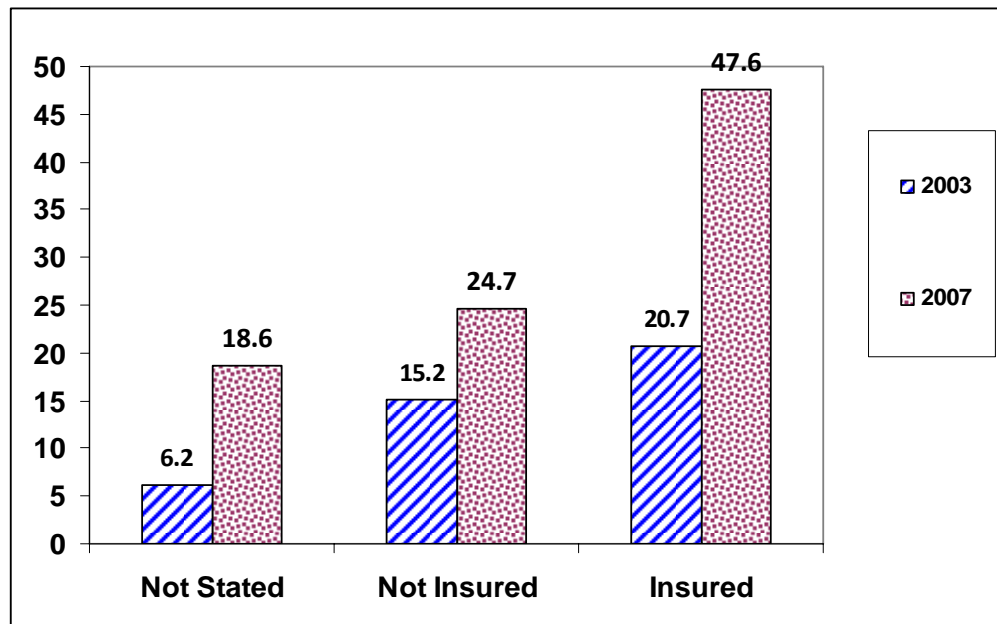


6.6 Admission Rate, by Insurance Cover

There is a significant difference in the number of admissions per 1,000 population reported amongst the insured (48 admissions per 1,000 population) and the uninsured (25 admissions per 1,000 population) individuals (Figure 6.4). Comparison of 2003 and 2007 shows that insured and uninsured individuals report similar trends of inpatient care service use – an individual's demand for care is related to his or her insurance status.

It is worth noting that insurance coverage is biased toward formal sector employees, who tend to be better off than informal sector employees. However, in the recent past, the National Health Insurance Fund (NHIF) has been making aggressive efforts to expand the scheme to cover the informal sector.

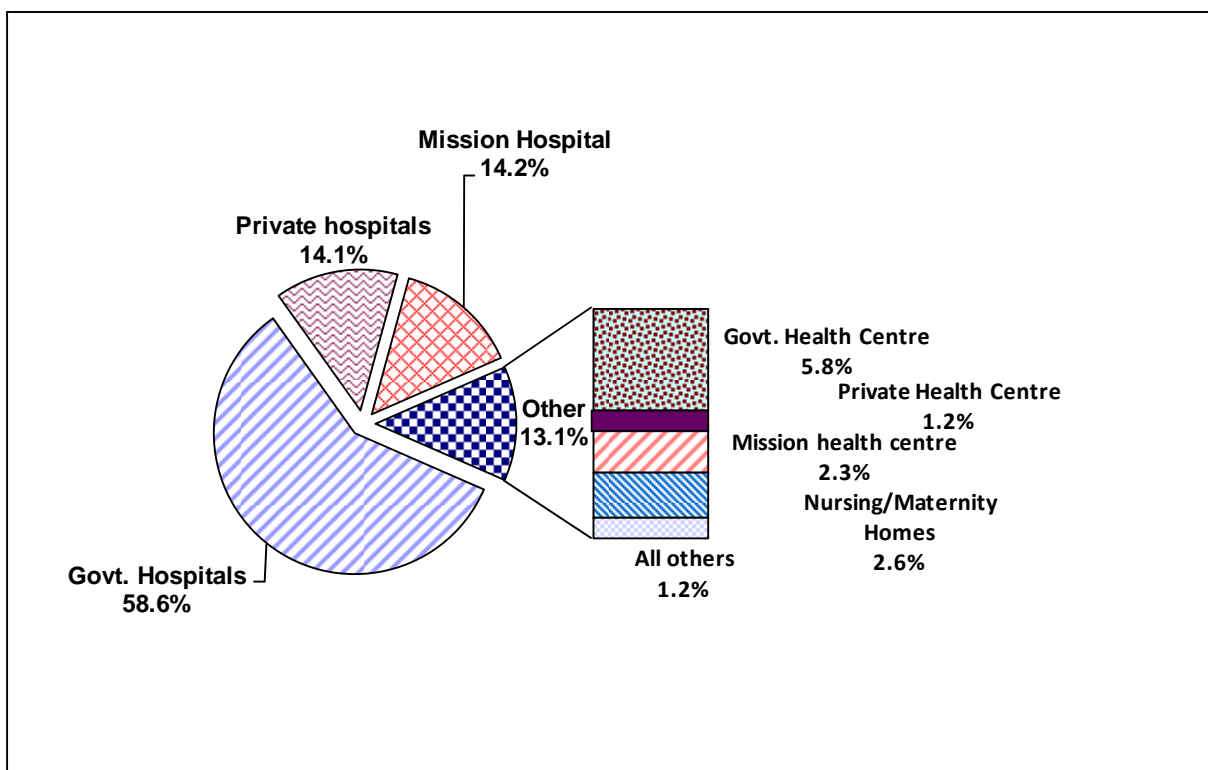
Figure 6.4: Admission Rate per 1,000 Population by Insurance Cover and Year, Kenya.



6.7 Where Do Individuals Seek Inpatient Care? Choice of Health Care Provider for Inpatient Services

What type of health providers do Kenyan households access when seeking inpatient health care? Evidence from the survey points to an overwhelming use of public health care facilities compared with private ones (Figure 6.5). Overall, government hospitals account for 59 percent of all admissions, with private and mission hospitals each providing 14 percent of inpatient care. The most important reason for using government hospitals is that they are inexpensive. It is noteworthy that these results emerge in the context of an extensive network of government health facilities spread out all over the country. Differences between 2003 and 2007 in choice of provider (Table 6.2) are not statistically significant.

Figure 6.5: Percent Distribution of Admissions by Type of



Health Provider, 2007

Table 6.2: Trend in the Distribution of Admissions, by Type of Health Facility, 2003 and 2007

Type	2003	2007
Government hospitals	63.1	58.6
Private hospitals`	13.9	14.1
Mission hospital	9.9	14.2
Government health centre	9.3	5.8
Private health centre	1.7	1.2
Mission health centre	1.3	2.3
All others (including nursing and maternity homes)	0.8	3.8
Total	100.0	100.0

As Figure 6.6 shows, nearly two thirds (64 percent) of all reported of admissions were made in government health facilities. Distribution of admissions reported varied by province. Admissions were most likely made in public health facilities if the patient lived in North Eastern (87 percent), Coast (80 percent), and Western (74 percent) provinces. There are few private health facilities in North Eastern, leaving residents with fewer options. But even where there are private health facilities, choice of public facilities was due to cost considerations as illustrated in Figure 6.7. Only in Nairobi did admissions to private health facilities (56 percent of all admissions) outnumber those to public facilities. Annex D presents the detailed distribution of admissions by selected patient characteristics.

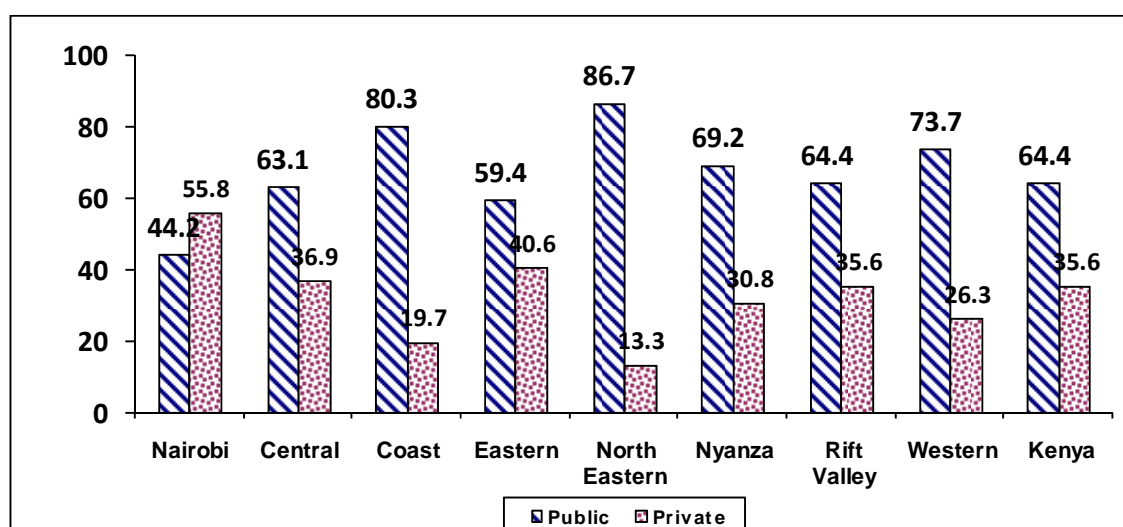
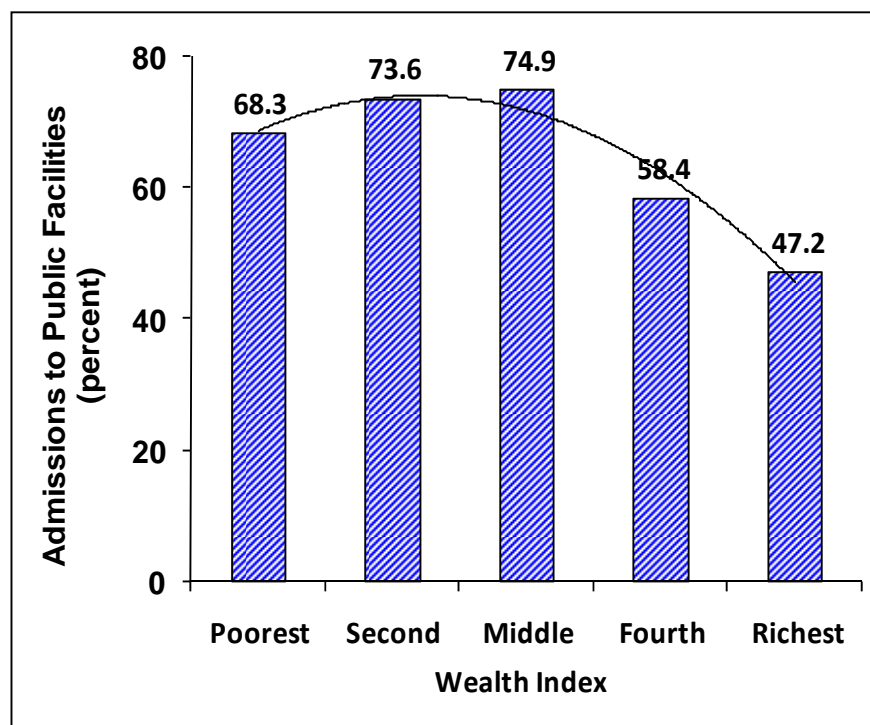
Figure 6.6: Percent Distribution of Admissions by Type of Health Provider, 2007

Figure 6.7: Admissions to Public Facilities, as a Percentage of All Admissions, by Wealth Index Quintile, 2007



6.8 Distribution of Admissions by Wealth Index Quintile and Health Facility Type

Across all wealth quintiles, the majority of inpatient admissions are to public facilities (Table 6.4). Even amongst the wealthiest fifth of the population, nearly half (47 percent) of inpatient care occurs at public facilities. An interesting point to note is that the proportion of admissions in FBO hospitals is about the same (12-17 percent) across the quintiles.

Eighty-five to 90 percent of patients above the poorest quintile obtained their inpatient care at a hospital; 23 percent of the poorest used a facility other than a hospital, usually a health centre.

Table 6.4: Type of Provider Accessed by Health Care Service Seekers, 2007 (in percentage)

<i>Health Facility Type</i>	<i>Poorest</i>	<i>Second</i>	<i>Middle</i>	<i>Fourth</i>	<i>Richest</i>
Government hospitals	55.1	64.4	70.9	54.7	46.6
Private hospitals	7.2	4.3	7.5	21.3	29.1
FBO hospital	14.7	16.9	12.0	14.2	13.0
Government health centre	13.2	9.2	4.0	3.7	0.6
Private health centre	2.8	1.8	0.7	0.6	0.2
Mission health centre	4.6	1.8	2.2	1.6	1.8
Nursing/Maternity homes	1.7	0.0	0.9	2.7	7.8
All others	0.7	1.6	1.8	1.2	0.9
TOTAL	100	100	100	100	100

However, a number of other factors facilitate access to hospitals by the better-off and restrict access by the poor:

The first of these factors is related to the physical location of hospitals. Since a large majority of hospitals are located in urban centres, geographical access to hospitals is much better for better-off urban dwellers than for poorer rural residents.

The second factor is related to the large private costs associated with hospital use. Because hospitals provide more specialised treatment, the cost to an individual of using hospital services is much greater than that of using services supplied by health centres. This means that individuals with more purchasing power have easier economic access to hospitals than the poor.

Third, the inequitable coverage of health insurance may have unintentionally contributed to the greater relative use of hospitals by better-off individuals. As expected, individuals with health insurance coverage tend to be better-off than those without insurance coverage, because coverage is mandatory for persons having salaried jobs but not mandatory for self-employed persons or casual labourers, who typically earn lower wages. Since health insurance agencies largely reimburse hospital costs, there is a bias toward greater use of hospital services (and under-utilisation of lower-level health facilities) by health insurance members.

6.9 Causes of Admission

Table 6.5 presents the distribution of causes for hospitalisation. Malaria is the most common cause, accounting for 23 percent of total admissions, followed by respiratory infections (18 percent). Accidents (6 percent) were ranked amongst the top ten causes of admission, and chronic illnesses like diabetes are increasingly common.

Table 6.5: Causes of Admission, 2007

Cause	%
Malaria	23.0
Respiratory Infections	17.8
Accidents and injuries	6.3
Normal (vaginal) delivery	5.5
Diarrhoea	4.9
Diabetes	3.4
Treatment/surgery for reproductive health-related cancer	3.0
Caesarean section	2.3
Eye infections	2.0
Tuberculosis	1.9
Skin diseases	1.3
Intestinal worms	1.2
HIV/AIDS	1.0
Family planning – sterilisation	0.1
Sexually transmitted infections	0.1
Other services	26.1
Total	100.0

6.10 Reasons for Avoiding Nearest Health Care Provider

The data allow investigation of how patients choose their inpatient provider. More than half bypass the nearest health facility and go to one farther away (Table 6.6). These patients were asked why they did not select the nearest facility.

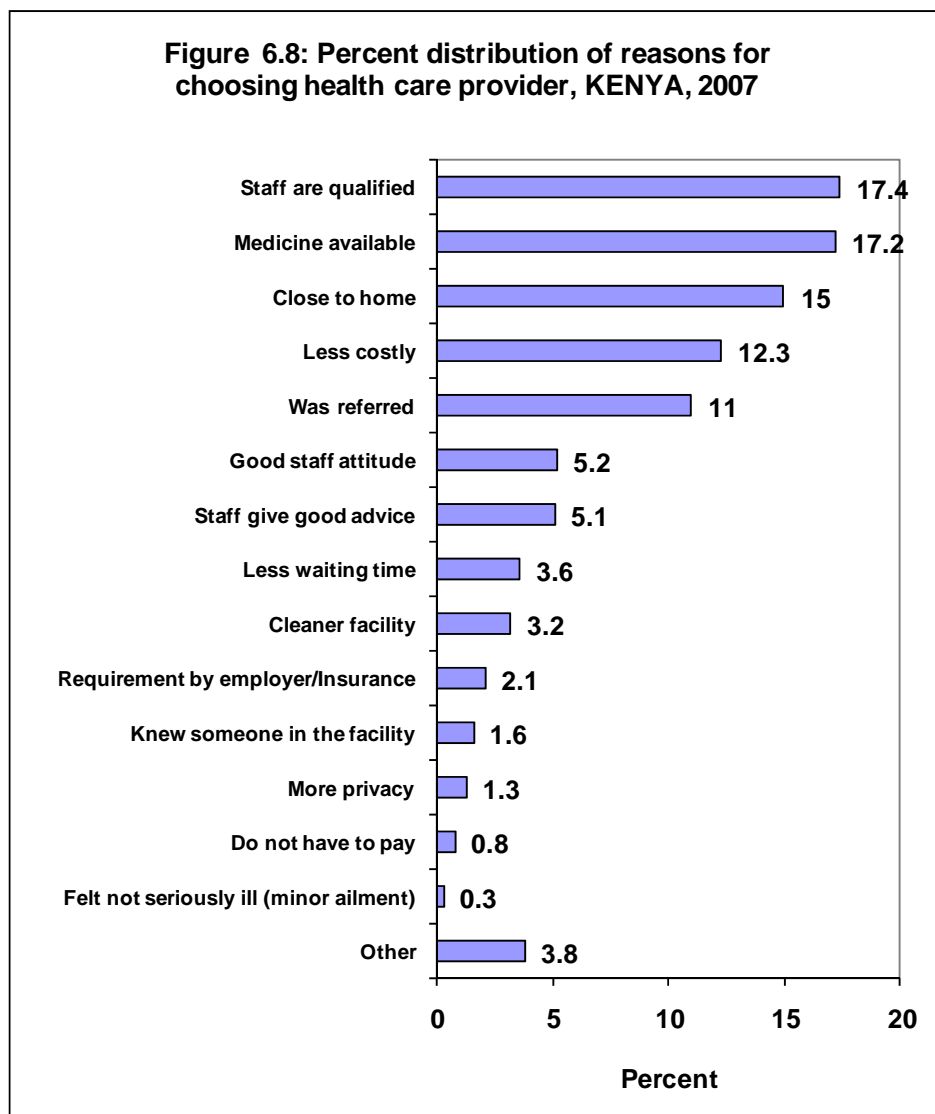
- Referral was the reason in about one fifth (21 percent) of the responses;
- Reasons related to quality of care were named in about half of the cases: availability of medicine (14 percent), staff qualifications (13 percent), and cleanliness, privacy, staff attitudes, unavailability of beds, and long waiting time;
- Nineteen percent of bypassing is for economic reasons (to get free or lower-cost services).

Table 6.6: Percent Distribution of Reasons for Avoiding Nearest Provider, 2007

Reason	%
Was referred	21.4
Services are expensive	14.2
Medicine unavailable	13.5
Staff are unqualified	13.4
Beds not available	7.8
Long waiting time	6.3
Would have paid	4.8
Unfriendly staff	4.3
Dirty facility	1.8
No privacy	1.5
Other	10.9
Total	100.0

6.11 Main Reasons for Choosing the Admitting Health Care Provider

Respondents were asked to state why they chose the admitting health facility (whether or not it was the nearest facility). Again, most of the reasons involved quality (availability of medicine, qualifications of staff, etc.) (Figure 6.8). That the facility was close to home was the response in 15 percent of all the reasons. About 12 percent mentioned lower cost.



6.12 Sources of Funds

Given the cost of hospitalisation, how do households and or individuals finance their inpatient health care? This is an important policy question given the linkage between health status and productivity, and its long-run effects on poverty. To examine this issue, households reporting incidence of member(s) hospitalisation during the 12 months prior to the survey were asked to state their sources of financing the inpatient health care.

For nearly two thirds (67 percent) of the admissions, cash was available to pay for the hospitalised individuals (Table 6.7). However, availability of cash to pay for the hospitalisation varied by

wealth quintile (75 percent amongst the richest households compared with 55 percent amongst the poorest households).

Monetary support from friends and family members was the response for 19 percent of admissions. For 7 percent, households had to borrow money. Another 7 percent had to sell household assets. Selling of household assets (land, domestic animals, etc.) to finance health expenditure has important implications for equity and poverty, because this hampers the household's present and future earning potential and risks it experiencing poverty and other deprivation. For 17 percent of admissions amongst the poorest households, assets had to be sold; in contrast, this had to be done in less than 1 percent of admissions amongst the richest households.

Table 6.7: Percent Distribution of Admissions by Sources of Payment for Inpatient Care, 2007

Source	Wealth Index Quintile					Total
	Poorest	Second	Middle	Fourth	Richest	
Had cash available	54.9	68.3	62.2	72.6	74.8	67.3
Was given money by friends, relatives & family members	26.3	18.2	22.9	19.2	8.3	18.8
Borrowed money	10.5	8.3	7.4	7.4	3.8	7.4
Sold household assets	16.8	13	5.6	1.6	0.4	6.9
NHIF	0.0	0.8	1.4	10.1	14.2	5.6
"Harambee" contributions	3.2	0.1	9.4	1.5	3.7	3.5
Was given opportunity to pay later	5.3	1.8	4.8	2.1	0.7	2.8
Private health insurance	0	0	1.1	2.3	5.9	1.9
Waived/exempted	2.2	0.7	1.5	1.8	1.3	1.5
Community health insurance scheme	0	0	0	0.5	0.9	0.3
Reimbursed by employer	0	0	0	0.7	0.5	0.3

** Percentages do not add up to 100 because multiple responses were allowed.*

6.13 Annual OOP Expenditures Per Capita for Inpatient Care

This section examines differentials in annual per capita OOP expenditure by individuals seeking inpatient health care by certain key variables. The survey did not attempt to measure illness-related income losses or time costs are not measured; its scope was limited to OOP health care expenditures, since these are considered to be an appreciable problem in Kenya.

All those households that reported a hospital admission were asked to state the OOP expenditures made on the last two admissions that occurred during the 12 months prior to the survey. Table 6.8 shows the per capita expenditures by individuals' socioeconomic

background. The per capita OOP expenditure on admissions was KSh 245. In addition:

- In urban areas, the annual per capita out of pocket expenditure was KSh 674 compared with KSh 139 for rural areas.
- Women are more likely to be admitted for inpatient care than men are. However, their per capita OOP spending is lower, probably because their cost per admission is somewhat lower than men's.
- Insured individuals have substantially higher per capita OOP expenditure (KSh 1,273) than the uninsured (KSh 137).
- The relationship between per capita OOP expenditure for inpatient care and wealth index is characterised by a **J-shaped distribution**. Per capita OOP expenditure was highest (KSh 887) for individuals in the richest quintile group and lowest (KSh 59) for those in the poorest quintile group.

Key Points on Per Capita Expenditure

- **Province-wise:** The per capita OOP spending for inpatient care is highest in Nairobi and lowest in North Eastern province.
- **Age group:** The per capita OOP spending is highest for people age 65 and over and lowest for those age 0–4 years.
- **Education:** The highest spending is among post-secondary graduates, and lowest among those with primary-level education and below.
- **Marital status:** Married individuals have the highest per capita expenditure.
- **Self-assessment of health status:** People assessing their health status as “poor” have on average higher per capita expenditure than those assessing their health status as “very good”.

Table 6.8: Per Capita OOP Expenditure on Admissions, 2007

Characteristic	Number	KSh	
Province	Nairobi	3,181,618	1,240
	Central	4,260,440	180
	Coast	3,224,356	64
	Eastern	5,714,743	161
	North Eastern	1,142,569	22
	Nyanza	5,571,258	78

Table 6.8: Per Capita OOP Expenditure on Admissions, 2007

Characteristic		Number	KSh
	Rift Valley	9,450,376	245
	Western	4,638,562	105
Cluster type	Urban	7,362,023	674
	Rural	29,821,901	139
Sex	Male	18,158,265	310
	Female	19,025,659	183
Age in years	0- 4	5,392,218	64
	5-14	10,248,679	203
	15 -49	17,445,264	284
	50 -64	2,629,545	260
	65 +	1,440,847	710
Marital status	Never married /never lived together	23,240,959	150
	Married/ living together	11,864,316	418
	Divorced /separated	661,964	331
	Widowed	1,416,686	305
Level of education	None	9,833,525	199
	Nursery	1,466,033	27
	Primary	18,301,299	106
	Post primary/ vocational	252,111	23
	Secondary	5,691,285	634
	College (middle level)	897,869	485
	University	307,616	3,337
	Don't know	434,186	200
Employment status	Working (formal/ informal employment)	10,379,138	378
	Seeking work	1,752,332	159
	Homemakers	4,002,305	391
	Students	12,024,291	170
	Others	1,677,783	209
	Under age	6,874,730	122
	Not Stated	473,346	207
Rating of own health	Very good	9,669,665	158
	Good	21,865,873	222
	Satisfactory	3,727,996	255
	Poor	1,209,621	1,440

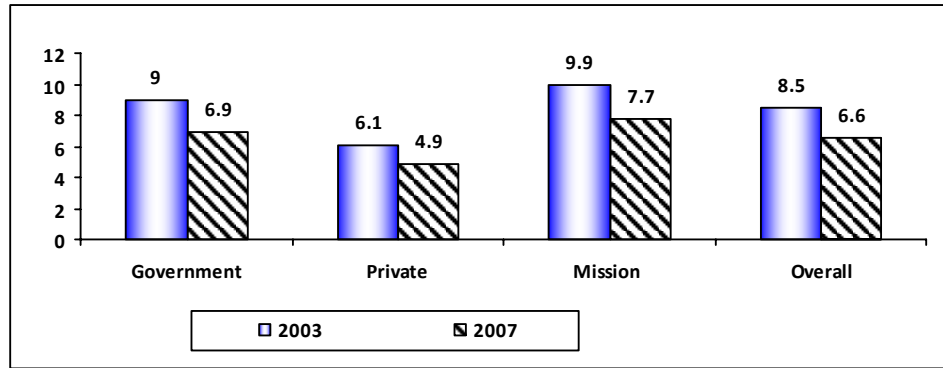
Table 6.8: Per Capita OOP Expenditure on Admissions, 2007

Characteristic		Number	KSh
Presence of chronic problem	Not present	34,530,376	163
	Present	2,653,548	1,307
Religion	Christian (Catholic)	10,375,717	190
	Christian (Protestant)	22,227,235	300
	Muslim	3,365,904	100
	Traditionalist	623,060	68
	Atheist	145,910	137
	Others	446,098	171
Health insurance cover	Insured	3,649,475	1,273
	Not insured	31,855,579	137
	Not stated	1,678,869	51
Wealth index quintiles	Poorest	7,677,393	59
	Second	8,697,537	105
	Middle	8,566,131	140
	Fourth	7,034,143	273
	Richest	5,208,720	887
Expenditure quintiles	Poorest	6,567,957	253
	Second	8,063,993	129
	Middle	7,943,953	102
	Fourth	7,754,879	173
	Richest	6,853,142	619
Total		37,183,924	245

6.14 Average Length of Stay by Selected Characteristic

An important measure of utilisation of inpatient health services is average length of stay (ALOS). Figure 6.10 shows a decrease in ALOS from 8.5 days in 2003 to 6.6 days in 2007. The reduced ALOS may indicate improved treatment procedures.

Figure 6.10: ALOS by Controlling Agency of the Admitting Health Facility, 2007



Admitted individuals appear to be discharged sooner from private hospitals than from public and FBO facilities. Cost implications in private hospitals could have played an important role.

ALOS is a variable that depends on several factors including:

- Type of patient admitted to health provider;
- Diagnosis and treatment units; and
- Treatment procedures.

For example, admission of many elderly people will increase ALOS. An insufficient number of operating theatres and lack of technical equipment (and efficient use of equipment) will keep staff and patients waiting for surgeries and biological and radiological examinations – also increasing ALOS. In contrast, admission of mainly maternity cases will decrease ALOS.

7 Health Insurance Coverage

This section presents the socioeconomic and demographic characteristics of insured and uninsured individuals to identify whether insurance coverage can be linked to these characteristics.

In Kenya, contribution to the NHIF is compulsory for specific groups: all persons engaged in formal employment. It is voluntary for the self-employed. Some large companies also have group insurance schemes for their employees. There are also private health insurance firms. The results of this household survey are relevant to Kenya's current debate on the introduction of national social health insurance as a means to make health care services more accessible.

7.1 Population with Health Insurance Cover

Table 7.1 presents the population by insurance coverage and socioeconomic and demographic characteristics. Overall, only about 10 percent have some form of insurance cover. Coverage has remained the same since 2003. By region, Nairobi has the highest coverage – nearly one in four individuals has insurance – while it is lowest in North Eastern province.

Insurance coverage is higher (20 percent) amongst urban residents than amongst rural ones (7 percent). Coverage of males is slightly higher than that of females.

Insurance coverage is highest amongst those whose self-assessed health status was recorded as "very good." In terms of income, coverage is highest for those in the richest quintile (31 percent) and lowest for those in the poorest quintile (1 percent). As education level increases, the percentage of insurance coverage increases – the percentage with insurance cover was highest amongst those with post-secondary education (over 43 percent) and lowest amongst those who had only primary-level education (7 percent).

Table 7.1: Proportion of Population with Health Insurance Cover, 2007

Characteristics		Number	%
Province	Nairobi	3,181,618	24.0
	Central	4,260,440	9.8
	Coast	3,224,356	7.1
	Eastern	5,714,743	5.9
	North Eastern	1,142,569	2.8
	Nyanza	5,571,258	8.7
	Rift Valley	9,450,376	11.9
	Western	4,638,562	5.4
Cluster type	Urban	7,362,023	19.7
	Rural	29,821,901	7.4
Sex	Male	18,158,265	10.4
	Female	19,025,659	9.2
Age in years	0- 4	5,392,218	8.8
	5 -14	10,248,679	9.2
	15 -49	17,445,264	11.4
	50 -64	2,629,545	8.4
	65 +	1,440,847	2.0
	Age Not stated	27,372	5.6
Marital status	Never Married	23,240,959	8.7
	Married	11,864,316	13.0
	Divorced	661,964	6.4
	Widowed	1,416,686	3.5
Level of education	Not Stated	9,833,525	6.0
	Nursery	1,466,033	8.9
	Primary	18,301,299	6.9
	Post primary	252,111	8.9
	Secondary	5,691,285	18.4
	College	897,869	42.6
	University	307,616	59.7
Employment status	Working	10,379,138	13.9
	Seeking work	1,752,332	5.2
	Homemakers	4,002,305	7.9
	Students	12,024,291	9.1
	Other	1,677,783	3.8
	Under age	6,874,730	9.0
	Not Stated	473,346	6.2
Rating of own health	Very good	9,669,665	14.6
	Good	21,865,873	8.5
	Satisfactory	3,727,996	6.9
	Poor	1,209,621	6.1
	Not Stated	648,782	9.2

Table 7.1: Proportion of Population with Health Insurance Cover, 2007

Characteristics		Number	%
Presence of chronic problem	Not Present	34,530,376	9.8
	Present	2,653,548	10.1
Religion	Catholic	10,375,717	10.0
	Protestant	22,227,235	10.4
	Muslim	3,365,904	6.2
	Traditionalist	623,060	3.5
	Atheist	145,910	1.9
	Other	446,098	14.6
Wealth index quintiles	Poorest	7,677,393	1.0
	Second	8,697,537	2.2
	Middle	8,566,131	6.7
	Fourth	7,034,143	17.1
	Richest	5,208,720	30.6
Quintiles of household expenditures	Poorest	6,567,957	1.9
	Second	8,063,993	3.9
	Middle	7,943,953	6.6
	Fourth	7,754,879	11.2
	Richest	6,853,142	26.4
Total		37,183,924	9.8

7.2 Type of Insurance Coverage

Table 7.2 shows the pattern of insurance coverage by province. Amongst the insured, NHIF has the widest coverage, ranging from 62 percent of the population in Nairobi to 97 percent in North Eastern province. The proportion of the population covered by private health insurance is highest in Nairobi (25 percent) and lowest in North Eastern province (4 percent). To some extent, the shortfall in private health insurance and employer insurance coverage in North Eastern province is offset by a higher rate of NHIF coverage. However, this higher rate of NHIF coverage was not sufficient to fully offset the gap in coverage – 96 percent of North Eastern residents are uninsured.

Table 7.2: Percent Distribution of Insured People by Type of Health Insurance Coverage and Province, 2007

Province	Private Individual Insurance	Employer Insurance Scheme	NHIF	Community Insurance	Others	Total
Nairobi	24.7	21.0	62.0	0.8	0.4	100.0
Central	3.3	12.5	84.8	0.6	1.0	100.0
Coast	1.5	8.7	90.1	0.0	0.0	100.0
Eastern	4.6	12.9	87.7	0.0	0.0	100.0
North Eastern	3.9	3.1	96.9	0.0	0.0	100.0
Nyanza	8.4	8.1	83.0	1.8	0.3	100.0
Rift Valley	1.3	9.7	94.0	0.1	0.2	100.0
Western	5.3	5.3	89.3	1.9	2.4	100.0
Total	7.9	12.0	83.8	0.6	0.5	100.0

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Annexes

7.3 Annex A: Allocation of the Clusters and Households, Response Rates by Province, District and Place of Residence

Annex 1: Allocation of the Clusters and Households, Response Rates by Province, District and Place of Residence

Responding Province/District	Number of Clusters Selected			Households Selected			Responding Households			% of Households		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Nairobi	0	90	90	0	1080	1080	0	1012	1012	0.0	93.7	93.7
Kiambu	12	5	17	144	60	204	140	59	199	97.2	98.3	97.5
Kirinyaga	12	1	13	144	12	156	132	12	144	91.7	100.0	92.3
Muranga	11	1	12	132	12	144	132	11	143	100.0	91.7	99.3
Nyandarua	11	2	13	132	24	156	129	24	153	97.7	100.0	98.1
Nyeri	12	4	16	144	48	192	143	48	191	99.3	100.0	99.5
Thika	11	5	16	132	60	192	131	59	190	99.2	98.3	99.0
Maragua	13	0	13	156	0	156	146	0	146	93.6	0.0	93.6
Central	82	18	100	984	216	1200	953	213	1166	96.8	98.6	97.2
Kilifi	12	3	15	144	36	180	143	23	166	99.3	63.9	92.2
Kwale	12	3	15	144	36	180	144	35	179	100.0	97.2	99.4
Lamu	6	2	8	72	24	96	70	24	94	97.2	100.0	97.9
Mombasa	0	20	20	0	240	240	0	234	234		97.5	97.5
Taita Taveta	8	4	12	96	48	144	92	47	139	95.8	97.9	96.5
Tana River	8	1	9	96	12	108	93	12	105	96.9	100.0	97.2
Malindi	7	4	11	84	48	132	82	44	126	97.6	91.7	95.5
Coast	53	37	90	636	444	1080	624	419	1043	98.1	94.4	96.6
Embu	5	3	8	60	36	96	59	35	94	98.3	97.2	97.9

Annex 1: Allocation of the Clusters and Households, Response Rates by Province, District and Place of Residence

Responding Province/District	Number of Clusters Selected			Households Selected			Responding Households			% of Households		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Isiolo	3	2	5	36	24	60	33	24	57	91.7	100.0	95.0
Kitui	8	2	10	96	24	120	96	23	119	100.0	95.8	99.2
Makueni	11	1	12	132	12	144	127	12	139	96.2	100.0	96.5
Machakos	11	1	12	132	12	144	129	12	141	97.7	100.0	97.9
Marsabit	4	1	5	48	12	60	46	10	56	95.8	83.3	93.3
Mbeere	6	0	6	72	0	72	64	0	64	88.9		88.9
Meru Central	7	3	10	84	36	120	73	34	107	86.9	94.4	89.2
Moyale	2	1	3	24	12	36	25	11	36	104.2	91.7	100.0
Mwingi	7	1	8	84	12	96	81	12	93	96.4	100.0	96.9
Nyambene	10	0	10	120	0	120	110	0	110	91.7		91.7
Tharaka	5	0	5	60	0	60	58	0	58	96.7		96.7
Meru South	6	0	6	72	0	72	74	0	74	102.8		102.8
Eastern	85	15	100	1020	180	1200	975	173	1148	95.6	96.1	95.7
Garissa	10	4	14	120	48	168	120	48	168	100.0	100.0	100.0
Mandera	11	4	15	132	48	180	130	48	178	98.5	100.0	98.9
Wajir	13	3	16	156	36	192	133	32	165	85.3	88.9	85.9
North Eastern	34	11	45	408	132	540	383	128	511	93.9	97.0	94.6
Gucha	8	0	8	96	0	96	96	0	96	100.0		100.0
Homabay	7	1	8	84	12	96	83	12	95	98.8	100.0	99.0
Kisii	8	1	9	96	12	108	97	12	109	101.0	100.0	100.9
Kisumu	4	7	11	48	84	132	47	75	122	97.9	89.3	92.4
Kuria	5	1	6	60	12	72	60	12	72	100.0	100.0	100.0
Migori	8	2	10	96	24	120	96	24	120	100.0	100.0	100.0
Nyamira	6	3	9	72	36	108	71	36	107	98.6	100.0	99.1
Rachuonyo	7	1	8	84	12	96	69	12	81	82.1	100.0	84.4
Siaya	9	1	10	108	12	120	105	12	117	97.2	100.0	97.5
Suba	6	0	6	72	0	72	73	0	73	101.4		101.4

Annex 1: Allocation of the Clusters and Households, Response Rates by Province, District and Place of Residence

Responding Province/District	Number of Clusters Selected			Households Selected			Responding Households			% of Households		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Bondo	7	0	7	84	0	84	83	0	83	98.8		98.8
Nyando	7	1	8	84	12	96	86	12	98	102.4	100.0	102.1
Nyanza	82	18	100	984	216	1200	966	207	1173	98.2	95.8	97.8
Baringo	5	1	6	60	12	72	64	12	76	106.7	100.0	105.6
Bomet	7	0	7	84	0	84	84	0	84	100.0		100.0
Keiyo	4	0	4	48	0	48	48	0	48	100.0		100.0
Kajiado	5	2	7	60	24	84	61	24	85	101.7	100.0	101.2
Kericho	7	1	8	84	12	96	83	12	95	98.8	100.0	99.0
Koibatek	3	1	4	36	12	48	36	12	48	100.0	100.0	100.0
Laikipia	5	2	7	60	24	84	62	24	86	103.3	100.0	102.4
Marakwet	4	0	4	48	0	48	48	0	48	100.0		100.0
Nakuru	8	5	13	96	60	156	96	60	156	100.0	100.0	100.0
Nandi	8	0	8	96	0	96	97	0	97	101.0		101.0
Narok	6	1	7	72	12	84	72	11	83	100.0	91.7	98.8
Samburu	3	1	4	36	12	48	36	12	48	100.0	100.0	100.0
Transmara	4	0	4	48	0	48	48	0	48	100.0		100.0
TransNzoia	7	1	8	84	12	96	72	12	84	85.7	100.0	87.5
Turkana	7	1	8	84	12	96	83	12	95	98.8	100.0	99.0
Uasin Gishu	5	4	9	60	48	108	48	48	96	80.0	100.0	88.9
WestPokot	4	1	5	48	12	60	47	12	59	97.9	100.0	98.3
Bureti	6	0	6	72	0	72	71	0	71	98.6		98.6
Rift Valley	98	21	119	1176	252	1428	1156	251	1407	98.3	99.6	98.5
Bungoma	12	4	16	144	48	192	143	48	191	99.3	100.0	99.5
Busia	7	3	10	84	36	120	83	35	118	98.8	97.2	98.3
Mount Elgon	7	1	8	84	12	96	84	11	95	100.0	91.7	99.0
Kakamega	13	2	15	156	24	180	142	25	167	91.0	104.2	92.8
Lugari	6	2	8	72	24	96	72	24	96	100.0	100.0	100.0

Annex 1: Allocation of the Clusters and Households, Response Rates by Province, District and Place of Residence

Responding Province/District	Number of Clusters Selected			Households Selected			Responding Households			% of Households		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Teso	5	3	8	60	36	96	60	36	96	100.0	100.0	100.0
Vihiga	11	3	14	132	36	168	73	36	109	55.3	100.0	64.9
Butere Mumias	11	3	14	132	36	168	120	36	156	90.9	100.0	92.9
Western	72	21	93	864	252	1116	777	251	1028	89.9	99.6	92.1
National Total	506	231	737	6072	2772	8844	5834	2654	8488	96.1	95.7	96.0

7.4 Annex B: Annual Outpatient Visits Per Capita, Percentages of Sample Reporting Illness in 4 Weeks Before the Survey and Percent of Ill Persons Who Did Not Seek Treatment by Selected Characteristic, Kenya, 2007.

Annex 2: Annual Outpatients' Visits Per Capita, Percentages of Sample Reporting Illness in 4 Weeks Before the Survey and Percent of Ill Persons Who Did Not Seek Treatment by Selected Characteristics, KENYA, 2007.

Province	Population	Annual Number of Visits Per Capita	% of the Population Reporting Illness in the Past Four Weeks	Population Reporting Being Ill(number)	% of the Population reporting being Ill and Not Seeking treatment
Nairobi	3,181,618	2.94	18.3	582,349	9.9
Central	4,260,440	2.55	16.0	679,599	22.9
Coast	3,224,356	2.44	13.9	446,625	17.9
Eastern	5,714,743	2.47	14.1	807,159	21.3
North Eastern	1,142,569	1.21	8.1	92,002	21.5
Nyanza	5,571,258	2.70	15.2	845,906	19.3
Rift Valley	9,450,376	2.73	15.6	1,478,666	11.3
Western	4,638,562	2.62	15.1	699,915	14.1
Total	37,183,924	2.59	15.1	5,632,221	16.4
Residence					
Urban	7,362,023	3.15	18.4	1,354,150	12.5

Annex 2: Annual Outpatients' Visits Per Capita, Percentages of Sample Reporting Illness in 4 Weeks Before the Survey and Percent of Ill Persons Who Did Not Seek Treatment by Selected Characteristics, KENYA, 2007.

Province	Population	Annual Number of Visits Per Capita	% of the Population Reporting Illness in the Past Four Weeks	Population Reporting Being Ill(number)	% of the Population reporting being Ill and Not Seeking treatment
Rural	29,821,901	2.46	14.3	4,278,070	17.5
Total	37,183,924	2.59	15.1	5,632,221	16.4
Sex					
Male	18,158,265	2.27	13.1	2,375,682	16.2
Female	19,025,659	2.91	17.1	3,256,539	16.6
Total	37,183,924	2.59	15.1	5,632,221	16.4
Age in years					
0-4	5,392,218	3.91	23.4	1,259,181	10.1
5-14	10,248,679	1.56	9.2	942,736	18.0
15-49	17,445,264	2.44	14.3	2,494,190	16.5
50-64	2,629,545	3.77	21.2	556,263	17.9
65+	1,440,847	4.73	26.2	377,983	25.9
Age Not stated	27,372	0.89	6.8	1,868	0.0
Total	37,183,924	2.59	15.1	5,632,221	16.4
Marital status					

Annex 2: Annual Outpatients' Visits Per Capita, Percentages of Sample Reporting Illness in 4 Weeks Before the Survey and Percent of Ill Persons Who Did Not Seek Treatment by Selected Characteristics, KENYA, 2007.

Province	Population	Annual Number of Visits Per Capita	% of the Population Reporting Illness in the Past Four Weeks	Population Reporting Being Ill(number)	% of the Population reporting being Ill and Not Seeking treatment
Never Married	23,240,959	2.14	12.7	2,942,265	15.1
Married	11,864,316	3.15	18.2	2,161,838	16.2
Divorced /separated	661,964	3.69	21.6	143,047	21.8
Widowed	1,416,686	5.00	27.2	385,071	24.6
Total	37,183,924	2.59	15.1	5,632,221	16.4
Level of education					
None	9,833,525	3.47	20.5	2,013,906	15.8
Nursery	1,466,033	2.00	11.9	174,523	11.7
Primary	18,301,299	2.21	12.6	2,307,892	18.5
Post primary/ vocational	252,111	1.84	12.7	32,077	16.2
Secondary	5,691,285	2.57	15.1	860,491	14.0
College (middle level)	897,869	2.63	16.2	145,470	8.3
University	307,616	2.23	14.3	43,956	9.3
Total	37,183,924	2.59	15.1	5,632,221	16.4
Employment status					
Working	10,379,138	3.13	17.9	1,855,621	17.1

Annex 2: Annual Outpatients' Visits Per Capita, Percentages of Sample Reporting Illness in 4 Weeks Before the Survey and Percent of Ill Persons Who Did Not Seek Treatment by Selected Characteristics, KENYA, 2007.

Province	Population	Annual Number of Visits Per Capita	% of the Population Reporting Illness in the Past Four Weeks	Population Reporting Being Ill(number)	% of the Population reporting being Ill and Not Seeking treatment
Seeking work	1,752,332	1.73	10.2	178,700	21.9
Homemakers	4,002,305	3.35	19.7	786,464	17.2
Students	12,024,291	1.42	8.5	1,017,246	17.9
Other	1,677,783	3.15	18.5	310,309	20.7
Under age	6,874,730	3.50	20.5	1,412,230	11.1
Not Stated	473,346	2.40	15.1	71,650	28.1
Total	37,183,924	2.59	15.1	5,632,221	16.4
Rating of own health					
Very good	9,669,665	2.15	13.0	1,259,123	13.7
Good	21,865,873	2.30	13.7	3,005,178	16.7
Satisfactory	3,727,996	3.81	20.8	773,898	17.5
Poor	1,209,621	7.70	40.5	490,086	19.1
Not Stated	648,782	2.69	14.7	95,439	14.0
Total	37,183,924	2.59	15.1	5,632,221	16.4
Presence of chronic condition					
Not present	34,530,376	2.27	13.4	4,638,777	15.9

Annex 2: Annual Outpatients' Visits Per Capita, Percentages of Sample Reporting Illness in 4 Weeks Before the Survey and Percent of Ill Persons Who Did Not Seek Treatment by Selected Characteristics, KENYA, 2007.

Province	Population	Annual Number of Visits Per Capita	% of the Population Reporting Illness in the Past Four Weeks	Population Reporting Being Ill(number)	% of the Population reporting being Ill and Not Seeking treatment
Present	2,653,548	6.82	37.4	993,444	18.3
Total	37,183,924	2.59	15.1	5,632,221	16.4
Religion					
Catholic	10,375,717	2.59	15.5	1,607,299	17.0
Protestant	22,227,235	2.70	15.6	3,461,566	15.5
Muslim	3,365,904	2.10	12.4	415,717	20.4
Traditionalist	623,060	1.72	10.2	63,651	22.0
Atheist	145,910	2.46	15.5	22,555	3.2
Other	446,098	2.63	13.8	61,432	19.8
Total	37,183,924	2.59	15.1	5,632,221	16.4
Insurance cover					
Insured	3,649,475	2.87	17.8	651,288	9.3
Not Insured	31,855,579	2.58	14.9	4,735,766	16.9
Not Stated	1,678,869	2.32	14.6	245,167	21.9
Total	37,183,924	2.59	15.1	5,632,221	16.4

Annex 2: Annual Outpatients' Visits Per Capita, Percentages of Sample Reporting Illness in 4 Weeks Before the Survey and Percent of Ill Persons Who Did Not Seek Treatment by Selected Characteristics, KENYA, 2007.

Province	Population	Annual Number of Visits Per Capita	% of the Population Reporting Illness in the Past Four Weeks	Population Reporting Being Ill(number)	% of the Population reporting being Ill and Not Seeking treatment
Wealth Index Quintiles					
Poorest	7,677,393	2.26	13.5	1,035,169	18.9
Second	8,697,537	2.43	13.7	1,195,184	17.8
Middle	8,566,131	2.48	14.5	1,244,709	18.9
Fourth	7,034,143	3.05	17.1	1,204,715	13.1
Richest	5,208,720	2.96	18.3	952,442	11.3
Total	37,183,924	2.59	15.1	5,632,221	16.4
Expenditure Quintiles					
Poorest	6,567,957	2.52	14.8	968,970	20.2
Second	8,063,993	2.60	15.3	1,237,258	17.0
Middle	7,943,953	2.67	15.4	1,226,109	15.7
Fourth	7,754,879	2.72	15.7	1,219,946	14.4
Richest	6,853,142	2.42	14.3	979,937	14.6
Total	37,183,924	2.59	15.1	5,632,221	16.4

7.5 Annex C: Percentage of Distribution of Outpatient Visits by Type of Health Care Provider, Kenya, 2007

Annex 3: Percentage of Distribution of Outpatient Visits by Type of Health Care Provider, KENYA, 2007

		Govt. Hospit al	Private Hospit al	Missio n Hospit al	Govt. Healt h Centr e	Missio n health Centre	Govt Dispensa ry	Mission Dispensa ry	Nursing/Matern ity Home	Privat e Clinic	Chemist/Pharmacy/S hop	Tradition al Healer	All Others	TOTA L
PROVINCE	Nairobi	16.1	21.3	5.8	13.2	1.8	5.3	0.7	1.0	12.3	18.6	0.0	3.9	100.0
	Central	39.6	7.5	6.8	16.9	3.0	12.6	0.7	0.0	10.5	2.3	0.0	0.0	100.0
	Coast	24.9	11.2	0.9	15.7	1.0	15.7	0.7	0.2	15.5	12.5	0.3	1.3	100.0
	Eastern	33.5	6.3	6.1	12.4	1.9	20.5	2.2	0.1	12.1	4.6	0.2	0.1	100.0
	North Eastern	47.0	8.1	0.0	3.7	0.0	29.1	0.0	0.0	9.0	2.5	0.0	0.6	100.0
	Nyanza	29.7	4.7	2.1	16.2	0.8	14.2	0.0	0.0	7.7	20.9	0.7	3.0	100.0
	Rift Valley	18.6	3.5	3.6	16.2	2.9	20.5	2.1	0.8	16.1	12.3	1.2	2.1	100.0
	Western	26.8	6.9	2.0	14.4	0.8	6.6	0.6	0.6	8.0	30.5	1.0	1.9	100.0
CLUSTERTY PE	Urban	33.6	12.0	2.1	8.8	2.2	3.2	0.5	0.9	16.0	18.7	0.1	1.9	100.0
	Rural	23.8	5.1	3.7	16.4	1.6	19.3	1.5	0.3	11.4	14.3	0.9	1.8	100.0
Sex	Male	24.7	6.4	3.3	14.7	1.2	16.0	1.1	0.2	12.1	17.0	1.0	2.4	100.0
	Female	26.5	6.5	3.4	15.1	2.2	16.1	1.4	0.6	12.5	13.8	0.6	1.4	100.0
Age	0-4	26.6	5.0	3.7	18.0	1.7	18.8	1.5	0.6	11.7	10.9	0.5	0.9	100.0
	5-14	20.1	6.0	1.5	15.3	2.0	20.8	2.6	0.1	10.4	16.7	1.0	3.4	100.0

Annex 3: Percentage of Distribution of Outpatient Visits by Type of Health Care Provider, KENYA, 2007

		Govt. Hospit al	Private Hospit al	Missio n Hospit al	Govt. Healt h Centr e	Missio n health Centre	Govt Dispensa ry	Mission Dispensa ry	Nursing/Matern ity Home	Privat e Clinic	Chemist/Pharmacy/S hop	Tradition al Healer	All Others	TOTA L
	15-49	27.1	7.4	3.3	13.5	1.9	13.7	0.7	0.4	13.3	16.3	0.6	1.7	100.0
	50-64	29.7	4.7	4.5	11.9	1.3	14.8	0.8	0.5	10.2	18.8	2.0	0.9	100.0
	65+	22.9	8.7	5.7	16.1	1.1	12.2	1.0	0.7	15.3	13.4	0.4	2.4	100.0
	Age not stated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Marital Status	Never Married	24.8	6.1	2.6	16.1	1.7	18.5	1.7	0.3	11.1	14.5	0.8	1.9	100.0
	Married	26.9	7.5	4.2	13.4	1.9	12.8	0.6	0.4	13.7	15.9	0.8	1.9	100.0
	Divorced	24.2	3.6	3.9	11.8	3.0	14.0	2.8	0.4	16.4	19.9	0.0	0.0	100.0
	Widowed	27.0	4.0	4.2	14.6	1.0	16.4	1.1	1.9	12.7	15.2	0.7	1.2	100.0
Level of education	Not Stated	23.4	5.1	3.3	16.8	1.6	20.1	1.7	0.6	12.4	12.9	0.7	1.3	100.0
	Nursery	18.8	9.6	2.8	18.6	1.0	16.5	2.1	0.0	13.8	13.5	0.7	2.6	100.0
	Primary	27.1	5.6	2.6	13.1	2.1	16.2	1.2	0.3	11.5	16.7	0.9	2.6	100.0
	Post primary	33.3	4.5	7.2	13.9	0.0	12.5	0.0	10.0	14.3	3.6	0.5	0.0	100.0
	Secondary	28.8	9.3	3.1	15.9	1.0	8.2	0.8	0.2	13.1	18.3	0.6	0.8	100.0
	College	22.0	14.9	5.9	14.7	0.8	2.7	0.0	0.4	19.8	17.4	0.0	1.4	100.0
	University	17.5	24.4	6.0	2.5	7.5	4.2	0.0	0.0	9.4	24.5	0.0	4.0	100.0
Employment Status	Working	26.4	7.7	3.4	13.9	1.2	12.4	0.7	0.7	13.5	17.2	0.8	2.1	100.0
	Seeking work	31.8	4.4	6.4	11.0	1.0	14.5	0.1	0.0	14.5	16.3	0.0	0.0	100.0
	Homemake rs	27.8	6.8	5.0	14.5	2.7	14.1	0.5	0.2	13.9	12.4	0.4	1.7	100.0
	Students	23.9	5.3	1.6	14.9	1.9	20.6	2.3	0.0	8.5	16.7	1.3	2.9	100.0
	Other	28.3	6.0	4.0	10.6	2.1	14.9	1.1	0.7	13.7	15.9	1.2	1.5	100.0

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Annex 3: Percentage of Distribution of Outpatient Visits by Type of Health Care Provider, KENYA, 2007

		Govt. Hospital	Private Hospital	Mission Hospital	Govt. Health Centre	Mission health Centre	Govt Dispensary	Mission Dispensary	Nursing/Maternity Home	Private Clinic	Chemist/Pharmacy/Shop	Traditional Healer	All Others	TOTAL
	Under age	23.6	5.5	3.3	18.1	1.8	19.3	1.7	0.6	12.3	12.2	0.4	1.1	100.0
	Not Stated	30.0	12.4	2.1	2.4	4.2	6.8	3.1	0.0	7.5	31.6	0.0	0.0	100.0
Rating of own Health	Very good	20.5	7.7	2.6	14.9	1.3	16.8	0.8	0.2	14.6	18.1	0.5	2.1	100.0
	Good	26.1	6.2	3.3	15.6	2.3	16.5	1.5	0.5	12.0	13.5	0.9	1.6	100.0
	Satisfactory	26.1	5.2	4.2	14.7	1.0	14.8	1.5	0.4	12.1	17.4	0.8	2.0	100.0
	Poor	32.1	7.5	4.5	11.4	0.7	13.3	0.7	0.7	9.5	16.4	0.7	2.4	100.0
	Not Stated	43.6	4.0	0.0	11.1	2.4	19.2	1.3	0.0	8.8	8.9	0.0	0.9	100.0
Presence of Chronic problem	Not Present	25.5	6.0	3.2	15.5	1.9	16.6	1.3	0.2	12.0	15.2	0.7	1.8	100.0
	Present	26.6	8.6	4.0	11.9	1.1	13.7	0.9	1.6	13.8	15.3	0.8	1.6	100.0
Religion	Catholic	25.6	6.5	5.3	12.9	1.9	20.2	1.1	0.6	11.5	12.5	0.4	1.4	100.0
	Protestant	25.7	5.9	2.8	16.7	1.9	13.8	1.3	0.3	11.9	16.7	0.9	2.0	100.0
	Muslim	30.8	10.9	1.7	9.2	0.4	18.1	1.2	0.6	13.4	12.7	0.4	0.6	100.0
	Traditionalist	12.3	5.4	1.8	12.1	2.5	15.2	2.7	0.0	22.5	20.6	0.9	3.9	100.0
	Atheist	3.8	2.5	0.0	14.8	0.0	32.1	5.8	4.5	0.0	27.4	9.1	0.0	100.0
	Other	18.4	0.5	0.0	14.0	1.6	17.9	0.0	0.0	35.9	7.5	0.0	4.2	100.0
Health Insurance Cover	Insured	22.9	12.9	4.7	13.1	0.6	8.1	0.3	0.1	22.8	13.5	0.4	0.5	100.0
	Not Insured	26.0	5.6	3.2	15.2	1.8	17.2	1.4	0.5	11.3	15.0	0.8	1.9	100.0
	Not Stated	26.7	7.7	2.5	12.1	2.9	13.7	0.8	0.0	6.1	23.9	0.5	3.2	100.0
Wealth Index	Poorest	17.8	3.1	3.2	14.3	1.6	26.3	2.8	0.5	12.0	15.4	0.7	2.2	100.0
	Second	25.0	4.9	3.0	17.9	2.3	19.4	1.3	0.0	10.0	12.6	1.6	1.9	100.0

Household Survey of Health Care Utilisation and Expenditure, 2007, Kenya

Annex 3: Percentage of Distribution of Outpatient Visits by Type of Health Care Provider, KENYA, 2007

		Govt. Hospit al	Private Hospit al	Missio n Hospit al	Govt. Healt h Centr e	Missio n health Centre	Govt Dispensa ry	Mission Dispensa ry	Nursing/Matern ity Home	Privat e Clinic	Chemist/Pharmacy/S hop	Tradition al Healer	All Others	TOTA L
Quintiles	Middle	29.7	3.7	3.7	14.8	1.5	15.1	1.0	0.5	11.0	16.9	0.8	1.3	100.0
	Fourth	31.4	7.5	3.9	14.5	1.2	10.0	0.3	0.2	13.6	14.6	0.3	2.5	100.0
	Richest	25.3	17.5	2.8	11.4	2.2	4.0	0.7	1.3	16.7	17.4	0.0	0.7	100.0
Expenditure Quintiles	Poorest	22.4	4.3	4.5	14.1	3.2	23.4	1.6	0.0	13.7	10.9	0.6	1.3	100.0
	Second	25.4	3.2	3.3	16.0	1.2	18.1	1.1	0.5	11.6	16.3	1.4	1.9	100.0
	Middle	23.6	5.4	2.1	18.2	1.5	16.7	1.6	0.0	11.3	16.9	1.0	1.5	100.0
	Fourth	30.1	8.5	3.8	12.1	1.5	14.4	1.0	1.1	11.0	14.5	0.0	2.0	100.0
	Richest	27.3	12.6	3.3	13.3	1.5	5.9	0.9	0.6	14.8	17.0	0.5	2.4	100.0
Total		25.7	6.4	3.4	14.9	1.8	16.1	1.3	0.4	12.3	15.2	0.7	1.8	100.0

7.6 Annex D: Percent Distribution of Admissions by Type of Health Provider, Kenya, 2007

Table 6.3: Percent Distribution of Admissions by Type of Health Provider, KENYA, 2007

	Government Hospitals	Private Hospitals	Mission Hospitals	Government Health Centres	Private Health Centres	Mission Health Centres	Nursing and Maternity Homes	All Others	TOTAL
Province									
Nairobi	43.1	32.3	10.9	1.1	0.0	0.6	9.2	2.8	100
Central	57.7	13.1	19.3	5.4	0.0	3.2	0.6	0.7	100
Coast	74.9	15.1	1.2	5.4	2.0	1.4	0.0	0.0	100
Eastern	56.8	11.0	23.1	2.6	3.3	2.2	0.7	0.3	100
North Eastern	77.3	8.2	0.0	9.4	0.0	0.0	0.0	5.1	100
Nyanza	57.5	11.9	15.4	11.7	0.0	0.7	0.1	2.7	100
Rift Valley	56.9	10.5	12.9	7.5	1.7	4.2	5.2	1.1	100
Western	70.7	11.9	11.1	3.0	1.0	1.5	0.0	0.8	100
Cluster type									
Urban	62.8	20.9	6.7	0.4	0.7	1.9	5.4	1.2	100
Rural	57.0	11.5	17.1	7.9	1.4	2.5	1.5	1.1	100
Sex									
Male	59.5	13.8	15.0	6.1	1.1	1.9	1.0	1.6	100
Female	58.1	14.3	13.7	5.6	1.2	2.5	3.5	1.1	100
Age in years									
0-4	64.6	6.5	13.9	9.8	1.6	1.8	1.8	0.0	100
5-14	60.4	9.0	15.2	11.3	1.0	3.1	0.0	0.0	100

Table 6.3: Percent Distribution of Admissions by Type of Health Provider, KENYA, 2007

	Government Hospitals	Private Hospitals	Mission Hospitals	Government Health Centres	Private Health Centres	Mission Health Centres	Nursing and Maternity Homes	All Others	TOTAL
15-49	57.6	16.5	13.1	4.6	1.0	2.2	3.8	1.2	100
50-64	56.6	15.0	13.5	5.4	2.7	3.2	0.0	3.6	100
65+	58.6	10.9	22.4	4.7	0.0	1.8	0.0	1.6	100
Marital status									
Never married /never lived together	60.7	12.1	13.8	7.6	0.8	1.6	2.6	0.8	100
Married/ living together	56.0	16.4	14.4	4.5	1.6	2.8	2.8	1.5	100
Divorced /separated	81.7	2.9	11.0	3.4	1.0	0.0	0.0	0.0	100
Widowed	54.3	14.1	15.5	8.3	0.0	3.4	2.6	1.8	100
Level of education									
None	60.0	9.3	17.6	6.8	1.8	3.1	0.8	0.6	100
Nursery	63.9	0.0	19.8	16.3	0.0	0.0	0.0	0.0	100
Primary	63.9	9.1	12.5	6.3	1.3	2.7	1.9	2.3	100
Post primary/ vocational	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
Secondary	53.9	19.5	14.8	2.5	0.7	1.6	6.4	0.6	100
College (middle level)	46.2	33.0	9.8	7.5	0.0	0.0	3.5	0.0	100
University	19.2	76.7	4.1	0.0	0.0	0.0	0.0	0.0	100
Employment status									
Working (formal/ informal employment)	54.8	15.3	15.9	5.5	1.0	2.1	3.2	2.2	100
Seeking work	73.3	3.0	13.1	0.0	0.0	4.5	6.1	0.0	100
Homemakers	57.7	16.2	11.5	4.1	1.9	3.4	3.4	1.8	100

Table 6.3: Percent Distribution of Admissions by Type of Health Provider, KENYA, 2007

	Government Hospitals	Private Hospitals	Mission Hospitals	Government Health Centres	Private Health Centres	Mission Health Centres	Nursing and Maternity Homes	All Others	TOTAL
Students	57.9	14.7	15.8	9.5	0.0	2.1	0.0	0.0	100
Others	64.3	11.3	14.3	4.7	3.3	0.0	2.1	0.0	100
Rating of own health									
Very good	57.6	17.5	13.6	7.1	0.0	0.9	2.1	1.2	100
Good	57.9	12.4	15.4	5.6	1.8	2.8	2.4	1.7	100
Satisfactory	57.7	18.7	9.5	3.3	1.8	3.3	4.9	0.8	100
Poor	60.5	11.0	16.9	7.6	0.3	1.7	1.2	0.8	100
Presence of chronic problem									
Not present	58.3	14.6	14.4	6.0	1.4	1.5	2.6	1.2	100
Present	59.5	12.8	13.5	5.2	0.6	4.6	2.5	1.3	100
Religion									
Christian (Catholic)	52.2	13.3	20.5	4.4	1.6	2.2	4.1	1.7	100
Christian (Protestant)	60.0	14.5	11.9	6.8	1.1	2.5	2.2	1.0	100
Muslim	76.5	13.8	4.6	3.2	0.0	1.3	0.0	0.6	100
Traditionalist	66.2	10.5	23.3	0.0	0.0	0.0	0.0	0.0	100
Atheist	50.1	16.6	33.3	0.0	0.0	0.0	0.0	0.0	100
Others	58.0	21.7	0.0	20.3	0.0	0.0	0.0	0.0	100
Health insurance cover									
Insured	36.6	35.2	21.3	1.1	0.0	2.7	3.1	0.0	100
Not Insured	63.0	9.7	12.3	7.1	1.5	2.3	2.5	1.6	100
Wealth index quintiles									
Poorest	55.1	7.2	14.7	13.2	2.8	4.6	1.7	0.7	100
Second	64.4	4.3	16.9	9.2	1.8	1.8	0.0	1.6	100

Table 6.3: Percent Distribution of Admissions by Type of Health Provider, KENYA, 2007

	Government Hospitals	Private Hospitals	Mission Hospitals	Government Health Centres	Private Health Centres	Mission Health Centres	Nursing and Maternity Homes	All Others	TOTAL
Middle	70.9	7.5	12.0	4.0	0.7	2.2	0.9	1.8	100
Fourth	54.7	21.3	14.2	3.7	0.6	1.6	2.7	1.2	100
Richest	46.6	29.1	13.0	0.6	0.2	1.8	7.8	0.9	100
Expenditure quintiles									
Poorest	64.5	4.1	14.9	8.5	1.3	3.7	1.7	1.3	100
Second	58.6	13.0	14.6	9.0	1.3	1.4	0.0	2.1	100
Middle	58.3	12.3	15.0	8.9	1.1	1.2	1.8	1.4	100
Fourth	67.8	9.0	10.0	3.0	0.8	3.3	4.5	1.6	100
Richest	46.4	27.7	16.6	1.8	1.4	2.0	4.1	0.0	100
Total	58.6	14.1	14.2	5.8	1.2	2.3	2.6	1.2	100