

# Republic of Kenya



**Ministry of Medical Services** 

# FACTS AND FIGURES

On
Health and
Health Related Indicators

2008

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Health and
Health Related Indicators

2008

Compiled by:
DIVISION OF PLANNING
P.O. BOX 30016,
NAIROBI

# **Foreword**

his Booklet is the second in a series designed to be an easy and reasonably comprehensive portable one-stop reference guide to health and health related indicators in Kenya. It is intended for a broad audience including Government officials, Development Partners, Research Community, the Non Governmental Organisations and other stakeholders interested in information on health, and its related indicators.

The state of health of a population and the level of healthcare services are the most sensitive indicators that reflect human development progress in a country. Healthcare problems, including improving quality and availability of health care services, that is equitable and affordable for every Kenyan have constituted as the most important directions of health policy in Kenya.

In order to improve and develop effective systems for measuring healthcare progress in connection with, for example, the strategic Millennium Development Goals, there is a need to share health statistical information at both national and provincial levels.

This booklet is a result of efforts aimed at disseminating health and health related statistical information. This booklet has, therefore, been prepared by the Division of Planning together

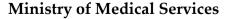
--- Health and Health Related Indicators 2008 ----

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World Health Organisation

with the World Health Organization, on basis of the most recent data made available from a broad array of sources including the Ministry's departments/divisions; other relevant Government ministries and agencies. No claim is, however, made that all the health indicators have been presented. In fact, the merit of this booklet is that it may help reveal where data gaps exist, hence trigger compilation of such data.

This booklet has been prepared with support from the World Health Organization, through the ACP/EC/WHO partnership. The support is greatly appreciated. Finally, the Ministry of Medical Services wishes to extend sincere appreciation to all the sources of data for making the compilation of this booklet possible and welcomes any suggestions that will improve future publications of the booklet.

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To access this Booklet, visit our web site: www.health.go.ke

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27. Food Poverty and Overall poverty: Households whose adult

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9.9

Poverty

#### 9.7 Infectious Diseases Control Indicators

- 21. TB Case Detection Rate: Percentage of annual new smear-positive notifications of the estimated annual new smear-positive incidence.
- 22. TB (DOTS) Treatment Success Rate: The proportion of smearpositive patients who were cured plus the proportion who completed treatment.

#### 9.8 **Economic Indicators**

- 23. GDP: The total market value of all final goods and services produced within the country in a year.
- 24. GNP: Is a measure of the value of the output produced by the "nationals" of a country. GNP concerns itself with who "owns" the production.
- 25. Gini Index (coefficient): Measures inequality over the entire distribution of income or consumption. A value of 0 represents perfect equality, and a value of 1 perfect inequality.
- 26. Human Development Index: Captures average level of country's human development, by reflecting achievements in longevity, knowledge and standard of living.

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#### 9.5 Child Survival Indicators

- 14. Infant Mortality Rate: The estimated annual number of deaths of infants under 12 months in a given year per 1,000 live births in that same year.
- 15. Under-5 Mortality Rate: Annual number of deaths that occur in children 0-4 years old per 1,000 births.
- 16. Stunted (height-for-age): Percentage of children under age five whose height-for-age is below minus-two standard deviations from the median of the reference population.
- 17. Underweight (weight-forage): Percentage of children under age five whose weight-for-age is below minus-two standard deviations from the median of the reference population.
- 18. Wasted (weight-for-height): Percentage of children under age five whose weight-for-height is below minus-two standard deviations from the median of the reference population.
- 19. Measles Vaccination Rate: Percentage of living children who have received one dose of measles vaccine.

#### 9.6 **HIV/AIDS Prevention Indicators**

20. HIV Prevalence rate: The estimated number of adults aged 15-49 years living with HIV/AIDS divided by the adult population in the same age group.

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- 7. Gross Enrolment Rate Primary School: Total enrolment in primary level of education, regardless of age, expressed as a percentage of the official school- age population corresponding to primary level of education in give school-year. GER can be over 100% due to the inclusion of over-aged and under-aged pupils/students because of early or late entrants, and grade repetition.
- 8. Access to safe water source: Refers to the percentage of the population with access to safe water sources, such as a household connection, public standpipe, protected well or spring, or rainwater collection.
- 9. Access to Sanitation Facilities: Refers to the percentage of population with access to excreta disposal facilities.

## 9.3 Family Planning Indicators

- 10. Total Fertility Rate: The number of children a woman between ages 15-49 would have during her lifetime if she were to bear children at the currently observed rates.
- 11. Contraceptive Prevalence Rate: Percentage of women aged 15-49 currently using a method of contraception.

### 9.4 Maternal Health Indicators

- 12. Maternal Mortality Ratio: The estimated number of women who die as a result of pregnancy or childbirth per 100,000 live births.
- 13. Assisted Delivery by a Health Professional: The percentage of births/deliveries that occur with the assistance of any trained health professional including doctors, nurses and midwives.

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# **Abbreviation**

ANC	Ante Natal Care	
AOP	Annual Operations Plan	
ART	Antiretroviral Therapy	
BEOC	Basic Emergency Obstetric Care	
CBR	Crude Birth Rate	
CBS	Central Bureau of Statistics	
CDR	Crude Death Rate	
CPI	Consumer Price Index	
CPR	Contraceptive Prevalence Survey	
CWC	Child Welfare Clinic	
DOT	Direct Observed Therapy	
GDP	Gross Domestic Product	
GER	Gross Enrolment Rate	
GNP	Gross National Product	
HDI	Human Development Index	
IIIV/AIDa	Human Immunodeficiency Virus /Acquired	
HIV/AIDs	Immunodeficiency Syndrome	
HMIS	Health Management Information System	
IMCI	Integrated Management of Childhood Illnesses	
IMR	Infant Mortality Rate	
IPT	Intermittent Preventive Treatment	
IRS	Indoor Residual Spraying	
KCPS	Kenya Contraceptive Prevalence Survey	
KDHS	Kenya Demographic and Health Survey	
KFS	Kenya Fertility Survey	
KIHBS	Kenya Integrated Household Budget Survey 2005/06	
KNBS	Kenya National Bureau of Statistics	

# 9. Technical notes

## 9.1 **Demographic Indicators**

- 1. Total Population: The number of people in the country.
- 2. Population Growth Rate: The average annual population growth rate is the rate of natural increase in the population plus the net migration rate.
- 3. Life Expectancy at Birth: The average number of years that a person at age 0 will live if age-specific death rates remain constant. Life expectancy at birth is highly affected by rates of infant and child mortality.
- 4. Crude Birth Rate: The number of births per thousand of the population. The product of the number of live births, divided by the midpoint population, multiplied by 1,000.
- 5. Crude Death Rate: The number of deaths per thousand of the population. The product of the number of deaths divided by the midpoint population, multiplied by 1,000.

### 9.2 Socioeconomic Indicators

6. Adult Literacy Rate: The percentage of people ages 15 and over who can, with understanding, read and writes a short simple statement.

#### Market access

- Proportion of total developed country imports (by value and excluding arms) from developing countries and from the least developed countries, admitted free of duties,
- Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries,
- Agricultural support estimate for OECD countries as a percentage of their gross domestic product,
- Proportion of ODA provided to help build trade capacity.

#### Debt sustainability

- Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative),
- Debt relief committed under HIPC Debt Initiative,
- Debt service as a percentage of exports of goods and services.

#### Others

- Unemployment rate of 15- to 24-year-olds, male and female and total,
- Proportion of population with access to affordable essential drugs on a sustainable basis,
- Telephone lines and cellular subscribers per 100 people,
- Personal computers in use per 100 people,
- Internet users per 100 people.

	Life Insecticide Treated Nets
MISC Multip	
_	ble Indicator Cluster Survey
MoH Minist	ry of Health
NASCOP Nation	nal AIDS/STIs Control Programme
NLTP Nation	nal Leprosy and Tuberculosis Programme
VCT Volun	tary Counselling and Testing
WMS Welfar	e monitoring Survey
WRA Wome	n of Reproductive Age

# 1. Background

#### 1.1 Introduction

#### Vision of the Health Sector

An efficient and high quality healthcare system that is accessible, equitable and affordable for every Kenyan

### Mission

To promote and participate in the provision of integrated and high quality promotive, preventive, curative and rehabilitative health care services to all Kenyans.

### Health Goal

Promotion and improvement of health status of all Kenyans by making all health services more effective, accessible and affordable.

## Ministry of Medical Services Responsibilities

## • Establish Policy Framework

- o Issue annual strategic direction and planning guidelines;
- Ensure budgeting and resource allocation to reflect national priorities;
- Monitor and control performance of the health care providers;
- o Regulate health care providers.

- Condom use rate of the contraceptive prevalence rate,
- Condom use at last high-risk sex,
- Percentage of 15- to 24-year-olds with comprehensive correct knowledge of HIV/AIDS,
- Contraceptive prevalence rate,
- Ratio of school attendance of orphans to school attendance of nonorphans ages 10–14,
- Prevalence and death rates associated with malaria,
- Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures,
- Prevalence and death rates associated with tuberculosis,
- Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS).

#### Goal 7: Ensure Environmental Sustainability

- Proportion of land area covered by forest,
- Ratio of area protected to maintain biological diversity to surface area,
- Energy use (kilograms of oil equivalent) per \$1 GDP,
- Carbon dioxide emissions per capita and consumption of ozonedepleting chlorofluorocarbons (CFCs),
- Proportion of population using solid fuels,
- Proportion of population with sustainable access to an improved water source, urban and rural,
- Proportion of population with access to improved sanitation, urban and rural,
- Proportion of households with access to secure tenure.

### Goal 8: Develop a global partnership for development

 $Official\ development\ assistance\ (ODA)$ 

- Net ODA, total and to least developed countries, as a percentage of OECD/DAC donors' gross national income (GNI),
- Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation),
- Proportion of bilateral ODA of OECD/DAC donors that is untied,
- ODA received in landlocked countries as proportion of their gross national incomes,
- ODA received in small island developing states as proportion of their gross national incomes.

# 8. Millennium Development Goals and indicators for monitoring progress

#### Goal 1: Eradicate poverty and hunger

- Share of poorest quintile in national consumption,
- Prevalence of underweight children under five years of age,
- Proportion of population below minimum level of dietary energy consumption,
- Proportion of population below \$1 a day,
- Poverty gap ratio (incidence × depth of poverty).

#### Goal 2: Achieve Universal Primary Education

- Net enrolment ratio in primary education
- Proportion of pupils starting grade 1 who reach grade 5
- Literacy rate of 15- to 24-year-olds

### Goal 3: Promote Gender equality and empower women

- Ratio of girls to boys in primary, secondary and tertiary education,
- Ratio of literate women to men ages 15–24,
- Share of women in wage employment in the non-agricultural sector,
- Proportion of seats held by women in national parliaments.

# Goal 4: Reducing infant and child mortality by 2/3 by the year 2015

- Under-five mortality rate,
- Infant mortality rate,
- Proportion of one-year-old children immunized against Measles.

### Goal 5: Reducing maternal mortality ratio by 3/4 from 1990 to 2015

- Maternal mortality ratio,
- Proportion of births attended by skilled health personnel.

#### Goal 6: Combat HIV/AIDS, TB Malaria and other diseases

HIV prevalence among pregnant women 15–24,

## • Ensure quality of Service Delivery

- o Initiate KEPH and monitor its implementation;
- Prepare Annual Operation Plan (AOP);
- Define mechanisms for coordination and collaboration.

### • Enforce Regulation & Control Health Sector

- o Formulate overall legal framework;
- Set standards and guidelines to ensure quality of service;
- o Enforce legal framework;
- o Enforce standards and Regulations.

# Ministry of Public Health and Sanitation Responsibilities

- Identify, and support implementation of defined, cost effective Public Health interventions
  - Coordinate, and provide Family health interventions, specifically targeting health of mothers and children;
  - Scale up delivery of health promotion interventions (including environmental interventions), across key program areas;
  - Scale up delivery of disease prevention and control interventions across key program areas.

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- Strengthen coverage and effectiveness of the defined public health interventions with a focus on services at the community
  - Scale up of comprehensive community approach;
  - o Accelerate Kenya Essential Package for Health (KEPH) dissemination and operationalisation.
- Improve coordination of delivery of public health interventions
  - Inter sectoral collaboration across Ministries affecting Public Health;
  - o Planning for service delivery for Public Health;
  - Implementation support to service delivery for Public Health;
  - Monitoring review and evaluation for Public Health;
  - o Governance, partnership and stewardship for Public Health;
  - o Update legislation governing health services.
- Strengthen the efficiency and budget effectiveness for resources used in public health
  - Improved coordination and management of Health System inputs for Public Health;
  - Financial Management, and Procurement for Public Health;
  - o Financing for Public Health.

# 7.7 Cost Sharing

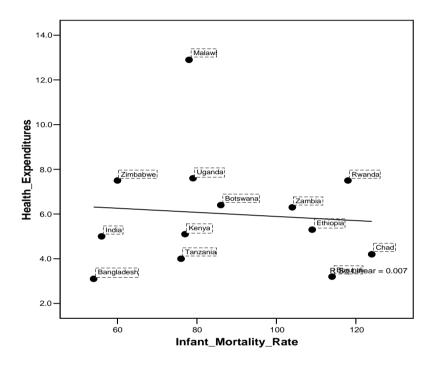
## **Total Reported Cost-Sharing Revenues by Financial Year**

Financial year		Total
	(KSh. M	(illion
2002/03		1,032.9
2003/04		1,004.9
2004/05		1,099.5
2005/06		1,468.8
2006/07		1,418.5
Source: Health Care Financing Division, Ministry of Health.		

## 7.8 Trends in NHIF Income and Expenditure

	2003/04	2004/05	2005/06	2006/07
REVENUES				
Contributions				
(KSh Million)	2,639.90	3,117.20	3,458.80	3,954.90
Other Income	72.4	157.4	188.5	340.7
TOTAL	2,712.30	3,274.60	3,647.30	4,295.60
EXPENDITURE				
Reimbursements	713.3	685.5	1,105.90	1,414.90
Administration				
Personnel	827.3	1,040.80	1,030.50	1,194.50
<ul> <li>Other administration</li> </ul>	704.5	538	496.2	708
Total admin expenses	1531.8	1,578.80	1,526.70	1,902.50
TOTAL EXPENDITURE	2,245.10	2,264.30	2,632.60	3,317.40
Reimbursements as % of total				
revenue	26	21	30	33
Total admin as a % of total				
revenue	56.5	48.2	41.9	44.3

# 7.6 Total Health Expenditure as % of GDP and Infant Mortality rate in selected developing countries



The relationship between health care expenditure and health outcomes is of interest to policy makers in the light of steady increases in health care spending. However, establishing causal relationships is complex because; health care expenditure is only one of many quantitative and qualitative factors that contribute to health outcomes. The chart above shows that increases in health care expenditure as percentage of GDP are only marginally associated with improvements in infant mortality.

# 1.2 Country's Geographical Setting

Borders	Ethiopia in the north, Sudan in the northwest, Uganda in the west, Tanzania in the south and Somalia in the east. 400 kilometres of India Ocean shoreline	
Location	Latitudes 4.21 N and 4.28 S Longitudes 34 E and 42 E	
Area (square kilometres)	Water	11,230
Knometies)	National Parks	25,334
	Others	546,082
	Total	582,646

## 1.3 Map of Kenya



Climate	Altitude plays an important role in Kenya's climatic patterns, patterns of human settlements and agricultural activities;
	Two rain seasons: long rainy season occurring from March to May. This is followed by a long dry spell from May to October. Short rains come between October and December.
Physical	Approximately 80% of the land area of Kenya are arid or semi-arid and only 20% are arable;
	A large proportion of the arid and semi-arid land has been set side for wildlife conservation;
	Mount Kenya (5200m), situated in the heart of the country, is Africa's second highest peak.

# 7.5 Health Expenditure, Life Expectancy and Infant Mortality rate in selected developing countries

Total Health Expenditures as % of GDP	Life Expectancy- years	IMR per 1,000 live- births
3.1	62.5	54
6.4	41.5	86
3.2	47	114
4.2	47	124
5.3	51	109
5	63	56
5.1	51	77
12.9	46	78
7.5	46	118
4	49	76
7.6	50	79
6.3	40	104
7.5	42	60
	Expenditures as % of GDP  3.1  6.4  3.2  4.2  5.3  5  5.1  12.9  7.5  4  7.6  6.3	Expenditures as % of GDP  3.1 62.5 6.4 41.5 3.2 47 4.2 47 5.3 51 5 63 5.1 51 12.9 46 7.5 46 4 49 7.6 50 6.3 40

Source: World Health Organization: World health Statistics, 2007

# 7.4.5 Ministry of Health Total Expenditures (gross) by recurrent and development by sub vote (KSh Millions) Sub Vote

Code	Sub-Vote	2003/04 Actual	2004/05 Actual	2005/06 Actual	2006/07 Actual	2007/08 Estimates
110	General Admin. and Planning	957.3	1381.7	1269.7	1647.7	1299.9
	As % of total MoH	5.8	7.2	5.5	6.0	3.8
111	Curative Health	7,974.5	8,801.5	10,699.6	12,386.6	13,485.4
	As % of total MoH	48.5	45.9	46.5	45.0	39.3
112	Preventive and Promotive	951.5	1,729.9	1,919.3	2,709.2	7,226.0
	As % of total MoH	5.8	9.0	8.3	9.8	21.0
113	Rural Health Services	2,133.7	2,507.7	3,795.2	4,111.9	5,247.8
	As % of total MoH	13.0	13.1	16.5	14.9	15.3
114	Health Training and Research	1,525.4	1,487.7	1,567.9	1,600.0	2,137.4
	As % of total MoH	9.3	7.8	6.8	5.8	6.2
116	Medical Supplies Coordinating Unit	32.0	132.6	183.2	272.8	585.6
	As % of total MoH	0.2	0.7	0.8	1.0	1.7
117	Kenyatta National Hospital	2,409.0	2,659.0	2,858.0	3,985.2	3,516.8
	As % of total MoH	14.7	13.9	12.4	14.5	10.2
118	Moi Teaching and Referral	458.1	458.1	714.1	816.7	855.0
	As % of total MoH	2.8	2.4	3.1	3.0	2.5
	Total MoH	16,441.5	19,158.2	23,007.0	27,530.1	34,353.9
	Total	100.0	100.0	100.0	100.0	100.0

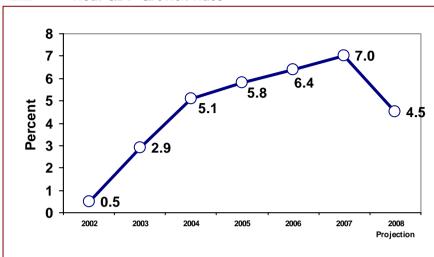
# 2. Economic Profile

2.1 Selected key economic Indicators- Kenya

2.1 Selected key economic Indicators- Kenya						
Indicator		2003	2004	2005	2006	2007
GDP Growth r	rates	2.9	5.1	5.8	6.4	7.0
GDP at market billion)	t prices (KSh	1,131.8	1,273.9	1,418.1	1,620.7	1,814.2
Wage employment in the	Central Government	195.0	194.2	189.5	187.7	192.2
Public sector ('000)	Teachers Service Commission	234.8	234.5	232.8	233.3	234.6
	Other Government Bodies*	143.7	142.1	144.5	143.9	116.6
	Local Government	85.6	87.4	87.5	85.0	81.9
Total Wage en	nployment ('000)	1,727.3	1,763.7	1,807.7	1,859.7	1,907.3
Employment:	Informal sector	5,717.4	5,992.8	6,628.3	7,048.7	7,475.6
GDP per ca	pita (current) in: KSh	34,090.0	37,251.0	40,401.0	44,896.0	48,770.0
US\$		447.7	481.6	558.3	646.9	778.1
GNP (KSh Billion)		1,125.1	1,264.0	1,409.9	1,615.7	1,801.3
Inflation Rate (% change in CPI)		9.8	11.3	10.3	14.5	9.8
* i	includes Parastatals					

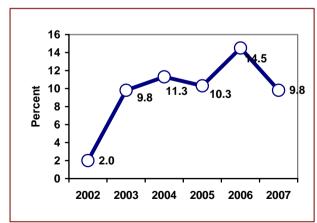
Source: KNBS: Economic Survey, 2008

### 2.2 Real GDP Growth Rate



In 2008, the GDP is expected to record a growth of between 3.5% and 4.5% - due to sluggish economic activities witnessed in the first quarter of year associated to the 2007 post election skirmishes. Loss of capital, damage on the country's image abroad, and business uncertainty that emanated from the violence are likely to impact negatively on the economy.

## 2.3 Inflation Rate



The decline in inflation in 2007 was mainly attributed to reduction in food prices, appreciation of the Kenya shilling and a sound monetary policy framework.

# 7.4.4 Ministry of Health: Actual Development Expenditures (gross) by Sub Vote (KSh Million)

Code	Sub-Vote	2003/04 Actual	2004/05 Actual	2005/06 Actual	2006/07 Actual	2007/08 Estimates
110	General Admin. and Planning	196.9	158.7	357.2	641	130.8
	Sub vote total as % Total MoH	19.6	9.1	11.0	10.7	1.1
111	Curative Health	206.5	162	702.8	1,163.30	1,467.30
	Sub vote total as % Total MoH	20.6	9.3	21.7	19.4	12.6
112	Preventive and Promotive	87.9	934	1,162.30	1,711.50	6,259.70
	Sub vote total as % Total MoH	8.8	53.7	35.9	28.6	53.9
113	Rural Health Services	446.1	466.2	913.5	1,327.90	2,760.10
	Sub vote total as % Total MoH	44.5	26.8	28.2	22.2	23.8
114	Health Training and Research	65.6	20	56	50	303
	Sub vote total as % Total MoH	6.5	1.1	1.7	0.8	2.6
116	Medical Supplies Coordinating Unit			50	138.3	288
	Sub vote total as % Total MoH	0.0	0.0	1.5	2.3	2.5
117	Kenyatta National Hospital				885.6	400
	Sub vote total as % Total MoH	0.0	0.0	0.0	14.8	3.4
118	Moi Teaching and Referral				70	0
	Sub vote total as % Total MoH	0.0	0.0	0.0	1.2	0.0
	Total MoH	1,003.0	1,740.9	3,241.8	5,987.6	11,608.9
	% Total	100.0	100.0	100.0	100.0	100.0

7.4.3 Recurrent Actual Expenditures (gross) by Sub Vote in KSh Million

		2003/04	2004/05	2005/06	2006/07	2007/08
Code	Sub-Vote	Actual	Actual	Actual	Actual	Estimates
110	General Admin. and Planning	760.4	1,223.00	912.5	1,006.70	1,169.10
	As % of total MoH	4.9	7.0	4.6	4.7	5.1
111	Curative Health	7,768.00	8,639.50	9,996.80	11,223.30	12,018.10
	As % of total MoH	50.3	49.6	50.6	52.1	52.8
112	Preventive and Promotive	863.6	795.9	757	997.7	966.3
	As % of total MoH	5.6	4.6	3.8	4.6	4.2
113	Rural Health Services	1,687.60	2,041.50	2,881.70	2,784.00	2,487.70
	As % of total MoH	10.9	11.7	14.6	12.9	10.9
114	Health Training and Research	1,459.80	1,467.70	1,511.90	1,550.00	1,834.40
	As % of total MoH	9.5	8.4	7.6	7.2	8.1
116	Medical Supplies Coordinating Unit	32	132.6	133.2	134.5	297.6
	As % of total MoH	0.2	0.8	0.7	0.6	1.3
117	Kenyatta National Hospital	2,409.00	2,659.00	2,858.00	3,099.60	3,116.80
	As % of total MoH	15.6	15.3	14.5	14.4	13.7
118	Moi Teaching and Referral	458.1	458.1	714.1	746.7	855
	As % of total MoH	3.0	2.6	3.6	3.5	3.8
	Total MoH	15,438.5	17,417.3	19,765.2	21,542.5	22,745.0
	Total	100.0	100.0	100.0	100.0	100.0

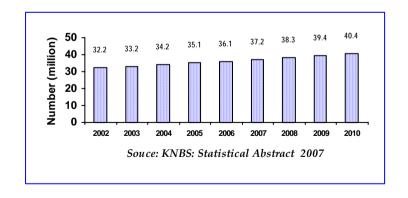
# 3. Key Demographic and Health Indicators

# 3.1 Projected Provincial population 2005-2010 (in '000).

Province	2006	2007	2008	2009	2010
Nairobi	2,924.3	3,034.4	3,146.3	3,260.1	3,357.8
Central	4,454.1	4,556.7	4,666.8	4,784.8	4,884.9
Coast	3,138.3	3,228.4	3,322.1	3,419.8	3,502.9
Eastern	5,658.0	5,802.1	5,955.1	6,117.7	6,256.8
North Eastern	1,286.1	1,313.8	1,349.7	1,394.4	1,440.5
Nyanza	5,316.2	5,443.9	5,580.3	5,725.7	5,849.7
Rift Valley	9,100.5	9,402.5	9,714.7	10,037.8	10,316.6
Western	4,261.1	4,402.2	4,542.8	4,683.1	4,797.2
Kenya	36,138.7	37,183.9	38,277.9	39,423.3	40,406.4

Source: Kenya National Bureau of Statistics

# 3.2 Population Projections- Kenya



# 3.3 Population by Sex, Population growth rate and expectation of life

	2004	2005	2006
Characteristic			
Population Growth rate	2.85	2.82	2.75
Estimates of Expectation o	f life at bi	rth in ye	ars:
Male	52.3	53.2	54.3
Female	56.5	57.7	59.1
Source: Kenya National Bured	u of Statis	tics-Keny	a Facts
and Figures 200, pg 12			

# 3.4 Trends in Crude Birth and Death rates, Life expectancy by census year

Year	1948*	1962*	1969*	1979*	1989*	1999*
Crude Birth Rate	50	50	50	52	48	41.3
Crude Death Rate	25	20	17	14	10	11.7
Life Expectancy	35	44	49	54	59	57
Inter censual growth rate		3.2	3.4	3.4	3.4	2.9

## 7.4.2 Actual Recurrent (gross) Expenditure by Economic Category (KSh million)

Details	2002/03	2003/04	2004/05	2005/06	2006/07
Salaries and Other Personnel	7,798	8,101	9,035	10,407	11,347
as % Total MOH Recurrent	54.1	52.5	51.9	52.7	52.7
Transfers, Subsidies and Grants	1,157	1,455	1,563	1,635	1,667
as % Total MOH Recurrent	8.0	9.4	9.0	8.3	7.7
Drugs and Medical Consumables	1,350	1,716	1,866	2,074	2,388
as % Total Recurrent	9.4	11.1	10.6	10.5	11.1
Other Operations & Maintenance	1,257	1,285	1,756	1,481	1,767
as % Total MOH Recurrent	8.7	8.3	10.1	7.5	8.2
Purchase of Plant & Equipment	95	15	81	596	527
as % Total Recurrent	0.7	0.1	0.5	2.9	2.4
Kenyatta National Hospital	2,327	2,409	2,659	2,858	3,100
as % Total MOH Recurrent	16.2	15.6	15.3	14.5	14.4
Moi Teaching & Referral Hospital	422	458	458	714	747
as % Total MOH Recurrent	2.9	3.0	2.6	3.6	3.5
Total Recurrent (Gross)	14,405	15,439	17,417	19,765	21,542
%	100.0	100.0	100.0	100.0	100.0

### 7.4 Financing and Funding Indicators

#### 7.4.1 Summary of Ministry of Health Actual Expenditure and other indicators

Description	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08 Estimates
Recurrent (KSh. million)	14,405	15,438	17,417	19,765	21,484.40	22,745
Development (KSh. million)	945	1,003	1,741	3,242	5,987.60	9,609
Total (KSh. million)	15,351	16,441	19,158	23,007	27,472.00	32,354
Recurrent (%)	94	94	91	86	78	70
Development (%)	6	6	9	14	22	30
Total (%)	100	100	100	100	100	100
Per Capita (KSh)	469.4	487.9	552.9	646.3	750.6	983
Per Capita (US\$)	6.1	6.4	7.4	9.1	10.9	13.8
Ministry of Healtl	n Expenditu	re (Gross)	as % of Tota	l Governm	ent	l .
Recurrent	8.69	7.76	7.66	6.29	7.5	6.7
Development	5.12	2.77	2.01	3.73	7.7	5.8
Total	8.33	6.99	6.1	5.73	7.6	6.4
Ministry of Healtl	n Expenditu	re (Gross) a	s % of GDP		•	•
Recurrent	1.4	1.4	1.4	1.3	1.2	1.1
Development	0.1	0.1	0.1	0.2	0.3	0.6
Total	1.5	1.5	1.6	1.5	1.5	1.7

# **3.5** Age dependency Ratio and Mean Household size by Region and Poverty status, Kenya 2006.

Province	Age dependency ratio			Mea	Mean Household Size		
	Poor	Non- Poor	Total	Poor	Non- Poor	Total	
KENYA	93.9	71.8	81.4	6.2	4.4	5.1	
Nairobi	71.3	48.1	52.7	4.3	3.7	3.8	
Central	82.8	62.8	68.5	5.8	4.2	4.6	
Coast	92.8	69.2	82.4	7.7	4.8	6.5	
Eastern	89.8	74.3	81.8	6.5	5.0	5.7	
North Eastern	140.0	113.0	132.3	6.7	4.7	6.0	
Nyanza	90.2	81.2	85.3	5.6	4.5	5.0	
Rift Valley	93.6	77.8	85.2	6.7	4.9	5.6	
Western	105.7	85.0	95.4	6.6	5.2	5.9	
Residence:							
Rural	98.0	79.6	88.3	6.5	4.7	5.5	
Urban	73.2	51.5	58.3	5.0	3.6	4.0	

Source:

Kenya National Bureau of Statistics: Kenya Integrated Household Budget Survey 2005/06

Kenya's age dependence ratio stands at 81.4 meaning that there are 81 persons (aged 0-14 and 65+) dependent on every 100 workingage (15-64 years). The poor generally exhibit higher dependency ratios compared to their non-poor counterparts across all the provinces.

# 3.6 Labour Force Participation by Age and Sex, Kenya 2006

Age- group	Male	Female	Total
15-19	30	30	30
20-24	73	68	70
25-29	93	82	87
30-34	97	86	91
35-39	98	90	94
40-44	98	90	94
45-49	96	89	92
50-54	93	85	89
55-59	92	82	87
60-64	89	76	82
15-64	76	70	73

Source: KNBS- KIHBS 2006

Participation rate is a measure of the population's participation in the labour force — computed as the proportion of the labour force to the working age population. The highest — participation rate was recorded for both age cohorts 35-39 and 40-44 at 94%. The lowest was recorded for persons aged 15-19 years who are mainly at school. Participation rates for males were higher than those of females in all age cohorts.

#### 7.3.2 Distribution of Health Facilities by type and Controlling Agent, 2007

Facility type	МОН	FBO	Private	Total	
Hospital	191	76	70	337	
Health centers	465	145	158	768	
Dispensaries	2,122	617	1,415	4,154	
TOTAL	2,778	838	1,643	5,259	
Sources: CHAO/HMIS/CHAK/KCS/Supkem/DMOH District Reports					

# 7.3.3 Percentage distribution of communities by distance to nearest health facility, Kenya, 2006

Province	<5 Km	>5 km			
Nairobi	79.8	20.2			
Central	71.4	28.6			
Coast	39.7	60.3			
Eastern	36.2	63.8			
North Eastern	14.3	85.7			
Nyanza	56.3	43.7			
Rift Valley	52.0	48.0			
Western	55.0	45.0			
Kenya	52.3	47.7			
Source: KNBS- KIBHS					

Province/District	DH	SDH	RHTHC	RHDC	HC	DSP	N& PGH	Total
RIFT VALLEY	18	27	1	1	117	678	2	844
Bungoma	1	4			11	30		46
Busia	2	1			6	28		37
Kakamega	0	1		2	8	28	1	40
Vihiga	1	1	1		15	12		30
Mt. Elgon	1				1	11		13
Malava/Lugari	1	3			3	19		26
Teso	1	1			3	7		12
Butere/Mumias	1	2		1	9	23		36
WESTERN	8	13	1	3	56	158	1	240
TOTAL	79	102	3	8	454	2,122	10	2,778

DH- District Hospital, SDH – Sub District Hospital;

RHTC- Rural Health Training Health Centre;

RDHC - Rural Demonstration Training Health Centre;

HC - Health Centre; : DISP - Dispensary;

N&PGH - National & Provincial General Hospital

# 3.7 Human Development Index [HDI] for KENYA

Year	Index
1975	0.465
1980	0.513
1985	0.533
1990	0.548
1995	0.525
2000	0.504
2004	0.491
2005	0.521

The human development index (HDI) is a composite index that measures the average achievements in a country in three basic dimensions of human development: a long and healthy life; access to knowledge; and a decent standard of living. These basic dimensions are measured by life expectancy at birth, adult literacy and combined gross enrolment in primary, secondary and tertiary level education, and gross domestic product (GDP) per capita in Purchasing Power Parity US dollars (PPPUS\$), respectively.

Source: UNDP Human development Report (various issues)

# 4. Health System Performance

# 4.1 Client Satisfaction with health care system<sup>1</sup>

### 4.1.1 Client/Patient Perceptions regarding Services, 2007

	Yes	No	Total %
Quality indicator			(n=1,170)
Friendlier service	76.4	22.7	100.0
More and/or better information about ailments	69.9	29.2	100.0
Improved supply of medication	72.1	26.9	100.0
Shorter waiting time	57.3	42.2	100.0

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Province/District	DH	SDH	RHTHC	RHDC	HC	DSP	N& PGH	Total
Garissa		2			2	30	1	35
Ijara	1				1	11		13
Mandera	1	2			1	27		31
Wajir	1	4			1	29		35
NORTH EASTERN	3	8			5	97	1	114
Kisii districts	3	10			16	94		123
Kisumu	1	3			4	20	1	29
Nyando	1	2			6	19		28
Siaya	1	2			10	27		40
Bondo	1	1			4	25		31
Homa Bay	1	1			5	18		25
Migori	1	2			8	36		47
Kuria	1	1			5	19		26
Suba	1	2			6	9		18
Rachuonyo	1	1			6	24		32
NYANZA	12	25			70	291	1	399
Kajiado	1	1			12	71		85
Kericho	1	1			7	42		51
Laikipia	1	1			5	35		42
Nakuru	1	6		1	16	81	1	106
Narok	1	1			8	27		37
Trans Nzoia	1	2			5	23		31
Uasin Gishu		3			11	50	1	65
Bomet	1	1			7	38		47
Trans Mara	1	0			8	15		24
Baringo	1	2			8	62		73
Keiyo	1	2			4	26		33
Nandi North	1	1	1		4	25		32
Nandi South	1	1			3	20		25
Samburu	1	1			2	29		33
Turkana	1	2			2	24		29
West Pokot	1	1			3	26		31
Marakwet	1				4	30		35
Koibatek	1				4	23		28
Buret	1	1			4	31		37

<sup>---</sup> Health and Health Related Indicators 2008 ----

<sup>&</sup>lt;sup>1</sup> Information is from the 2007 client satisfaction survey carried out by the Ministry of Health.

<sup>---</sup> Health and Health Related Indicators 2008 ----

## 7.3 Infrastructure

#### 7.3.1 Government Health facilities 2007

Province/District	DH	SDH	RHTHC	RHDC	HC	DSP	N& PGH	Total
NAIROBI	5				53	10	1	69
Kiambu	1	1			16	16		34
Kirinyaga	1	1			4	43		49
Murang'a	1	2			3	31		37
Nyandarua	2	1			8	35		46
Nyeri	2	2			8	74	1	87
Thika	1	1			13	26		41
Maragua	1				6	25		32
CENTRAL	9	8	0	0	58	250	1	326
Kilifi	1	1		1	4	33		40
Kwale	2	1	1		5	51		60
Lamu	1	1			4	17		23
Mombasa	2				2	10	1	15
Taita Taveta	3				8	39		50
Tana River	1	1			4	31		37
Malindi	1	0			2	30		33
COAST	11	4	1	1	29	211	1	258
Embu	0	1		1	4	31	1	38
Mbeere	1	1			4	25		31
Isiolo	1	1			2	21		25
Kitui	1	3			6	65		75
Machakos	1	2			13	80	1	97
Marsabit	1				2	27		30
Moyale	1				0	12		13
Meru Central	1	3		1	10	25		40
Makueni	2	1			12	55		70
Meru South	1	1			2	20		24
Tharaka	1				2	6		9
Meru North	1	1		1	4	25		32
Mwingi	1	3			5	35		44
EASTERN	13	17		3	66	427	2	528

#### --- Health and Health Related Indicators 2008 ----

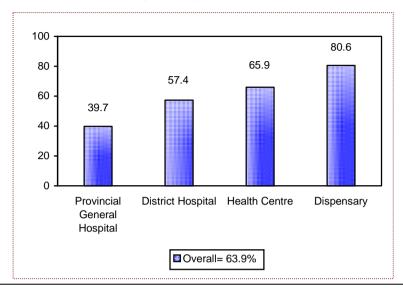
# 4.1.2 Clients'/Patients' Main Reasons for Choosing a Specific Facility by type, 2007.

Reason	Provincial General Hospital	District Hospital	Health Centre	Dispensary	Total*			
Number	207	237	351	375	1170			
Close to home	32.4	51.9	77.2	86.4	67.1			
Service Availability	63.8	58.6	52.7	44.8	53.3			
Medicine available	35.7	34.6	49.3	53.6	45.3			
Staff are qualified	46.4	41.4	25.1	25.6	32.3			
Less costly	33.8	31.2	28.8	27.7	29.8			
Good staff attitude	12.6	11.4	16.5	29.3	18.9			
Staff give good advice	16.4	13.5	17.4	16.5	16.2			
Less waiting time	9.7	8.0	11.4	10.4	10.1			
Was referred	21.3	13.5	3.7	2.9	8.5			
Cleaner facility	6.3	5.9	3.1	4.0	4.5			
Don't have to pay	3.9	5.5	3.1	5.3	4.4			
Other	6.8	6.3	2.0	1.3	3.5			
More privacy	4.3	5.1	2.3	2.4	3.2			
* Don't	* Don't add up to 100% as multiple choices were allowed							

<sup>\*</sup> Don't add up to 100% as multiple choices were allowed

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#### 4.1.3 Distribution of Respondents prescribed medicine and received all, 2007



### 4.1.4 Suggested improvements in health facilities, 2007

Suggested improvement	Number	%
Drug availability	560	47.9
Increase staff	505	43.2
Waiting time	240	20.5
Equipment	206	17.6
No strong opinion	182	15.6
Reduced fees	102	8.7
Change staff attitude	96	8.2
Need effective supervision	68	5.8
Other (specify)	243	20.8

Cadre	Positions Occupied
Laboratory Technologist	39
Social Welfare Officer	31
Radiation Protection Officer	23
Inspector Of Drugs	12
Medical Parasitologist/ Entomologist	11
Biochemist	5
Engineer (Medical)	1
Subtotal	28,333
All others	5,409
Grand total	33,742
Source: Division of Human Resources Manag	gement Data-base,
	2008

# 7.2 Distribution of Key Registered Health Personnel , Kenya

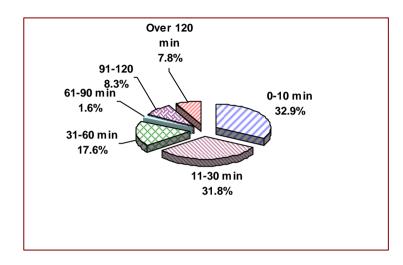
Type of Health Personnel	2007*	No. per 100,000 population
Doctors	6,271	17
Dentists	931	3
Pharmacists	2,775	7
Pharmaceutical Technologist	1,680	5
Nursing officers	12,198	33
Enrolled Nurses	31,917	86
Clinical Officers	5,797	16
Source: H	HMIS; * Provisional	

# 7. Health Service Inputs

# 7.1 Distribution of personnel by Cadre 2008: Ministry of Health

Cadre	Positions Occupied
Doctors	1,605
Clinical Officers	2,202
Nursing officers	3,013
Pub. Health Staff	4,118
Enrolled Nurses	11,679
Medical Laboratory Technician	1,016
Medical Laboratory Technologist	733
Health Records and Information Staff	588
Physiotherapist	464
Nutrition Officer/Assistants	422
Pharmacist	382
Medical Engineering Technologist	340
Radiographer	259
Occupational Therapist	257
Health Administrative Officer	234
Pharmaceutical Technologist	227
Dentists	205
Plaster Technician	130
Dental Technologist	116
Oral Health Officer	87
Orthopaedic Technologist	84
Chemist (Govt)	50

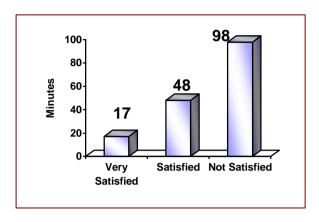
#### 4.1.5 Distribution of Respondents by Waiting time, 2007.



# 4.1.6 Distribution of respondents by satisfaction level of waiting time and category of health facility, 2007.

Were you satisfied with Amount of time?		Provincial General Hospital	District Hospital	Health Centre	Dispensary	Overall
Very Satisfied	%	11.1	10.1	14.5	18.9	14.4
Satisfied	%	53.2	54.0	54.7	56.0	54.7
Not Satisfied	%	35.7	35.9	30.8	25.1	30.9
	%	100.0	100.0	100.0	100.0	100.0
Total	Number	207	237	351	375	1,170

#### 4.1.7 Average waiting time according to level of satisfaction, 2007



#### 4.1.8 Distribution of respondents by satisfaction rating, 2007

			Cumulative		
Response	Frequency	Percent	Percent		
Very satisfied	276	23.6	23.6		
Satisfied	822	70.3	93.8		
Not satisfied	72	6.2	100.0		
Total	1170	100.0			

#### 6.6.2 Trends in Sanitation Coverage: % of Households with toilet facility

Province/Residence	KDHS 1993	WMS 1994	KDHS 1998	1999 Census	MICS 2000	KDHS 2003	KIBHS 2006	
Nairobi	96.1	98.2	99.2	97.6	95.4	97.3	98.7	
Central	97.9	99.3	99.4	99.4	97.8	99.8	99.6	
Coast	75.8	74.6	73.1	69.4	68	66.5	69.3	
Eastern	81.8	76.6	81.2	84.2	76.4	88.2	86.7	
North Eastern	n.a.	25.4	n.a.	22.2	79.2ª	19.1	57.9	
Nyanza	69.3	72.0	75.8	80.7	69.9	73.8	76.3	
Rift Valley	73.7	71.9	79.3	72.5	71.9	75.9	78.4	
Western	92.1	93.1	95.7	94.7	91.5	97.2	96.6	
Residence								
Rural		75.9	81.4	78.0	76.6	79.6	81.2	
Urban		97.6	97.4	97.1	94.8	96.3	97.4	
Kenya	82.6	80.4	85.2	82.9	81.1	83.8	85.2	
<b>Note</b> : ⁴ –Urban areas only								

### **6.6** Water and Sanitation

Water and Sanitation is one of the primary drivers of public health.

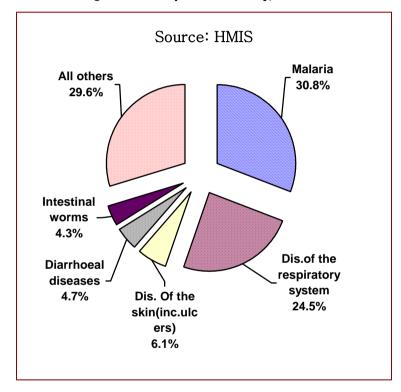
#### 6.6.1 Trends in Water Coverage: % with safe drinking water

Province	WMS 1994	KDHS 1998	MICS 2000	KDHS 2003	KIBHS 2006*2
	1774	1770		2003	2000
Nairobi	96.2	93.5	93.9	93.4	96.9
Central	45.5	58.9	49.7	61.1	52.4
Coast	59.2	75.6	67.1	62.1	63.3
Eastern	35.1	50.7	37.2	53.7	46.1
North Eastern	16.9	n.a.	74.6 ª	11.5	35.0
Nyanza	28.1	35.3	44	60.4	50.6
Rift Valley	41.6	53.2	49.8	42.8	50.9
Western	42.9	45.9	50.6	66.8	63.3
Residence					
Rural	32.5	42.1	43.5	51.2	48.2
Urban	93.3	91.3	89.7	80.2	83.6
Kenya	44.9	55	54.8	58.6	57.0
	Note	e: ª –Urban are	eas only		

# 5. Health Service Indicators

### 5.1 Overall Health Statistics

#### 5.1.1 Leading Causes of outpatient Morbidity, 2007



<sup>&</sup>lt;sup>2</sup> Water was considered safe if it was obtained from the following supply sources: piped water, borehole, protected spring and protected well.

<sup>---</sup> Health and Health Related Indicators 2008 ----

# 5.2 Maternal Health Indicators

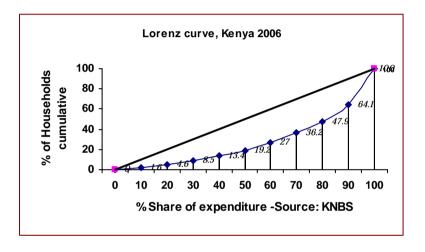
#### 5.2.1 Trends in Total Fertility Rate (TFR) by Province

	1977/78	1984	1989	1993	1998	1999	2003	2006
KENYA	8.1	7.7	6.6	5.4	4.7	5.0	4.9	5.0
Nairobi	6.1	5.6	3.8	3.4	2.6	3.0	2.7	2.8
Central	8.6	7.8	5.7	3.9	3.7	3.8	3.4	3.2
Coast	7.2	6.7	5.8	5.3	5.1	5.2	4.9	5.6
Eastern	8.2	8.0	6.5	5.9	4.7	5.2	4.8	5.0
North Eastern	n.a.		7.6	n.a.	n.a.	7.0	5.8	7.2
Nyanza	8.0	8.2	7.0	5.8	5.0	5.5	5.6	5.4
Rift Valley	8.7	8.6	7.1	5.7	5.3	5.8	5.8	5.8
Western	8.2	6.3	7.6	6.4	5.6	6.0	5.8	5.8
Residence								
Urban	6.8	5.0	4.5	3.4	3.1	2.7	3.3	3.2
Rural	8.4	8.1	7.0	5.8	5.2	5.8	5.4	5.5
Source: CBS -Ken 1984 , KNBS-KIH		and Housi	ng Census	- 1989, 1999	& KDHS,	KFS 1977/7	8, KCPS	

The Total Fertility Rate has declined dramatically from 8.1 children per woman in the mid-1970s to the current level of 5 children per woman. The TFR is highest in North Eastern province.

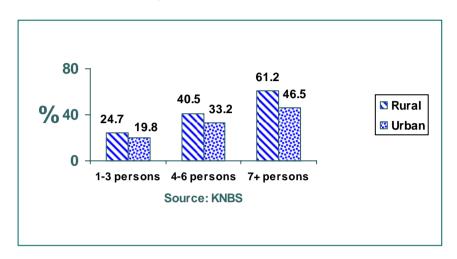
#### 6.5.5 Distribution of rural expenditure by rural population deciles

Distribution of rural expenditure by rural population deciles shows that the lowest 10% of the rural households controls 1.6% of the total expenditure, while the top 10% control an estimated 35.9% of total expenditure. Cumulatively, the bottom 90% of the households consumes 64.1% of total expenditure.



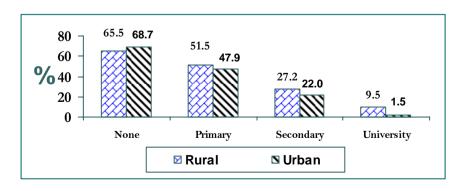
#### 6.5.3 Overall Poverty levels by Household size, 2006

The incidence of poverty is highest for households with 7 or more members, and declined for households with smaller sizes.



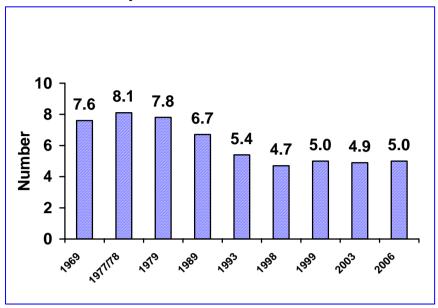
#### 6.5.4 Overall Poverty levels by Education level, 2006

Positive effect of education in reduction of poverty is portrayed. In both rural and urban areas of Kenya, the level of education of the household head is inversely related with the incidence, depth and severity of poverty.



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#### 5.2.2 **Total Fertility Rate**



#### 5.2.3 **Trends in Maternal Mortality**

Description	1994	1998	2003
Maternal mortality	365 [1988-	590 [1988-	414 [1993-
ratio Per 100,000 live	1994]	1998]	2003]
births			

Source: KDHS 1998, 2003; Periods in parenthesis refer to years for which the estimate is applicable

Most of maternal deaths are due causes directly related to pregnancy and childbirth — unsafe abortion and obstetric complications such as severe bleeding, infection, hypertensive disorders, and obstructed labour. Others are due to causes such as malaria, diabetes, hepatitis, and anaemia, which are aggravated by pregnancy.

#### 5.2.4 Trends in current Contraceptive Use

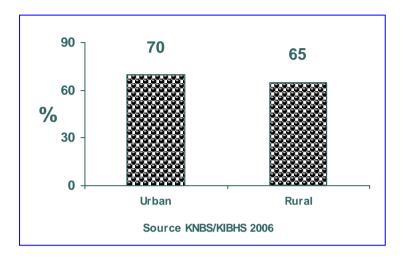
Indicator		1984	1989	1993	1998	2003
Contraceptive Prevalence Rate,	All Women	15.0	23.2	25.9	29.9	29.5 <sup><u>c</u></sup> 28.4
Any method, (15-49 yrs)	Married Women	17.0	26.9	32.7	39.0	41.0 <sup>c</sup> 39.3
Contraceptive Prevalence Rate, Any	All Women	8.1	14.7	20.7	23.6	22.7 23.6 <sup>c</sup>
Modern method, (15-49 yrs)	Married Women	9.7	17.9	27.3	31.5	31.5 32.9 <sup>c</sup>
	Nairobi	28.3	33.5	45.4	56.3	51.6
	Central	34.1	39.5	56.0	61.1	66.8
Contraceptive	Coast	10.5	18.1	20.2	22.1	23.5
Prevalence rate, Any method, (15-49 yrs) -	Eastern	26.3	40.2	38.4	45.6	49.8
currently married	North Eastern	n.a.	n.a.	n.a.	n.a.	0.3
women	Nyanza	8.6	13.8	23.8	28.2	24.3
	Rift Valley	15.1	29.6	27.8	37.7	32.9
	Western	4.6	13.7	25.1	30.2	32.7

<sup>&</sup>lt;sup>c</sup> Excludes all of North Eastern Province and five other northern districts so as to be comparable to previous KDHS.

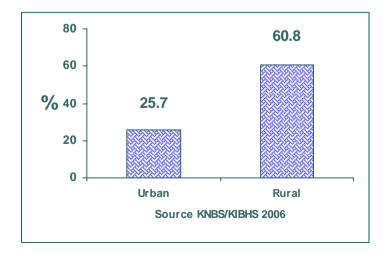
Sources: KCPS 1984; KDHS 1989; KDHS 1993; & KDHS 2003.

## 6.5 Levels of inequalities

#### 6.5.1 One year olds-fully immunized by residence, 2006



#### 6.5.2 Home deliveries by residence, 2006



#### 6.4.4 International Comparison - poverty line

	Na	tional po	International poverty line			
Region	Populatio	Population b	elow			
	Survey year	Rural %	Urban %	National %	Survey year	1\$1 a day
Burundi	1990	36	43	36	1998 <u>a</u>	54.6
Cameroon	2001	50	22	40	2001 <u>a</u>	17.1
Ethiopia	1999-2000	45	37	44	1999-2000 <u>a</u>	23.0
Kenya	2005-06	50	33	46	1997 <u>a</u>	22.8
Nigeria	1992-93	36	30	34	2003	70.8
Rwanda	1999-00	66	14	60	1999-00	51.7
Tanzania	2000-01	39	30	36	2000-01 <u>a</u>	57.8
Uganda	2002-03	42	12	38	n.a.	n.a.
Zambia	1998	83	56	73	2002-03 <u>a</u>	75.8
Zimbabwe	1995-96	48	8	35	1995-96	56.1

Note: a Expenditure base

Source: World Bank - World Development Report, 2007

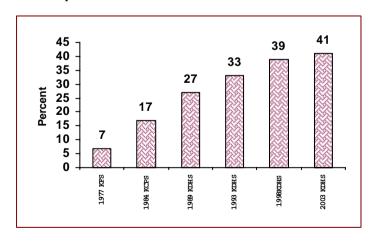
The Kenya's national poverty incidence at 46%, is comparable in absolute terms to Burundi's 46% level or that of Cameroon (40%).

#### 5.2.5 Contraceptive Prevalence rate, any method, (15-49 yrs)

Province	1984	1993	1998	2003
Nairobi	28.3	45.4	56.3	50.7
Central	34.1	56.0	61.1	66.8
Coast	10.5	20.2	22.1	24.1
Eastern	26.3	38.4	45.6	50.6
North Eastern	n.a.	n.a.	n.a.	0.2
Nyanza	8.6	23.8	28.2	24.7
Rift Valley	15.1	27.8	37.7	34.4
Western	4.6	25.1	30.2	34.1
KENYA	17.0	32.7	39	41ª
				39.3

#### Source: CBS

#### 5.2.6 Contraceptive Prevalence Use: Married women



<sup>&</sup>lt;sup>a</sup> Excludes all of North Eastern Province and five other northern districts so as to be comparable to previous KDHS, otherwise the CPR =39.

# 5.2.7 Percentage Distribution of Births delivered in a Health Facility by Province, Kenya

Province, Renya							
Province	1993	1994	1998	2003	2006		
	KDHS	WMSII	KDHS	KDHS	KIHBS		
Nairobi	79	80.9	75.6	77.9	77.0		
Central	72.5	75.5	69.2	66.9	71.8		
Eastern	45.9	52.5	49	37.7	37.6		
Rift Valley	38.9	36	36.1	35.9	33.6		
Nyanza	37.6	47.6	35.6	36.2	46.7		
Coast	30.9	32.7	33	31.2	31.7		
Western	32.6	32.4	26.6	28.4	25.7		
North	n.a.	2.8	n.a.	7.7	11.7		
Eastern							
KENYA	44	47.2	42.1	40.1	39.1		

Nationally, the proportion of children born at home has not changed since 1994, WMS; deliveries at home have remained at over 50%.

### 5.2.8 Assistance during Delivery

Attendant during delivery	1993 KDHS	1994 WMS II	1998 KDHS	2003 KDHS	2006 KIHBS
Nurse/Midwife	33.1	34.2	32.0	30.2	28.5
Untrained TBA	12.4	0.0	9.9	28.0	27.4
Trained TBA	8.7	26.5	11.3		11.7
Doctor	12.3	14.9	12.3	11.4	10.5
Self	10.1	8.6	10.2	8.0	7.3
Other	23.4	15.8	24.3	22.4	14.6
TOTAL	100.0	100.0	100.0	100.0	100.0

<sup>---</sup> Health and Health Related Indicators 2008 ---- ### 423 --- Health and Health Related Indicators 2008 ----

Absol	ute Pove	erty	levels (%)by	Dis	trict, 2006	5		
Province	11-30%		31-50%		51-70%		70% +	
			Rachuonyo	40	Kisii Central	51		
			Migori	43	Suba	52		
			Homa Bay	45	Kuria	61		
			Kisii North(nyamira)	47	Gucha	67		
			Nyando	48				
			Kisumu	49				
	Kajiado	12	Buret	33	Trans Nzoia	50		
	Narok	27	Nakuru	38	Uasin Gishu	50	Samburu	73
			Kericho	41	Koibatek	51	Turkana	95
Rift			Keiyo	46	Trans Mara	52		
Valley			Nandi	47	Bomet	59		
			Laikipia	49	Baringo	61		
					Marakwet	67		
					West Pokot	69		
			Vihiga	40	Butere/Mumias	51		
Western			Lugari	46	Kakamega	53		
			Bungoma	50	Mt. Elgon	58		
					Teso	59		
					Busia	69		

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#### 6.4.3 Absolute Poverty levels (%)by District, 2006

The general geographical pattern is one of low absolute poverty levels in the centre of the country and high absolute poverty levels in the Coast and in North Eastern Province.

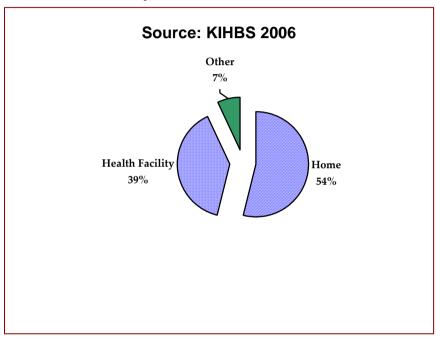
Less than half (44%) of districts in Rift Valley had poverty levels of 50% and below. However, two "pockets" of absolute poverty levels were found in the province where Samburu and Turkana districts had absolute poverty levels of 73% and 95% respectively.

Absol	Absolute Poverty levels (%)by District, 2006									
Province	11-30%		31-50%		51-70%	70% +				
	Kiambu	22	Nyeri	31						
Central	Kirinyaga	25	Maragua	31						
Centrar	Murang'a	29	Thika	35						
			Nyandarua	46						
					Taita Taveta	57	Kwale	75		
Coast			Lamu	33	Kilifi	68	Malindi	76		
							Tana River	77		
	Meru Central	23	Meru South	31	Machakos	59	Isiolo	71		
	Meru North	30	Embu	37	Mwingi	62	Marsabit	92		
Eastern			Tharaka	49	Kitui	64				
Lustern			Mbeere	50	Makueni	64				
					Moyale	67				
North			Garissa	50			Wajir	84		
Eastern							Mandera	89		
Nyanza	Bondo	25	Siaya	40						

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The TBAs continue to play an important role in assisting delivery especially in rural areas where 44% of the children are delivered by them compared with 17.9% in urban (KIHBS, 2006).

#### 5.2.9 Place of delivery, 2006



<sup>---</sup> Health and Health Related Indicators 2008 ----

## 5.3 Child Health Service

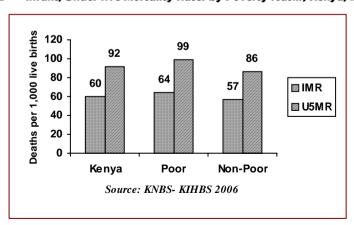
#### 5.3.1 Trends in Infant and Child Mortality

Year	Infant Mortality Rate (per 1,000 live births)	Under 5 mortality Rate (per 1,000 live births)		
1948	184	n.a.		
1962	126	219		
1969	119	190		
1979	104	157		
1989	59	113		
1993	62	93		
1998	71	105		
2000	73	116		
2003	77	115		
2006*	60	92		

#### **Sources:**

- CBS, KDHS
- \* KNBS: KIHBS 2005/2006

#### 5.3.2 Infant, Under five Mortality Rates by Poverty Status, Kenya, 2006



#### 6.4.2 Differentials in the Incidence of Overall Poverty, 1992-2005/06 (%)

Region	1992 WMS I	1994 WMS II	1997 WMS III	2005/06 KIBHS
	Overall Poverty	Overall Poverty	Overall Poverty	Overall Poverty
Kenya	44.8	40.3	52.3	45.9
Rural	47.9	46.8	52.9	49.1
Central	35.9	31.9	31.4	30.4
Coast	43.5	55.6	62.1	69.7
Eastern	42.2	57.8	58.6	50.9
North Eastern	n.a.	58.0	65.5	73.9
Nyanza	47.4	42.2	63.1	47.6
Rift Valley	51.5	42.9	50.1	49.0
Western	54.8	53.8	58.7	52.2
<u>Urban</u>	n.a.	29.0	49.2	33.7
Nairobi	26.5	25.9	50.2	21.3
Mombasa	39.2	33.1	38.3	37.6
Kisumu	n.a.	47.8	63.7	43.4
Nakuru	n.a.	30.0	40.6	50.2
Other Urban	n.a.	28.7	43.5	42.3

Sources: WMS series 1992, 1994 and 1997; KIBHS 2005/06

The most alarming poverty trends are displayed by Coast rural and North Eastern rural where overall poverty portrays an ever-increasing trend. However, overall, Kenya's national poverty incidence estimated at 52.3% in 1997 WMS III dropped to 46% in 2005/06 (KIHBS).

# 6.3 Key Education Indicators (%), Kenya

Indicator	2004	2005	2006
Primary GER	104.8	107.2	107.4
Primary Net Enrolment Rate (GER)	82.1	83.2	84.2
Secondary Net Enrolment Rate (GER)	29.8	29.3	32.4
Source: KNBS			

# 6.4 Poverty Indices

### 6.4.1 Differentials in overall absolute poverty by adult equivalent (%)

National poverty line	1992	1994	1997	2006			
National	44.8	40.3	52.3	45.9			
Urban	29.3	28.9	49.2	33.7			
Rural	47.9	46.8	52.9	49.1			
Source: KBNS							

The national absolute poverty has declined from 52.3% in 1997 to 45.9% in 2005/06. These proportions of Kenyans have levels of consumption that are insufficient to meet basic food and non-food needs.

The poor experience higher mortality rates than the non-poor in the two categorised. Mortality rates for infants and children under five years of age among the poor are higher than the national average rates.

#### 5.3.3 Trends in Under Five Mortality Rate by Province

Province	1979	1989	1993	1998	1999	2000	2003
	Census	KDHS	KDHS	KDHS	Census	MICS	KDHS
Nairobi	104	80.4	82	66	93	77	95
Central	85	47	41	34	66	50	54
Coast	206	156	109	96	139	101.3	116
Eastern	128	64.3	66	78	79	78.3	84
North Eastern	160	n.a.	n.a.	n.a.	103	n.a.	163
Nyanza	220	148.5	187	199	192	194.7	206
Rift Valley	132	50.9	61	68	89	72	77
Western	187	132.8	110	123	159	140	144
Total	157	91	93	105	116	116	115
Urban		89	75	88	n.a.	90	93
Rural		91.2	96	109	n.a.	115	117
Gender							
Males	161	96.1	97	108	n.a.	114.3	122
Females	151	85.7	89	103	n.a.	104.7	103

#### Sources:

- a) KDHS 1989, 1993, 1998, 2003
- b)CBS- Multiple Indicator Cluster Survey, 2000
- c) Kenya Population and Housing Census Analytical Reports 1979, 1999

#### 5.3.4 Trends in Infant Mortality Rate by Province

Province	1989	1993	1998	1999	2000	2003
	KDHS	KDHS	KDHS	census	MICS	KDHS
Central	37	31	27	37	36	44
Nairobi	46	44	41	50	51	67
Rift Valley	35	45	50	51	48	61
Eastern	43	47	53	44	57	56
Western	75	64	64	101	87	80
Coast	107	68	70	86	65	78
Nyanza	94	128	135	112	117	133
North Eastern	n.a.	n.a.	n.a.	65	n.a.	91
Residence:						
Urban	57	46	55	n.a.	59	61
Rural	59	65	74	n.a.	73	79
Gender:						
Males	63	67	75	n.a.	75	84
Females	54	59	67	n.a.	65	67
KENYA	59	62	71	77	73	77

# 6. Trends in Determinants of Health

# 6.1 Adult Literacy Rates

Indicator		1988	2000	2002	2003	2006 KIHBS
Adult	Male			89	88	85
Literacy Rate	Female			76	78	74
	Total	54	74	82	83	79

# 6.2 Percentage distribution of population aged 15+ years by literacy status and province, Kenya, 2006

Province	%
Rural	71.8
Central	85.9
Coast	56.0
Eastern	69.9
North Eastern	18.7
Nyanza	82.2
Rift Valley	69.4
Western	81.1
Urban	87.7
Nairobi	96.5
Mombasa	85.8
Kisumu	98.2
Nakuru	94.5
Other urban	85.8
Kenya	79.0

Characteristic	%
Were offered free cigarettes by a tobacco	
company representative	13.2
School	
Had been taught in class, during the past year, about the	
dangers of smoking	82.1
Had discussed in class, during the past year, reasons why	
people in their age smoke	66.4
Had been taught in class, during the past year, the effects	
of tobacco use	83.7
Source: Division of Non-Communicable Diseases	

#### 5.3.5 Nutrition Indicators

Indicators	1993	1994	1997	1998	2000	2003	2006
Stunted (height-for-age)2	32.7	33.6	36.8	33.0	35.3	30.7	34.7
Underweight (weight-for-age)	22.3	22.5	22.3	22.1	21.2	20.2	20.9
Wasted (weight-for-height)	5.91	7.8	6.5	6.1	6.0	5.7	6.3

Stunting (height-for-age index) results from inadequate nutrition over a long period, poor care practices and may also be due to recurrent and chronic illness.

Wasting (weight-for-height) describes current nutritional status acute malnutrition results from acute or recent inadequate food intake or recent episodes of illness causing height loss.

Underweight (weight-for-age) is a composite index of weight for height and height for age and this does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting).

### 5.3.6 Trends in Prevalence of Stunting by Province and Year, KENYA.

Province	1982	1987	1993	1994	1998	2003	2006
Age group	3 - 60	6 -60	1 - 59	6 - 60	0 - 59	0 - 59	6-59
Covered							
(months)							
Nairobi	n.a.	n.a.	24.2	30.2	25.7	18.7	27.8
Central	33.6	25.0	30.7	28.7	27.5	27.0	30.0
Coast	48.6	49.5	41.3	38.3	39.1	34.9	36.0
Eastern	39.0	38.5	39.4	38.5	36.8	32.5	42.6
Nyanza	43.1	41.3	32.1	36.4	30.8	31.1	36.2
Rift Valley	31.4	26.9	28.5	31.8	33.1	31.6	32.1
Western	40.5	22.4	30.0	37.0	35.0	30.2	32.7
North	<b>n</b> a					24.3	44.4
Eastern	n.a.	n.a.	n.a.	n.a.	n.a.	24.3	44.4
Kenya	37.1	32.1	32.7	33.6	33.0	30.7	34.7

## **Sources:**

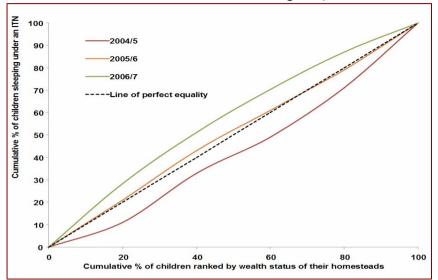
- Central Bureau of Statistics, Economic Survey, 1995;
- NCPD/CBS: Kenya Demographic and Health Surveys, 1993 1998 and 2003;
- KNBS: Kenya Integrated Household Budget Survey 2005/06, Basic Report , Volume I.

#### 5.7.2 Future Use, Access and Availability and knowledge of tobacco products

Characteristic	%
Future Use of Tobacco products:	
Never smokers likely to initiate smoking next year	19.4
Access and Availability - Current Smokers:	
Usually smoke at home	35.0
Buy cigarettes in a store	20.0
Bought cigarettes in a store were NOT refused purchase	
because of their age	70.1
Environmental Tobacco Smoke:	
Live in homes where others smoke in their	
presence	27.4
Around others who smoke in places outside	
their home	50.7
Think smoking should be banned from public	
places	52.8
Think smoke from others is harmful to them	65.9
Have one or more parents who smoke	18.7
Have most or all friends who smoke	6.6
Cessation - Current Smokers	
Want to stop smoking	79.2
Tried to stop smoking during the past year	76.0
Have ever received help to stop smoking	84.9
Media and Advertising	
Saw anti-smoking media messages, in the past 30 days	81.7
Saw pro-cigarette ads on billboards, in the past 30 days	81.1
Saw pro-cigarette ads in newspapers or	
magazines, in the past 30 days	68.4
Have an object with a cigarette brand logo	19.5

**+29** 

#### 5.6.3 Lorenz concentration curve for children using ITN's, 2004 - 2007



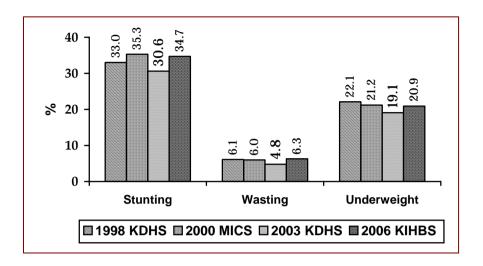
### 5.7 Non Communicable Diseases Prevention and Control

# 5.7.1 Gender differentials in use of tobacco products - Highlights of Kenya-Global Youth Tobacco Survey, 2007

Characteristic	Male	Female	Total
Prevalence			
Percentage of Students who have ever smoked cigarettes	33.0	15.5	24.4
Current use of any tobacco product	18.2%	18.2	18.6
Currently smoke cigarettes	12.7	6.5	9.8
Current use of other tobacco products	10.7	14.5	12.8

Source: Division of Non-Communicable Diseases

#### 5.3.7 Trends in Nutritional Status of Children



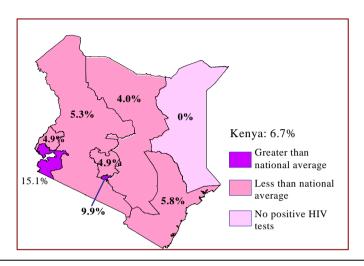
#### 5.3.8 Trends in Full Immunization Coverage by province (%)

5.5.5 Trends in Full Infinialization Coverage by province (18)							
Province	KDHS 1993	KDHS 1998	MICS 2000	KDHS 2003	KIHBS 2006	KEPI 2007**	
Nairobi	87	73	64	63	67	78	
Central	93	85	69	79	83	85	
Coast	81	72	61	66	76	78	
Eastern	85	75	68	65	67	78	
Nyanza	70	47	48	38	56	66	
Rift Valley	76	69	68	56	67	70	
Western	70	56	45	50	76	68	
North Eastern	n.s	n.s.	72*	9	21	52	
Total	79	65	61	57	66	73	

n.s. - not surveyed as well as Samburu and Turkana districts in Rift Valley, Isiolo and Marsabit in Eastern Province, together accounting for less than 4% of Kenya's population; \* based on relatively small sample drawn from clusters in the urban areas of the districts; \*\* Provisional Coverage based on Routine Reporting.

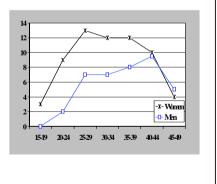
### 5.4 HIV/AID\$ Indicators

#### 5.4.1 HIV Prevalence by Province: 2003 KDHS



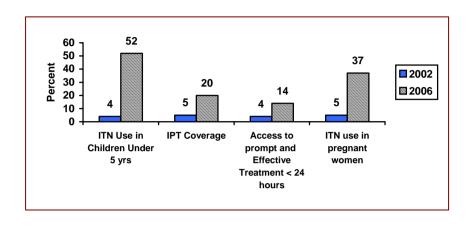
#### 5.4.2 HIV Prevalence in Kenya: 2003 KDHS

- 6.7% of Kenyan women and men are HIV positive.
- Prevalence is 8.7% for women aged 15-49 compared to 4.6% for men 15-49, giving a female-male ratio of almost 2 to 1.
- Prevalence is higher in urban areas (10%) than rural areas (5.6%).
- Nyanza is by far the most affected by HIV.

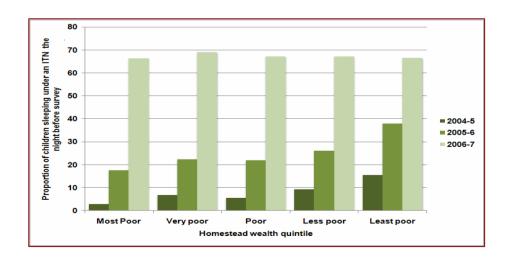


## 5.6 Trends in Malaria Control

#### 5.6.1 Progress in Malaria Control



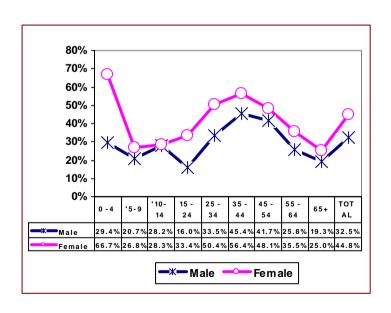
# 5.6.2 Use of ITN's by wealth quintile following mass distribution, 2004 – 2007 in Kenya



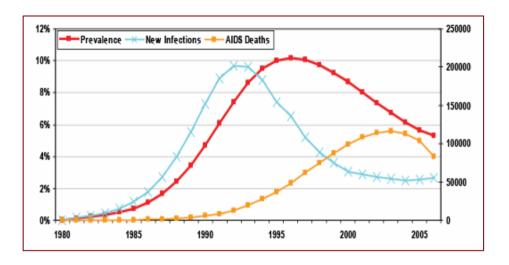
#### 5.5.6 Total TB Cases Registered in 2007

Description	Total Re-	New cases				
	treatment cases	РТВ+	PTB>15 yrs, smear not done	Total PTB-	Total EPTB	Total TB cases
TB cases (by type)	10,462	38,360	7,017	42,852	18,032	116,723
% out of total TB cases	9%	33%	6%	37%	15%	100%
Number tested for HIV	8,682	30,221	5,154	34,030	13,757	91,844
% tested for HIV	83%	79%	73%	79%	76%	79%
Number tested HIV+	4817	11,394	3,092	17,372	7,319	43,994
% tested HIV+	55%	38%	60%	51%	53%	48%

# 5.5.7 Percentage testing HIV+ among new PTB+ cases tested for HIV by Age and Sex, 2007



#### 5.4.3 HIV Prevalence, incidence and mortality: 1980 -2005



#### 5.4.4 Adult HIV prevalence by province in 2004

		Prevalence			
D	Number	Total	Male	Female	
Province	HIV+				
Nairobi	159,000	9.0	7.1	10.9	
Central	124,000	5.6	2.3	8.9	
Coast	84,000	5.7	4.8	6.6	
Eastern	90,000	3.7	1.4	5.9	
North Eastern	17,000	3.0	2.1	4.0	
Nyanza	292,000	13.1	10.2	16.0	
Rift Valley	207,000	5.0	3.5	6.6	
Western	85,000	4.5	3.6	5.4	
Total	1,057,000	6.4	4.3	8.3	

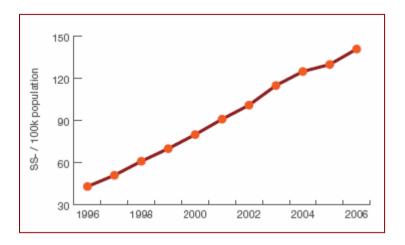
#### 5.4.5 Estimated Adult HIV Prevalence By Province in 2006

• The urban HIV prevalence is estimated at 8.3% compared to 4.0% for rural areas.

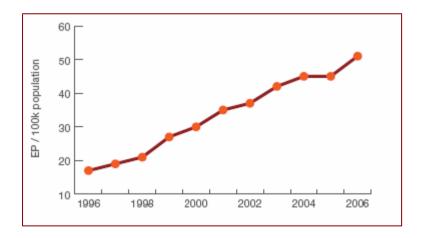
Province	Number	Prevalence					
	HIV+	Total (%)	Male (%)	Female (%)	Male: Female Ratio		
Nairobi	197,000	10.1	8.0	12.3	1.5		
Central	96,000	4.1	1.7	6.5	3.8		
Coast	93,000	5.9	5.0	6.9	1.4		
Eastern	72,000	2.8	1.1	4.4	4.0		
North	9,000	1.4	0.9	1.8	2.0		
Eastern							
Nyanza	183,000	7.8	6.1	9.6	1.6		
Rift Valley	171,000	3.8	2.6	4.9	1.9		
Western	112,000	5.3	4.2	6.4	1.5		
Total	934,000	5.1	3.5	6.7	1.9		
	Source: National AIDS Control Council (NACC)						

There are, in addition, an estimated 55,000 HIV+ Adults aged 50+ years and 102,000 HIV+ children 0-14 years old bring to a total of 1,091,000 HIV+ persons. These figures illustrate the magnitude of the inherent task in providing prevention, treatment, care and

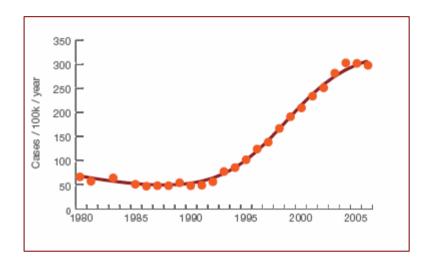
#### 5.5.4 Cases of smear negative TB per 100,000 of population, 1996 – 2006



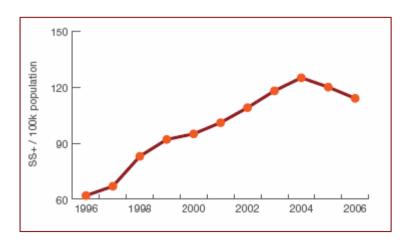
#### 5.5.5 Cases of extra pulmonary TB per 100,000 of population, 1996 – 2006



#### 5.5.2 TB case notification rates - 1980 to 2006



#### 5.5.3 Cases of smear positive TB per 100,000 of population, 1996 – 2006



support services to ensure universal access. These figures indicate that:

- 1.5 million pregnant women need counselling and testing each year to determine their HIV status;
- 68,000 need treatment to prevent mother-to-child transmission of HIV;
- 23,000 children need ART and 200,000 need cotrimoxazole prophylaxis;
- 430,000 adults need ART;
- 2.4 million orphans need care and support from their extended families and communities

#### 5.4.6 Estimated Prevalence for youth aged 15-24 years

	Prevalence %					
Year	2003	2004	2005	2006		
Male	1.2	0.9	0.8	0.8		
Female	5.8	4.9	4.5	4.4		
Total	3.5	2.9	2.6	2.6		
Source: Natio	Source: National AIDS Control Council (NACC)					

# 5.4.7 Trends in the Distribution of Persons on Antiretroviral Therapy by province

P					
Province	2005	2006	2007		
Nairobi	14,331	24,737	38,948		
Central	5,547	13,543	21,962		
Coast	3,686	8,748	14,419		
Eastern	3,156	8,379	11,931		
North Eastern	134	169	322		
Nyanza	11,352	26,943	41,292		
Rift Valley	15,825	27,671	33,594		
Western	6,361	9,836	18,990		
National total	60,392	120,026	181,458		
Source: NASCOP					

# 5.5 Tuberculosis Control

#### 5.5.1 Trends in Tuberculosis Case Findings

Province	2002	2003	2004	2005	2006	2007
Nairobi	15,979	18,360	19,871	19,486	19,472	18,901
Central	7,075	8,686	9,508	9,281	10,259	10,623
Coast	9,313	9,922	9,923	10,455	11,037	11,485
Eastern	11,937	13,756	16,270	16,910	16,863	15,766
North Eastern	2,736	2,959	3,088	3,412	3,355	3,864
Nyanza	14,788	17,527	19,262	20,999	23,272	22,926
R/Valley	15,187	17,954	21,361	20,893	23,288	23,233
Western	5,099	6,146	6,500	6,965	7,688	8,891
Kenya	82,114	95,310	105,783	108,401	115,234	115,689

Source: National Leprosy and Tuberculosis Programme (NLTP)