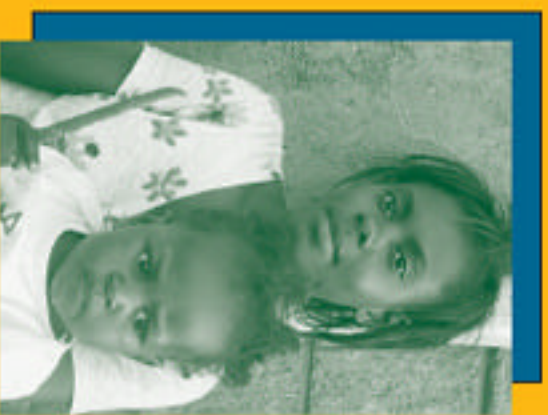




# Kenya

2003 Demographic and Health Survey

Key Findings



This report summarizes the findings of the 2003 Kenya Demographic and Health Survey (2003 KDHS), carried out by the Kenya Central Bureau of Statistics in partnership with the Ministry of Health and the National Council for Population and Development. ORC Macro provided technical assistance for the survey through the USAID-funded MEASURE DHS+ programme, which is designed to assist developing countries to collect data on fertility, family planning and maternal and child health. Additional funding for the KDHS was received from the United Nations Population Fund (UNFPA), the Department for International Development (DFID/U.K.), the Government of Japan through a fund managed by the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), and the U.S. Centers for Disease Control and Prevention (CDC).

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Additional information about the 2003 KDHS may be obtained from the Central Bureau of Statistics (CBS), P.O. Box 30266, Nairobi, (Telephone: 245.20.340.929; Fax: 254.20.333.030; website: [www.cbs.go.ke](http://www.cbs.go.ke)).

Additional information about the DHS project may be obtained from ORC Macro, 11785 Beltsville Drive, Calverton, MD 20705, USA; (Telephone: 301-572-0200, Fax: 301-572-0999, Internet: [www.measuredhs.com](http://www.measuredhs.com)).

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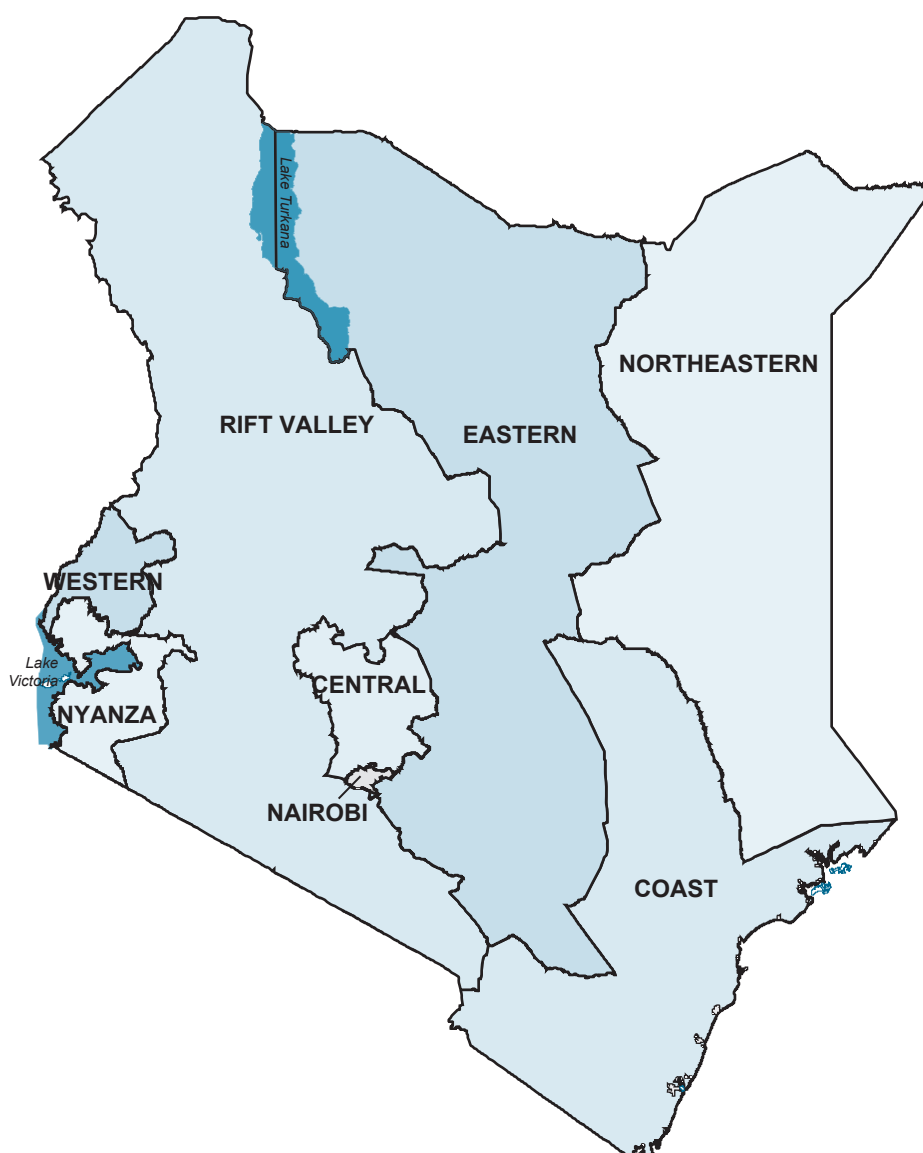
Cover photograph: Sammy Ndwiiga, Nairobi, Kenya. (2003)

## ABOUT THE 2003 KDHS

The 2003 Kenya Demographic and Health Survey (2003 KDHS) was designed to provide data to monitor the population and health situation in Kenya as a follow-up of the 1989, 1993, and 1998 Kenya DHS surveys. In 2003, new features include data on HIV prevalence, domestic violence, and malaria. The 2003 KDHS also includes data from the northern half of Kenya for the first time.

### Who participated in the survey?

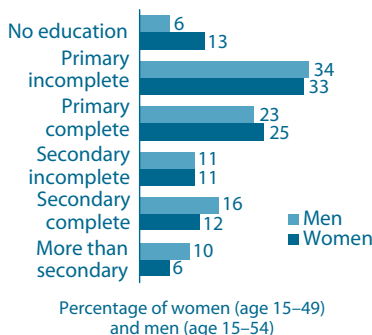
A nationally representative sample of 8,195 women age 15–49 (94 percent of those eligible) and 3,578 men age 15–54 (86 percent of those eligible) were interviewed. This sample provides estimates for Kenya as a whole, for urban and rural areas, and for each of the eight provinces. The population has slightly more females than males. Almost half (45 percent) of the population is below the age of 15 years. Only 3 percent of Kenyans are 65 or older. This youthful age structure is typical of populations with high fertility and high mortality.



## Education

Most Kenyans have received some education. However, 13 percent of women age 15–49 have had no education at all, compared with 6 percent of men (age 15–54). Those in the North Eastern Province have the least education, with 93 percent of women and 71 percent of men receiving no education at all.

### Women’s and Men’s Education



Kenyan men tend to complete higher levels of education than women. Almost 40 percent of men have at least some secondary education compared with only 29 percent of women.

## HOUSEHOLD CHARACTERISTICS

*Housing conditions and ownership of durable goods have implications for health; they also reflect the socioeconomic level of the household.*

### Household Composition

Kenyan households consist of an average of 4.4 persons. Households in urban areas are slightly smaller, with an average of 3.5 persons, than those in rural areas (4.7 persons).

Almost one in three households in Kenya is headed by a woman. Female-headed households are more common in rural areas (34 percent) than in urban areas (26 percent). Nairobi has the smallest percentage of female-headed households (20 percent).

### Housing Conditions

Housing conditions vary greatly based on residence. Half of urban households have electricity, compared with only 5 percent of homes in rural areas. About half of Kenyan households (53 percent) are within 15 minutes of their drinking water supply. Many urban households have water piped into their compound or dwelling (49 percent) or get water from public taps (22 percent). Rural households rely primarily on springs, rivers, and streams (48 percent) for their drinking water.



Credit/Photographer: CCP, 1998

### Ownership of Consumer Goods

Ownership of consumer goods has increased since the 1998 KDHS. Currently 74 percent of Kenyan households own a radio, and almost 20 percent own a television set. Only 13 percent of Kenyan households own a telephone or mobile. Urban households have higher percentages of ownership of all items except bicycles, which are owned by 33 percent of rural households, compared with 18 percent of urban households.

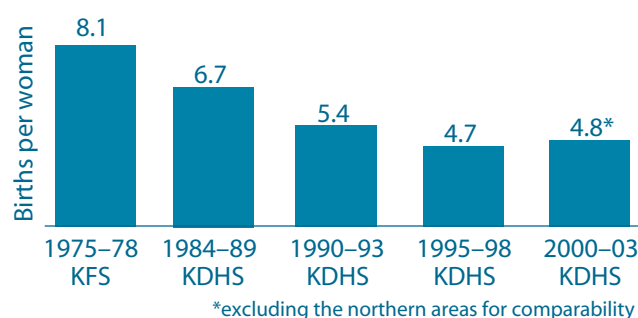
## FERTILITY AND ITS DETERMINANTS

The 2003 KDHS examines several aspects of fertility. This information can help monitor the effectiveness of public health and family planning programs.

### Total Fertility Rate (TFR)

One of the most surprising findings from the 2003 KDHS is that the fertility decline appears to have stalled. Currently, women in Kenya have an average of 4.9 children. While this TFR is lower than many other African countries, it is slightly higher than the TFR reported in the last KDHS carried out in 1998.

**Trends in Fertility, 1975–2003**

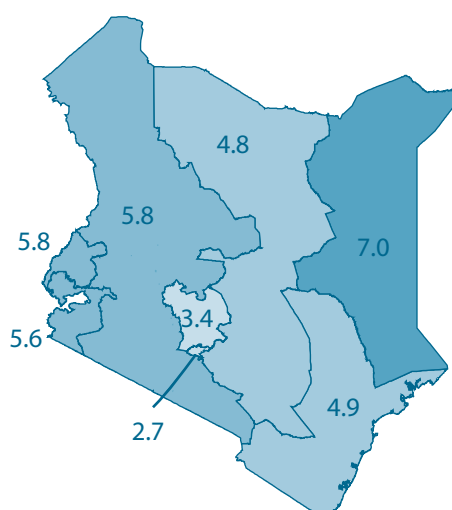


Fertility varies by residence and by province. Women in urban areas have 3.3 children on average, compared with 5.4 children in rural areas. Fertility is highest in North Eastern Province, where women have an average of 7 children.

Fertility also varies with mothers' education and economic status. Women who have at least some secondary education have an average of 3.2 children, versus 6.7 children for women who have had no education. Fertility decreases as the wealth status of the respondent\* increases. Women in the highest wealth quintile have less than half the number of children as those in the lowest wealth quintile (3.1 versus 7.6).

**Total Fertility Rate**  
(births per woman)

Kenya: 4.9



\* Household assets collected from DHS surveys—i.e., type of flooring; source of water; availability of electricity; possession of durable consumer goods—are combined into a single wealth index. They are then divided into five groups of equal size, or quintiles, based on individuals' relative standing on the household index

### Desired Family Size

Kenyan women report an ideal family size of 3.9 children. Men want slightly larger families of 4.3 children. Ideal family size is higher among women in rural areas than urban areas (4.1 versus 3.4) but is relatively constant across provinces with the exception of North Eastern Province, where desired family size is 11.1 children. Ideal family size is substantially smaller for those women with at least some secondary education (3.1 children), compared with those with no education (6.7 children). Ideal family size also decreases with increased wealth.

### Age at First Marriage

Women who marry early often give birth to more children. In Kenya, more than half of women (51 percent) are married by their twentieth birthday. The median age at first marriage is increasing over time, from 19.2 years in the 1998 KDHS to 19.8 years (excluding northern areas) in 2003. Women in urban areas tend to marry later (median age of 21.4 years) than their counterparts in rural areas (median age of 19.3). Women in the North Eastern Province marry at the earliest age: 17.5 years. Age at marriage also greatly increases with education; women with at least some secondary education get married more than 5 years later than those with no education (22.7 years versus 17.3).

### Age at First Sexual Intercourse

Comparison of data from the 2003 KDHS with similar data from the 1998 KDHS indicates that there has been an increase in the age at first sexual experience. The median age at first sex has risen from 16.7 in 1998 to 17.8 years in 2003. Women living in rural areas have their first sex almost a year earlier than those living in urban areas.

### Age at First Birth

When women enter childbearing at an early age, their reproductive period is lengthened and fertility generally is higher. The median age at first birth in Kenya is 20 years. On average, women are waiting longer than their mothers to begin childbearing. Only 23 percent of 20- to 24-year-old women had given birth by the age of 18, compared with 34 percent of women 45-49. Age at first birth also increases with education and wealth, and is higher in urban areas than rural.

### Unplanned Fertility

Unplanned pregnancies are common in Kenya. Overall, 20 percent of births in Kenya are unwanted, and 25 percent are mistimed, or wanted later. This suggests that couples may need more information to successfully control their fertility.



Credit: RUINET, 2003

# FAMILY PLANNING

## Knowledge of Family Planning

Knowledge of family planning methods in Kenya is almost universal; 94 percent of women and 97 percent of men know at least one modern method of family planning. The most commonly known methods are the male condom (91 percent), pill (90 percent), and injectables (89 percent).

## Current Use of Family Planning

About 4 out of 10 married women (39 percent) currently use a method of family planning. Just under one-third are using a modern method, most often injectables and pills. Periodic abstinence is the most commonly used traditional method. Unmarried, sexually active women also use injectables most frequently (19 percent); condom use among these women is 16 percent, reaching a high of 26 percent among 15- to 19-year-olds.

Use of modern family planning varies dramatically by residence and province. Modern methods are used by 40 percent of married women in urban areas, compared with 29 percent in rural areas. Modern contraceptive use ranges from less than 1 percent of married women in North Eastern Province to 58 percent in Central Province.

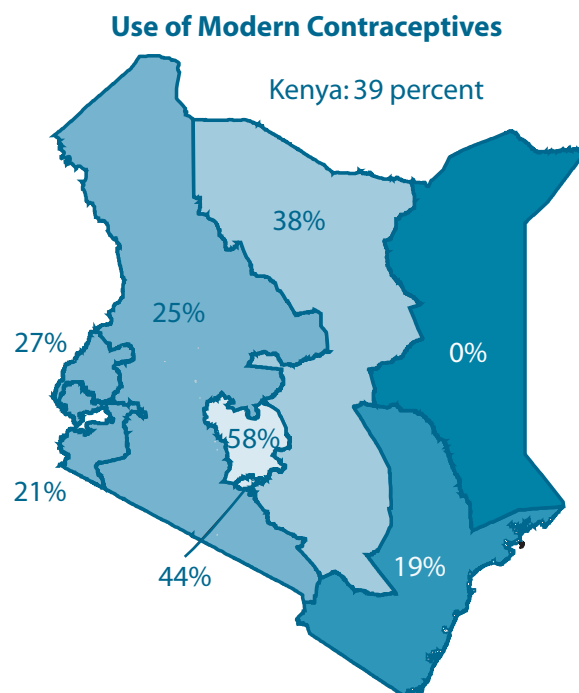
Modern contraceptive use increases dramatically with a woman's education. More than half of married women with at least some secondary education use modern methods, compared with only 8 percent of women with no education.

## Trends in Contraceptive Use

Contraceptive use has increased only slightly since 1998, from 39 percent to 41 percent of married women (excluding the northern districts for comparability). This is a dramatic slowing of an upward trend that began in the 1980s. Injectable use has become more popular, while pill use has declined over the last 10 years.

## Source of Family Planning Methods

Use of public sources of family planning is continuing to decrease, while private hospitals and clinics are providing more contraceptive services. Public sources such as government hospitals and health centres currently provide contraceptives to half (53 percent) of current users, while private hospitals and clinics provide methods to 41 percent of users. Other private sources such as shops and friends supply the majority of male condom users (56 percent).



## NEED FOR FAMILY PLANNING

### Intention to Use Family Planning

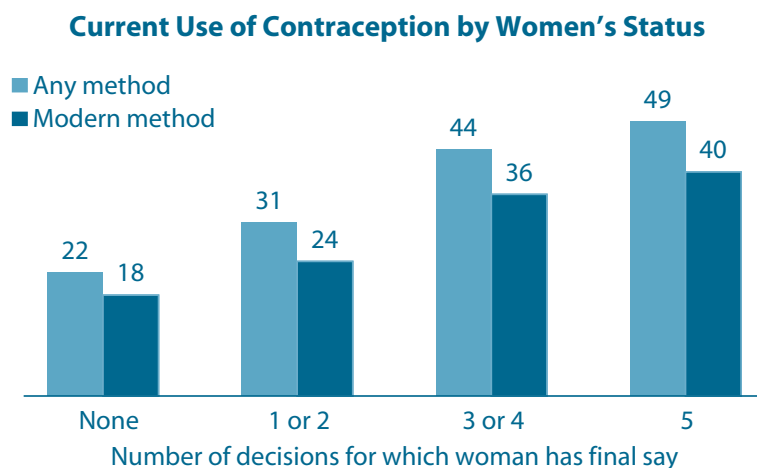
The majority (58 percent) of currently married non-users intend to use family planning in the future. More than eight out of ten (85 percent) currently married women say that they approve of family planning; 62 percent say that their husbands also approve. In general, approval is highest in urban areas, among women with higher education and greater wealth.

### Desire to Stop Childbearing

The desire to have children has increased slightly from 40 percent in 1998 to 45 percent in 2003, excluding the northern areas. Almost half (49 percent) of married women either do not want to have another child or are sterilized. The desire to stop childbearing ranges from 4 percent in North Eastern Province to 61 percent in Central Province.

### Unmet Need for Family Planning

Unmet need for family planning is defined as the percentage of married women who want to space their next birth or stop childbearing entirely but are not using contraception. The 2003 KDHS reveals that 25 percent of married women have an unmet need for family planning, 14 percent for spacing and 10 percent for limiting. Unmet need is highest in rural areas and among women in Nyanza Province.



### Discontinuation of Contraception

Overall, almost four in ten women (38 percent) discontinue use within 12 months of adopting a method. The pill and male condom have the highest discontinuation rates (46 and 59 percent, respectively). Discontinuation rates have increased since 1998, from 33 to 38 percent of users. This is most likely due to an increase in discontinuation rates for the pill and injectables. Rates for condoms and periodic abstinence have remained stable.

# INFANT AND CHILD MORTALITY

Infant and child mortality rates are basic indicators of a country's socioeconomic situation and quality of life. Identifying children most at risk of dying allows policymakers and program planners to direct resources to improve health outcomes.

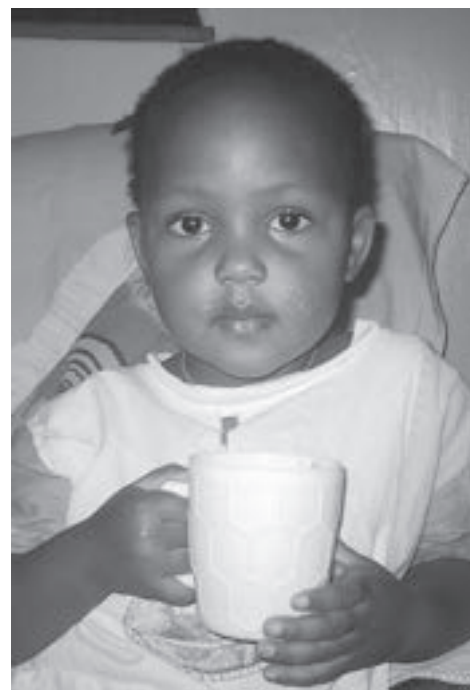
## Levels and Trends

For the most recent five-year period, the infant mortality rate is 77 deaths per 1,000 live births and the under-five mortality rate is 115 deaths per 1,000 live births. This means that one in every nine children in Kenya dies before his or her fifth birthday.

Childhood mortality rates have increased slightly since 1998. In 1998, the infant mortality rate was 73 and the under-five mortality rate was 110 (deaths per 1,000 live births). However, due to the large sampling error of mortality rates, it is impossible to conclude for certain that childhood mortality rates have risen in recent years.

Mortality rates differ dramatically by socioeconomic characteristics. Both infant and under-five mortality levels are higher in rural areas than in urban areas. There is also considerable variation by province, with infant mortality rates ranging from 44 deaths per 1,000 live births in Central Province to 133 deaths per 1,000 live births in Nyanza Province.

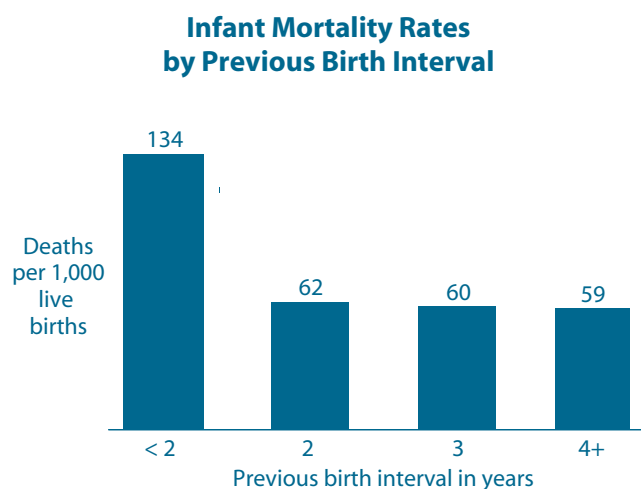
Mothers' level of education is strongly associated with child mortality. Children born to women with some secondary education experience an infant mortality rate of only 44 deaths per 1,000 live births, compared with 97 deaths per 1,000 live births for those whose mothers did not complete primary school. Infant and under-five mortality rates are also higher for children born to women over the age of 40 and those who are the 7th or higher child.



Photographer: Sammy Ndwiga, 2003

## Birth Intervals

Spacing children at least 36 months apart is safest and healthiest for the mother and the child. In Kenya, the average birth interval is 33 months. Infants born less than 2 years after a previous birth have particularly high infant mortality rates.



## CHILD HEALTH

*A large proportion of childhood deaths can be prevented by vaccination against six serious diseases and early diagnosis and treatment of common childhood illnesses.*

### Vaccination Coverage

In 2003, 57 percent of Kenyan children age 12–23 months had received the full regimen of recommended vaccines, which includes one dose of BCG, three doses each of DPT/hepatitis B/influenza and polio, and one dose of measles. Vaccination coverage has declined significantly since 1998, from 65 to 60 percent, and the percentage of children receiving no vaccinations has increased from 3 to 6 percent (excluding the north for comparability).

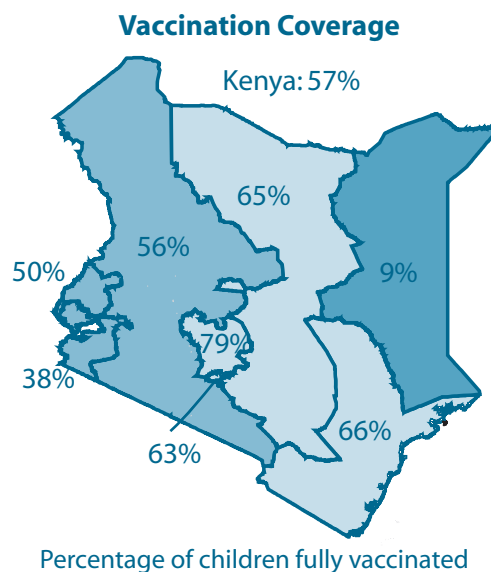
As expected, vaccination coverage increases with mother's education and wealth. There are no significant differences in vaccination coverage between urban and rural areas. Children of higher birth orders (6+) are less likely to be fully immunized. There are also large variations by province. In Central Province, for example, 79 percent of children are fully vaccinated, and only 2 percent have received no vaccinations at all. In contrast, only 9 percent of children in North Eastern Province have been fully vaccinated, and 46 percent have not received a single vaccination.

### Childhood Illnesses

In the two weeks before the survey, 18 percent of children under five had symptoms of an acute respiratory infection (ARI), and 41 percent had a fever. Almost half (46 percent) of these children were taken to a health facility or provider for treatment. ARI symptoms are most common in Western Province (30 percent of children), and least common in North Eastern Province (10 percent).

Diarrhoea can cause dehydration, a leading cause of illness and death among children in Kenya. During the two weeks before the survey, 16 percent of Kenyan children under five had diarrhoea. The rate was highest (29 percent) among children 6 to 11 months old. Diarrhoeal disease is least common in Central Province and most common in Western Province. Diarrhoea occurs least often among children who drink rainwater or bottled water.

Treatment of diarrhoea and dehydration is relatively easy; increased intake of fluids is recommended, particularly through oral rehydration salts (ORS). About 70 percent of mothers with children born in the last five years know about ORS packets. However, in the two weeks before the survey, only 29 percent of children with diarrhoea were treated with ORS. One-third were offered increased fluids; overall, only half the children with diarrhoea were given ORS or increased fluids. Almost one-third (32 percent) were not treated, and only 30 percent were taken to a health provider.



# FEEDING PRACTICES AND THE NUTRITIONAL STATUS OF WOMEN AND CHILDREN

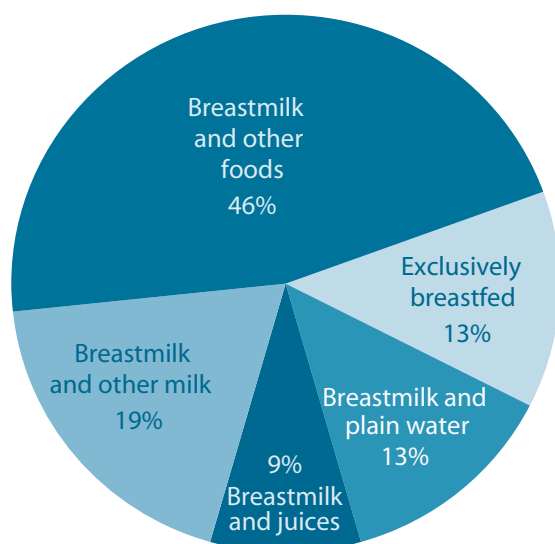
*Nutritional deficiencies contribute to high rates of disability, illness and death in Kenya, especially among women and young children. The 2003 KDHS collected height and weight measurements of women and young children to assess overall nutritional status.*

## Breastfeeding and the Introduction of Other Foods

Breastfeeding is nearly universal in Kenya, with 97 percent of children breastfed. WHO recommends that children receive nothing but breastmilk (exclusive breastfeeding) for the first six months of life. However, only 13 percent of children under 6 months of age are being exclusively breastfed. Water, juices and other milks are given too early, as over 40 percent of children under 6 months receive these. Complementary or solid foods are also given to almost half the children in this age group. On average, children breastfeed until the age of 21 months.

Complementary foods should be introduced when a child is six months old to reduce the risk of malnutrition. In Kenya, 84 percent of children ages 6–9 months are eating complementary foods.

**Breastfeeding Practices for children less than 6 months old**



## Vitamin A and Iron

Micronutrients are essential vitamins and minerals required for good health.

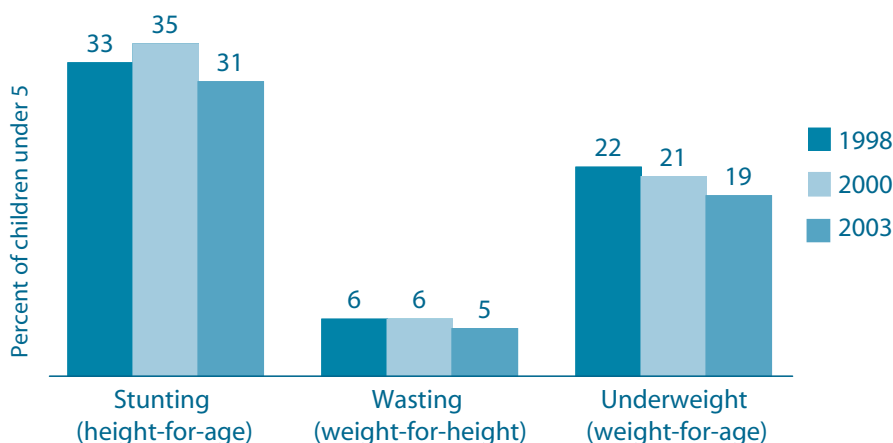
Vitamin A, which prevents blindness and infection, is particularly important for children and new mothers. In the 24 hours before the survey, 62 percent of children under age 3 ate fruits and vegetables that are rich in vitamin A, and 33 percent of children age 6–59 months received a vitamin A supplement in the 6 months prior to the survey. Only 14 percent of mothers received a dose of vitamin A within the first two months after childbirth.

Pregnant women should take iron tablets or syrup for at least three months during pregnancy to prevent anemia and other complications. Only 3 percent of women took iron tablets or syrup for at least 90 days during their last pregnancy. Iron supplementation during pregnancy was highest in Coast and Nyanza Provinces, and lowest in North Eastern and Central. For women who took iron supplements during pregnancy, the vast majority took them for less than 60 days.

### Children's Nutritional Status

Inadequate nutrition affects the physical growth and development of children. A child's nutritional status is assessed by comparing height and weight measurements against an international reference standard. According to the 2003 KDHS, 30 percent of children under 5 are too short for their age, or stunted. Stunting indicates chronic malnutrition. Almost six percent of Kenyan children are wasted, or thin for their height. Wasting is a sign of severe malnutrition. Overall, one in five children is underweight. Stunting, wasting, and underweight are most common in rural areas and among families of lower socioeconomic status. Wasting is extremely high in North Eastern Province, where 27 percent of children are too thin for their height.

**Trends in Children's Nutritional Status**



### Women's Nutritional Status

The average body mass index (BMI) of Kenyan women is 23. Whereas only 2 percent of Kenyan women are extremely thin (BMI less than 16), overall one in eight women is considered too thin (BMI less than 18.5). Only 5 percent of women in Nairobi have a BMI of less than 18.5, compared with 28 percent in the North Eastern Province. Almost one-quarter (23 percent) of Kenyan women are overweight or obese. Women in urban areas and those with higher levels of education and greater wealth are more likely to be overweight or obese (BMI greater than 25).

## MATERNAL HEALTH

*Maternal and child health reflects both a society's level of development as well as the performance of the health care delivery system.*

### Antenatal Care

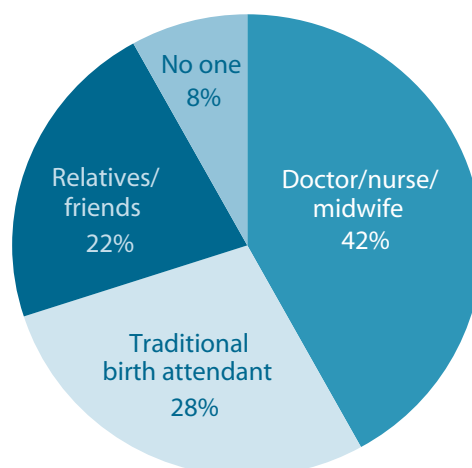
Almost 90 percent of Kenyan women receive antenatal care from a medical professional (18 percent from a doctor, 70 percent from a nurse or midwife); 10 percent of women receive no antenatal care at all. This represents a slight decline in medical antenatal coverage since 1998. Antenatal care is closely linked with the mother's education and residence. Almost 30 percent of women with no education receive no antenatal care, compared with only 2 percent of those with some secondary education. Antenatal care coverage varies dramatically across provinces. In Nairobi only 4 percent of women receive no antenatal care, compared with 68 percent of women in North Eastern Province.

Proper antenatal care can reduce the level of neonatal mortality. It is recommended that mothers receive antenatal care within the first three months of their pregnancy. In Kenya, only 11 percent of women had an antenatal care visit by their fourth month of pregnancy. According to the 2003 KDHS, only 52 percent of pregnant women received the recommended 2 doses of tetanus toxoid injection; only 3 percent took iron tablets for the recommended duration during pregnancy; and only one in five took any antimalarial medication during pregnancy.

### Delivery and Postnatal Care

Almost 60 percent of births in Kenya occur at home. Of all pregnant women, 42 percent are assisted during childbirth by a doctor, nurse, or midwife. Another 28 percent have a traditional birth attendant and 8 percent deliver alone. Postnatal care is an important precaution against post-delivery complications. The majority (81 percent) of women who delivered at home did not have a postnatal checkup, and only 10 percent had a checkup within 2 days of delivery, as recommended.

#### Assistance at Delivery



Percentage of live births in the five years preceding the survey

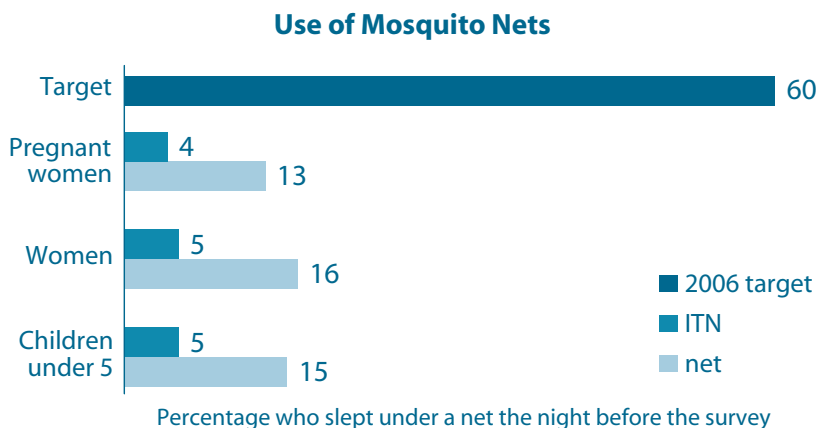
# MALARIA

In Kenya, about 26,000 children under age 5 die each year from malaria. The National Malaria Strategy outlines four interventions to control and prevent malaria: management of malarial illness, use of insecticide-treated mosquito nets, control of malaria during pregnancy, and control of malaria epidemics.

## Mosquito Nets

Overall, 22 percent of households have at least one mosquito net, but only 6 percent have an insecticide-treated net (ITN). This is far below the 2006 government target of 60 percent mosquito net use. Although malaria is more common in rural areas, households in urban areas are much more likely to have a mosquito net or an ITN. In 2003, only 17 percent of rural households owned a mosquito net as opposed to 38 percent in urban areas.

It is especially important for children under the age of 5 and pregnant women to be protected from malaria. In Kenya, 15 percent of children under 5 slept under a mosquito net, and 5 percent slept under an ITN the night before the survey. Use of mosquito nets by pregnant women is even lower; 13 percent slept under a mosquito net, and only 4 percent used an ITN the night before the survey.



## Antimalarial Drug Use During Pregnancy

Government policy calls for all pregnant women to receive 2 doses of the antimalarial drug SP Fansidar as intermittent preventive treatment (IPT). Yet, only 21 percent of pregnant women took any antimalarial drug at all, and only 4 percent received IPT.

## Management of Malaria in Children

In the two weeks before the survey, 42 percent of children under age 5 had fever and/or convulsions. Of these children, 27 percent took an antimalarial drug, but only 6 percent took the first-line medication of SP on the same or next day.

# FEMALE GENITAL CUTTING

*Female genital cutting, also known as female circumcision, is practiced widely in many Kenyan communities.*

## Prevalence

Overall, 32 percent of Kenyan women are circumcised. This is a sizable decline from 38 percent in 1998 to 31 percent in 2003 (excluding the northern districts). Age comparisons also support this trend: 48 percent of women age 40–49 are circumcised, compared with 25 percent of women age 20–24 and 20 percent of women age 15–19.

Female genital cutting varies widely by residence, province, and ethnicity. Circumcision is more common in rural areas (36 percent) than urban areas (21 percent). Western Province has the lowest rate of female circumcision (4 percent) and North Eastern has the highest rate (99 percent). Certain ethnic groups practice female genital cutting more frequently; the Kisii, Maasai, Somali and Kuria all have circumcision rates above 90 percent, while women from the Luo and Luhya groups have rates of less than 1 percent.

Female genital cutting is strongly related to educational level. Women with no education are almost three times more likely to be circumcised (58 percent) than women with at least some secondary education (21 percent). A similar pattern is seen with wealth: women in lower wealth quintiles are more likely to be circumcised.



*Photographer: Sammy Ndwiga, 1998. A woman and her granddaughter on a cold foggy day in rural Kenya.*

## GENDER VIOLENCE

Domestic violence has been acknowledged as a violation of basic human rights of women, and research shows the health burdens and demographic consequences of such violence.

### Prevalence

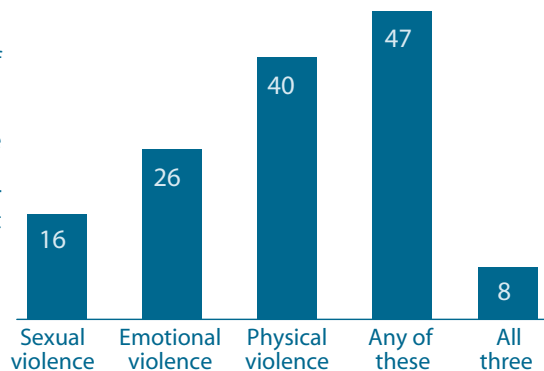
In the 2003 KDHS, women were asked if they had experienced violence since age 15. Almost half (49 percent) of women reported ever experiencing violence, and one in four has experienced violence in the past 12 months. Experiences of violence are similar for urban and rural women, and across wealth and educational levels. There are significant differences by province, however, with 73 percent of women in Western Province reporting ever experiencing violence, compared with 30 percent in Coast Province. Women who are employed are also more likely to report ever experiencing violence than unemployed women. Women who report having experienced violence most commonly name husbands, teachers, and mothers as perpetrators of the violence.

### Marital Violence

Marital violence refers to violence by partners within a marital union. Among married women and divorced or separated women, about one in four has experienced emotional violence by their current or most recent husband; 40 percent have experienced physical violence, and 16 percent have experienced sexual violence. Older women and women with more children are more likely to have experienced marital violence. Women most often report being slapped, pushed/shaken/thrown, punched, or forced to have intercourse.

#### Experience of Marital Violence

Percentage of married, divorced or separated women who have experienced violence by their current or most recent husband



Marital violence often has physical health consequences. Among women who experienced physical violence in the last year, 32 percent had bruises or aches as a result of the violence, 8 percent had an injury or broken bone, and 15 percent had to visit health personnel.

Husbands' drug and alcohol consumption is highly correlated with violence: 22 percent of women whose husbands do not drink or take drugs experienced physical or sexual violence by the husband in the past year, compared with 49 percent of women whose husbands get drunk or take drugs very often. Women whose husbands have at least some secondary education are less likely to experience marital violence.

### Attitudes Towards Marital Violence

In the 2003 KDHS, women and men were asked whether they thought a husband would be justified in hitting or beating his wife in each of the following five situations: if she burns the food; if she argues with him; if she goes out without telling him; if she neglects the children; and if she refuses to have sexual relations with him. More than two out of three women agree that a husband is justified in beating his wife for at least one reason. Neglecting the children and arguing with the husband are the two most commonly justified reasons for wife beating, according to women.

# HIV/AIDS AWARENESS AND BEHAVIOR

## Knowledge

Almost all Kenyan adults have heard of AIDS, and three-quarters know someone personally who has AIDS or has died of AIDS. Knowledge of HIV prevention measures is lower. Only 58 percent of women and 70 percent of men know that the risk of getting HIV can be reduced by using condoms and limiting sex to one faithful partner. Prevention knowledge is higher in urban areas and among those with higher levels of education.

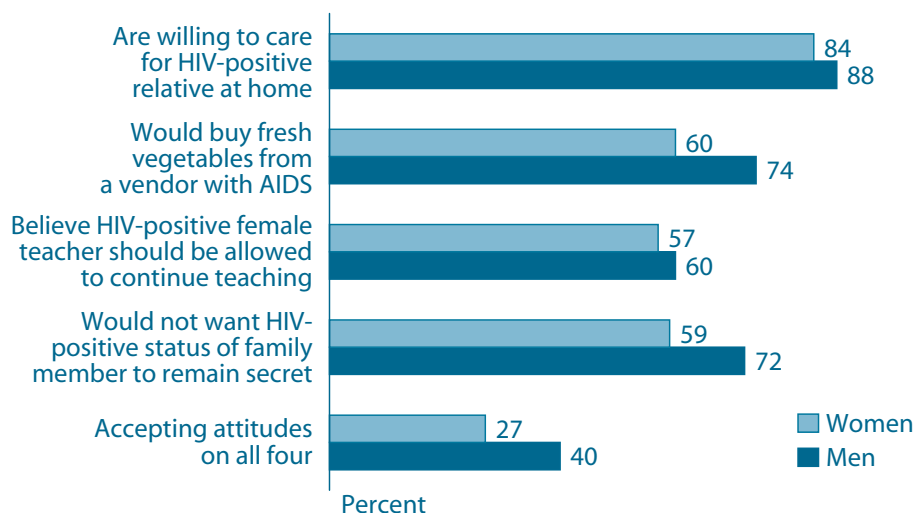
Most Kenyans also know that HIV can be transmitted by breastfeeding (about 70 percent), but only one-third of women know that the risk of mother-to-child transmission can be reduced by taking drugs during pregnancy.

## Attitudes/Beliefs

Misconceptions about HIV transmission and prevention are still common in Kenya. Only about half of women and 65 percent of men know that the AIDS virus cannot be transmitted through mosquito bites or sharing utensils with someone with AIDS and that a healthy-looking person can have the AIDS virus.

AIDS-related stigma is evident in Kenya. Most women and men say they are willing to care for an HIV-positive relative at home (84 and 88 percent, respectively), but fewer would buy fresh vegetables from a vendor who has the AIDS virus (60 and 74 percent, respectively) or believe that an HIV-positive female teacher should be allowed to continue teaching (57 and 60 percent, respectively).

**Attitudes Towards HIV-Positive Persons**



## Higher-Risk Sex

In the 2003 KDHS, higher-risk sex is defined as sex with a nonmarital, noncohabitating partner in the 12 months preceding the survey. Overall, 18 percent of women engaged in higher-risk sex in the year before the survey, compared with 40 percent of men. Less than one-quarter of these women and one-half of these men used a condom at their most recent higher-risk sex.

Young women and men age 15–24 also engage in higher-risk sex. About one-third (30 percent) of young women and 84 percent of young men report engaging in higher-risk sex. Among those who had higher-risk sex, 25 percent of young women report using a condom at the last higher-risk sex, compared with 47 percent of young men.

## HIV/AIDS COUNSELLING AND TESTING

### Voluntary Counselling and Testing (VCT)

Prior to the 2003 KDHS, about 15 percent of women and 16 percent of men had been tested for HIV; the majority received the test results.

### HIV Testing in KDHS

In Kenya, HIV prevalence estimates have been derived primarily from testing of pregnant women in antenatal clinics as part of the sentinel surveillance system. However, there are several well recognized limitations in estimating HIV prevalence in the general adult population from data derived exclusively from pregnant women attending select antenatal clinics. First, ANC data do not capture any information on HIV prevalence in non-pregnant women, nor in women who either do not attend a clinic for pregnancy care or receive antenatal care at facilities not represented in the surveillance system. Pregnant women also may be more at risk for HIV than women who are avoiding both HIV and pregnancy through the use of condoms. HIV prevalence rates among pregnant women are also not a good proxy for male HIV rates.

In half of the households selected for the 2003 KDHS, all eligible women and men who were interviewed were asked to voluntarily provide some drops of blood for HIV testing. Over 6,000 men and women were tested for HIV.

### Response Rates

Of the 8,486 eligible subjects, 73 percent provided blood spots. Response rates were considerably higher in rural than urban areas (79% versus 62% overall). The main reasons for non-response were refusal and absence. Among women, refusal was more common, while among men, refusal and absence accounted for almost equal amounts of non-response to testing.

Although response rates are lower than average among some groups of people who have higher infection rates (i.e., urban residents, those of higher socio-economic status), they are also higher among other groups with higher rates of infection, such as uncircumcised men and those who have ever had sex. On the whole, the analysis of non-response confirms that respondents who were not tested for HIV did not differ in meaningful ways from those who were tested.



*Photographer: Edward Reilly/  
Lutheran World Relief, 2001*

# HIV/AIDS PREVALENCE

## HIV Prevalence

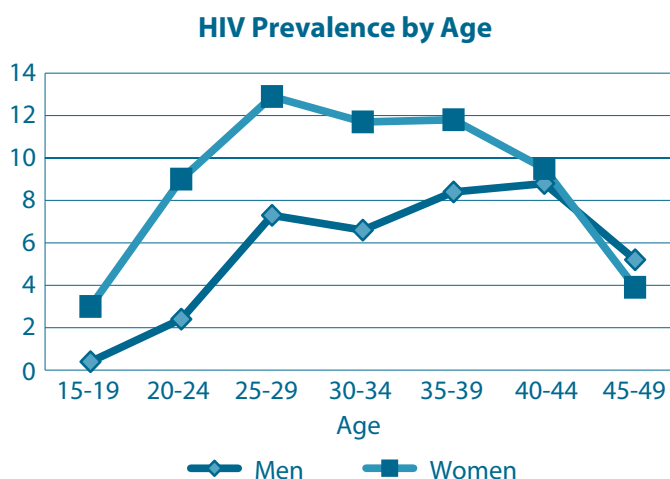
The 2003 KDHS indicates that 6.7 percent of Kenyan adults are infected with HIV. Women are particularly vulnerable to HIV infection. Almost 9 percent of women (8.7) are infected with HIV, compared with 4.6 percent of men. Women between the ages of 20 and 30 are especially vulnerable.

Men and women residing in urban areas have a significantly higher risk of HIV infection (10 percent) than rural residents (6 percent). Nyanza Province and Nairobi have the highest total rates of HIV infection—15.1 and 9.9 percent, respectively. Prevalence in the other provinces ranges from 4 to 6 percent, except in North Eastern Province where the prevalence is less than 1 percent.

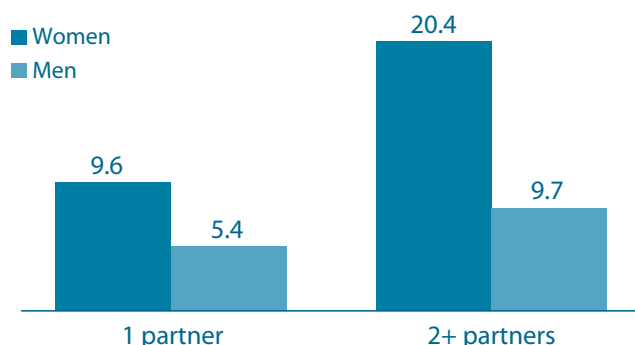
HIV prevalence varies significantly among ethnic groups. The Luo have the highest prevalence: 17.5 percent of men and 25.8 percent of women are HIV-positive. Prevalence is also high among the Taita/Taveta, 9.7 percent of whom are infected with HIV. Men and women in polygynous unions are more likely to be HIV-infected than those in monogamous unions (11.6 percent, compared with 6.9 percent).

Several behavioural characteristics are associated with HIV risk. The younger the women are when they initiate sexual relations, the more likely they are to be HIV-positive. HIV risk also increases for women if they have had more than one partner in the past 12 months. For both men and women, never drinking alcohol is associated with lower rates of HIV infection.

Male circumcision appears to reduce the risk of HIV infection. In Kenya, 83 percent of men are circumcised. Among circumcised men, only 3.0 percent are HIV-positive, compared with almost 12.6 percent of uncircumcised men.

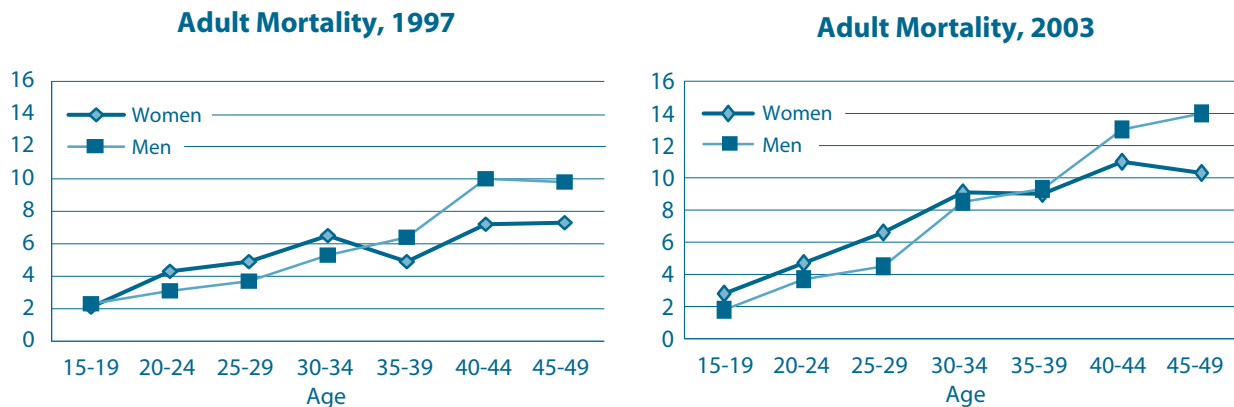


**HIV Prevalence by Number of Partners**  
in past 12 months



## ADULT AND MATERNAL MORTALITY

Adult mortality is estimated through the reported survival status of a woman’s siblings. The 2003 KDHS estimates of adult mortality show a substantial rise in adult mortality since 1998. At younger ages (15–34), women’s mortality is higher than men’s, most likely due to the HIV/AIDS pandemic.



Maternal mortality is measured by determining whether a woman’s sister died during pregnancy, childbirth, or within two months after the end of a pregnancy. The maternal mortality ratio is 414 maternal deaths per 100,000 live births for the ten-year period prior to the 2003 survey. Although this represents a decline from the rate of 590 calculated from the 1998 KDHS, the sampling error associated with both figures is large. Thus, it is not possible to conclude with confidence that maternal mortality has declined over the last five years. Currently, maternal deaths account for 15 percent of all deaths to women age 15–49. This is a low proportion compared with rates in other countries.

# KEY INDICATORS

	National			Province							
	Total	Urban	Rural	Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	North Eastern
<b>Fertility</b>											
Total fertility rate (number of births per woman)	4.9	3.3	5.4	2.7	3.4	4.9	4.8	5.6	5.8	5.8	7.0
Mean ideal number of children per woman	3.9	3.4	4.1	3.2	3.1	4.5	3.5	4.1	4.1	4.0	11.1
Median age at first intercourse for women age 20–49	17.8	18.6	17.4	19.2	18.4	18.0	17.6	15.9	18.0	17.2	17.9
Median age at first marriage for women age 25–49	19.7	21.4	19.3	22.1	21.1	18.6	20.1	17.8	19.4	19.2	17.5
Percent of women age 15–19 who have begun childbearing	23	22	23	20	15	29	15	27	31	21	29
Married women (age 15–49) wanting no more children (%)	49	45	50	42	61	33	58	47	48	52	4
<b>Childhood Mortality</b>											
<i>Deaths per 1,000 live births</i>											
<i>(Figures are for the ten years before the survey, except for the national rate, in italics, which represents the five years before the survey)</i>											
Infant mortality rate (between birth and 1st birthday)	77	61	79	67	44	78	56	133	61	80	91
Under-five mortality rate (between birth and 5th birthday)	115	93	117	95	54	116	84	206	77	144	163
<b>Maternal Health</b>											
<i>Percentage of women with a live birth in the five years before the survey who received:</i>											
No antenatal care	10	5	11	4	6	11	7	9	10	6	68
2+ doses of tetanus toxoid injection	52	57	51	55	62	55	57	43	52	51	18
No dose of tetanus toxoid injection	14	8	15	9	8	16	12	16	14	10	65
Vitamin A in first 2 months after delivery	14	20	13	20	11	23	12	14	14	12	16
<i>Percentage of live births in the five years before the survey that were:</i>											
Delivered in a health facility	40	70	33	78	67	31	38	36	36	28	8
Assisted by a doctor, nurse or midwife at delivery	42	72	35	79	68	34	39	39	37	29	9
<b>Family Planning</b>											
<i>Percentage of currently married women age 15–49:</i>											
Currently using any method	39	48	37	51	66	24	51	25	34	34	<1
Currently using any modern method	32	40	29	44	58	19	38	21	25	27	<1
Currently using:											
Female sterilisation	4	4	4	6	7	3	5	5	3	4	0
Pill	8	10	7	13	16	4	10	4	5	7	0
IUD	2	4	2	5	8	1	2	1	2	<1	0
Injectables	14	16	14	16	23	10	20	11	11	14	<1
Male condom	1	2	1	3	1	<1	1	<1	2	2	0
Implants	2	3	1	3	4	2	2	1	1	1	0
Traditional methods	8	8	8	6	9	5	12	4	10	7	0
Unmet need for family planning	25	17	27	16	11	25	22	35	28	32	10

	National			Province							
	Total	Urban	Rural	Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	North Eastern
<b>Children's Nutrition</b>											
Children under 5 years who are underweight (%)	20	13	21	6	15	25	21	16	24	19	34
Children under 5 years who are stunted (%)	30	24	32	19	27	35	33	31	32	30	24
Children under 5 years who are wasted (%)	6	4	6	5	4	6	4	2	8	5	27
Median duration of any breastfeeding (months)	20	19	20	17	19	22	25	18	19	19	13
<b>Child Health</b>											
Children 12–23 months fully vaccinated (BCG, measles and 3 doses of DPT and polio) (%)	57	59	56	63	79	66	65	38	56	50	9
Children 6–59 months receiving vitamin A supplements in the 6 months preceding the survey (%)	33	40	32	38	35	33	22	27	37	49	25
<i>Percentage of children who were taken to a health facility, among children under 5 years who recently experienced:</i>											
Acute respiratory infection (ARI) and/or fever	46	54	44	56	46	58	53	41	47	34	27
Diarrhoea	30	31	30	35	27	43	49	23	26	21	10
<b>Malaria</b>											
Households with a bednet (%)	22	38	17	37	16	34	17	32	11	20	37
Households with an insecticide-treated net (%)	6	11	4	7	3	10	5	11	3	7	3
Children under age 5 who slept under a bednet (%)	15	33	11	38	12	22	12	17	8	12	30
Pregnant women who slept under a bednet (%)	13	26	10	30	23	18	10	20	2	6	26
<b>HIV/AIDS</b>											
Women who know AIDS can be prevented by using condoms and limiting sex to one faithful partner (%)	58	66	55	72	60	56	60	60	50	62	5
Men who know AIDS can be prevented by using condoms and limiting sex to one faithful partner (%)	70	78	67	81	68	64	58	75	76	73	11
Women who know AIDS can be transmitted by breastfeeding (%)	72	77	70	77	75	72	78	72	65	72	36
Men who have had multiple sex partners (%)	12	15	10	16	4	19	8	15	14	12	0
Women tested for AIDS and received results (%)	13	22	10	27	18	10	10	10	12	8	1
Men tested for AIDS and received results (%)	14	22	12	25	16	19	9	16	11	12	3
Women who used a condom at first sex (%)	12	17	10	20	11	9	12	10	13	11	0
HIV prevalence, women (%)	9	12	8	12	8	7	6	18	7	6	0
HIV prevalence, men (%)	5	8	4	8	2	5	2	12	4	4	0
HIV prevalence, circumcised men (%)	3	5	2	7	2	4	2	2	3	4	0
HIV prevalence, uncircumcised men (%)	13	17	11	14	N/A	13	N/A	21	7	2	N/A
<b>Female Genital Cutting</b>											
Women who have been circumcised (%)	32	21	36	19	36	20	36	35	43	4	99
<b>Gender Violence</b>											
Women who have experienced violence since age 15 (%)	49	48	49	51	44	30	37	60	46	73	51
Women who have experienced violence in past 12 months (%)	25	18	27	19	17	14	20	36	28	36	23

