Kenya

Demographic and Health Survey 1998

Republic of Kenya

National Council for Population and Development

Central Bureau of Statistics
Office of the Vice President and Ministry of Planning and National Development

Demographic and Health Surveys
Macro International Inc.

World Summit for Children Indicators: Kenya 1998

BASIC INDICATORS		Value
Childhood mortality	Infant mortality rate (adjusted rate)	74 per 1,000
	Under-five mortality rate	112 per 1,000
Maternal mortality	Maternal mortality ratio	590 per 100,000
Childhood undernutrition	Percent stunted	33
	Percent wasted	6
	Percent underweight	22
Clean water supply	Percent of households within 15 minutes of a safe water supply[1]	42
Sanitary excreta disposal	Percent of households with flush toilets or VIP latrine	19
Basic education	Percent of women 15-49 with completed primary education	52
	Percent of men 15-49 with completed primary education	65
	Percent of girls 6-12 attending school	85
	Percent of boys 6-12 attending school	85
	Percent of women 15-49 who are literate	83
Children in especially difficult situations	Percent of children who are orphans (both parents dead)	0.9
	Percent of children who do not live with their natural mother	15
	Percent of children who live in single adult households	15
SUPPORTING INDICATORS		
Women's Health		
Birth spacing	Percent of births within 24 months of a previous birth[2]	23
Safe motherhood	Percent of births with medical antenatal care	92
	Percent of births with antenatal care in first trimester	14
	Percent of births with medical assistance at delivery	44
	Percent of births in a medical facility	42
	Percent of births at high risk	56
Family planning	Contraceptive prevalence rate (any method, currently married women)	39
	Percent of currently married women with an unmet need for family planning	24
	Percent of currently married women with an unmet need for family planning to avoid a high-risk birth	20
Nutrition		
Maternal nutrition	Percent of mothers with low BMI	12
Low birth weight	Percent of births at low birth weight (of those reporting numeric weight)	9
Breastfeeding	Percent of children under 4 months who are exclusively breastfed	17
Child Health		
Vaccinations	Percent of children whose mothers received tetanus toxoid vaccination during pregnancy	90
	Percent of children 12-23 months with measles vaccination	79
	Percent of children 12-23 months fully vaccinated	65
Diarrhoea control	Percent of children with diarrhoea in preceding 2 weeks who received oral rehydration therapy (ORS or sugar-salt-water solution)	69
Acute respiratory infection	Percent of children with acute respiratory infection in preceding 2 weeks who were taken to a health facility or provider	57

[1] Piped, well, and bottled water
[2] First births are excluded

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National Council for Population and Development
Central Bureau of Statistics
Office of the Vice President and Ministry of Planning and National Development
Nairobi, Kenya

Macro International Inc.
Calverton, Maryland USA

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The report summarises the findings of the 1998 Kenya Demographic and Health Survey (KDHS), which was conducted by the National Council for Population and Development and the Central Bureau of Statistics. Macro International Inc. provided technical assistance. Funding was provided by the U.S. Agency for International Development (USAID/Nairobi) and the Department for International Development (DFID/U.K.).

The KDHS is part of the worldwide Demographic and Health Surveys (DHS) program, which is designed to collect data on fertility, family planning, and maternal and child health. Additional information on the Kenya survey may be obtained from the National Council for Population and Development, the Chancery, 4th Floor, Valley Road, Nairobi, Kenya (telephone: 711-600/1; fax: 710-281). Additional information about the DHS program may be obtained by writing to DHS, Macro International Inc., 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, USA (telephone 301-572-0200; fax 301-572-0999).

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Foreword

The 1998 Kenya Demographic and Health Survey (KDHS) is the third survey of its kind to be conducted in Kenya, following the 1989 KDHS and 1993 KDHS. Like earlier DHS surveys, the 1998 survey was designed to provide information on demographic trends and indicators of maternal and child health in Kenya. However, in line with the expansion of programmes in health and population, the 1998 survey instruments were more extensive and the treatment of certain topics more exhaustive than in the earlier surveys.

This report is intended to provide policy makers and programme managers with a comprehensive look at levels and trends in key health and demographic parameters. Of particular note, the 1998 KDHS findings provide evidence of a significant decline in fertility rates and an increase in the use of family planning methods since the 1993 KDHS. The KDHS also provides evidence pointing to an increase in infant and under-five mortality during the 1990s, which may in part be associated with the HIV/AIDS epidemic.

While comprehensive, the report cannot cover all aspects of concern to the health and population community. We expect that this report will raise important questions and establish the groundwork for further analysis of the KDHS data. NCPD stands firm with its partners in a commitment to make the KDHS data available and accessible to responsible investigators.

The NCPD wishes to acknowledge the joint effort of a number of organization and individuals who contributed immensely towards the success of the survey. First we would like to acknowledge the financial assistance from the United States Agency for International Development (USAID) and the Department for International Development (DFID) (U.K.); Macro International/DHS for technical backstopping; staff of the Central Bureau of Statistics (CBS) and NCPD who worked tirelessly to ensure successful completion of field work; and the UNFPA, the Division of Primary Health Care (DPHC) and National AIDS Control Programme (NASCOP) for providing vehicles for fieldwork. Also, my sincere thanks go to all the professionals from the government, NGO, donor, and scientific communities who contributed to the design of the survey questionnaires. Finally, we gratefully acknowledge the cooperation of the thousands of survey respondents who gave generously of their time to provide the information that forms the basis of this report.

Ambassador S. B. A. Bullut,
DIRECTOR
NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT

Executive Summary

The 1998 Kenya Demographic and Health Survey (KDHS) is a nationally representative survey of 7,881 women age 15-49 and 3,407 men age 15-54. The KDHS was implemented by the National Council for Population and Development (NCPD) and the Central Bureau of Statistics (CBS), with significant technical and logistical support provided by the Ministry of Health and various other governmental and non-governmental organizations in Kenya. Macro International Inc. of Calverton, Maryland (U.S.A.) provided technical assistance throughout the course of the project in the context of the worldwide Demographic and Health Surveys (DHS) programme, while financial assistance was provided by the U.S. Agency for International Development (USAID/Nairobi) and the Department for International Development (DFID/U.K.). Data collection for the KDHS was conducted from February to July 1998.

Like the previous KDHS surveys conducted in 1989 and 1993, the 1998 KDHS was designed to provide information on levels and trends in fertility, family planning knowledge and use, infant and child mortality, and other maternal and child health indicators. However, the 1998 KDHS went further to collect more in-depth data on knowledge and behaviours related to AIDS and other sexually transmitted diseases (STDs), detailed "calendar" data that allows estimation of contraceptive discontinuation rates, and information related to the practice of female circumcision. Further, unlike earlier surveys, the 1998 KDHS provides a national estimate of the level of maternal mortality (i.e. related to pregnancy and childbearing). The KDHS data are intended for use by programme managers and policymakers to evaluate and improve health and family planning programmes in Kenya.

Fertility. The survey results demonstrate a continuation of the fertility transition in Kenya. At current fertility levels, a Kenyan women will bear 4.7 children in her life, down 30 percent from the 1989 KDHS when the total fertility rate (TFR) was 6.7 children, and 42 percent since the 1977/78 Kenya Fertility Survey (KFS) when the TFR was 8.1 children per woman. A rural woman can expect to have 5.2 children, around two children more than an urban women (3.1 children). Fertility differentials by women's education level are even more remarkable; women with no education will bear an average of 5.8 children, compared to 3.5 children for women with secondary school education.

Marriage. The age at which women and men first marry has risen slowly over the past 20 years. Currently, women marry for the first time at an average age of 20 years, compared with 25 years for men. Women with a secondary education marry five years later (22) than women with no education (17).

The KDHS data indicate that the practice of polygyny continues to decline in Kenya. Sixteen percent of currently married women are in a polygynous union (i.e., their husband has at least one other wife), compared with 19 percent of women in the 1993 KDHS, 23 percent in the 1989 KDHS, and 30 percent in the 1977/78 KFS.

While men first marry an average of 5 years later than women, men become sexual active about one-half of a year earlier than women; in the youngest age cohort for which estimates are available (age 20-24), first sex occurs at age 16.8 for women and 16.2 for men.

Fertility Preferences. Fifty-three percent of women and 46 percent of men in Kenya do not want to have any more children. Another 25 percent of women and 27 percent of men would like to delay their next child for two years or longer. Thus, about three-quarters of women and men either want to limit or to space their births.

The survey results show that, of all births in the last three years, 1 in 10 was unwanted and 1 in 3 was mistimed. If all unwanted births were avoided, the fertility rate in Kenya would fall from 4.7 to 3.5 children per woman.

Family Planning. Knowledge and use of family planning in Kenya has continued to rise over the last several years. The 1998 KDHS shows that virtually all married women (98 percent) and men (99 percent) were able to cite at least one modern method of contraception. The pill, condoms, injectables, and female sterlisation are the most widely known methods.

Overall, 39 percent of currently married women are using a method of contraception. Use of modern methods has increased from 27 in the 1993 KDHS to 32 percent in the 1998 KDHS. Currently, the most widely used methods are contraceptive injectables (12 percent of married women), the pill (9 percent), female sterilisation (6 percent), and periodic abstinence (6 percent). Three percent of married women are using the IUD, while over 1 percent report using the condom and 1 percent use of contraceptive implants (Norplant). The rapid increase in use of injectables (from 7 to 12 percent between 1993 and 1998) to become the predominant method, plus small rises in the use of implants, condoms and female sterilisation have more than offset small decreases in pill and IUD use. Thus, both new acceptance of contraception and method switching have characterised the 1993-1998 intersurvey period.

Contraceptive use varies widely among geographic and socioeconomic subgroups. More than half of currently married women in Central Province (61 percent) and Nairobi Province (56 percent) are currently using a method, compared with 28 percent in Nyanza Province and 22 percent in Coast Province. Just 23 percent of women with no education use contraception versus 57 percent of women with at least some secondary education.

Government facilities provide contraceptives to 58 percent of users, while 33 percent are supplied by private medical sources, 5 percent through other private sources, and 3 percent through community-based distribution (CBD) agents. This represents a significant shift in sourcing away from public outlets, a decline from 68 percent estimated in the 1993 KDHS. While the government continues to provide about two-thirds of IUD insertions and female sterilisations, the percentage of pills and injectables supplied out of government facilities has dropped from over 70 percent in 1993 to 53 percent for pills and 64 percent for injectables in 1998. Supply of condoms through public sector facilities has also declined: from 37 to 21 percent between 1993 and 1998.

The survey results indicate that 24 percent of married women have an unmet need for family planning (either for spacing or limiting births). This group comprises married women who are not using a method of family planning but either want to wait two year or more for their next birth (14 percent) or do not want any more children (10 percent). While encouraging that unmet need at the national level has declined (from 34 to 24 percent) since 1993, there are parts of the country where the need for contraception remains high. For example, the level of unmet need is higher in Western Province (32 percent) and Coast Province (30 province) than elsewhere in Kenya.

Early Childhood Mortality. One of the main objectives of the KDHS was to document current levels and trends in mortality among children under age 5. Results from the 1998 KDHS data make clear that childhood mortality conditions have worsened in the early-mid 1990s; this after a period of steadily improving child survival prospects through the mid-to-late 1980s. Under-five mortality, the probability of dying before the fifth birthday, stands at 112 deaths per 1000 live births which represents a 24 percent increase over the last decade. Survival chances during age 1-4 years suffered disproportionately: rising 38 percent over the same period.

Survey results show that childhood mortality is especially high when associated with two factors: a short preceding birth interval and a low level of maternal education. The risk of dying in the first year of life is more than doubled when the child is born after an interval of less than 24 months. Children of women with no education experience an under-five mortality rate that is two times higher than children of women who attended secondary school or higher. Provincial differentials in childhood mortality are striking; under-five mortality ranges from a low of 34 deaths per 1000 live births in Central Province to a high of 199 per 1000 in Nyanza Province.

Maternal Health. Utilisation of antenatal services is high in Kenya; in the three years before the survey, mothers received antenatal care for 92 percent of births (Note: These data do not speak to the quality of those antenatal services). The median number of antenatal visits per pregnancy was 3.7. Most antenatal care is provided by nurses and trained midwives (64 percent), but the percentage provided by doctors (28 percent) has risen in recent years. Still, over one-third of women who do receive care, start during the third trimester of pregnancy—too late to receive the optimum benefits of antenatal care. Mothers reported receiving at least one tetanus toxoid injection during pregnancy for 90 percent of births in the three years before the survey. Tetanus toxoid is a powerful weapon in the fight against neonatal tetanus, a deadly disease that attacks young infants.

Forty-two percent of births take place in health facilities; however, this figure varies from around three-quarters of births in Nairobi to around one-quarter of births in Western Province. It is important for the health of both the mother and child that trained medical personnel are available in cases of prolonged labour or obstructed delivery, which are major causes of maternal morbidity and mortality.

The 1998 KDHS collected information that allows estimation of mortality related to pregnancy and childbearing. For the 10-year period before the survey, the maternal mortality ratio was estimated to be 590 deaths per 100,000 live births. Bearing on average 4.7 children, a Kenyan woman has a 1 in 36 chance of dying from maternal causes during her lifetime.

Childhood Immunisation. The KDHS found that 65 percent of children age 12-23 months are fully vaccinated: this includes BCG and measles vaccine, and at least 3 doses of both DPT and polio vaccines. This finding represents a significant decline in full vaccination coverage from the 79 percent estimated in the 1993 KDHS. More detailed analysis suggests that the worsening picture is due to: (a) a decline in measles vaccine coverage, and (b) an increase in the dropout rate between first and third doses of DPT and polio vaccines. Vaccination coverage fell in all areas of Kenya, but declined most in Nyanza Province, to less than 50 percent of children.

Childhood Illnesses and Treatment. In the two weeks preceding the survey, 20 percent of children under three years of age were reported to have experienced symptoms of acute respiratory infection (ARI)—cough with short, rapid breathing. Children with ARI are more likely to be taken to a health facility or provider for treatment if they live in urban areas (74 percent) than rural areas (54 percent).

Malaria poses an increasing threat to child health and survival in Kenya. As fever is the major manifestation of malaria, the KDHS included a series of questions on prevalence of fever and treatment of febrile children. In the two weeks before the survey, 42 percent of children under age three were reported to have had a fever; with highest prevalence rates in Nyanza and Western provinces (49 percent). Fifty-nine percent of febrile children were taken to a health facility or provider for treatment, and 40 percent were given an antimalarial drug in response to the fever. Coast, Western, and Nyanza provinces had the highest rates of antimalarial use (for treatment).

Seventeen percent of children under age three were reported to have had diarrhoea in the two weeks preceding the survey. The period of peak susceptibility to diarrhoea occurs during age 6-23 months, which is when most children are weaned and increasingly exposed to disease-causing agents. Around 44 percent of children with diarrhoea are taken to a health facility or provider for treatment. Over two-thirds of sick children received oral rehydration therapy using either a solution prepared from ORS packets (i.e., Oralite) or a recommended home fluid. However, 1 in 10 children with diarrhoea received no treatment at all; and the mothers of 1 in 6 children reported that they *decreased* fluid intake in response to the diarrhoea. Dehydrating diarrhoeal disease remains a leading cause of under-five mortality in Kenya

Infant Feeding. Almost all children (98 percent) are breastfed for some period of time; however, only 58 percent are breastfed within the first hour of life, and 86 percent within the first day after birth. The median duration of breastfeeding in Kenya is 21 months; but the introduction of supplementary liquids and foods occurs much earlier in life. Nearly three-quarters of children under 2 months of age are already given some form of supplementary feeding. Until age 4-6 months,*exclusive* breastfeeding (i.e., without any other foods or liquids) is recommended because it provides all the necessary nutrients and avoids exposure to disease agents. Yet, only 17 percent of children under 4 months are exclusively breastfed.

Nutritional Status. In the KDHS children under five years of age and their mothers were weighed and measured to obtain data for estimating levels of malnutrition. The results indicate that one-third of children in Kenya are *stunted* (i.e., too short for their age), a condition reflecting chronic malnutrition; and 1 in 16 children are *wasted* (i.e., very thin), a problem indicating acute or short-term food deficit. Peak levels of wasting occur during ages 6-23 months. The probability of being nutritionally "at-risk" is especially high for children of women with low levels of education.

Women whose body mass index (BMI)—weight (in kilograms) divided by the squared height (in metres)—falls below 18.5 are considered at nutritional risk. The data show that 1 in 8 mothers of young children have a BMI value below 18.5, indicating that they are very thin. The percentage of mothers with a low BMI varies from around 5 percent in Nairobi and Western provinces to around 15 percent in Rift Valley, Eastern, and Coast provinces. Teenage mothers (less than 20 years of age) are at especially high risk of having a low BMI.

Knowledge, Attitudes and Behaviour regarding HIV/AIDS and Other Sexually Transmitted Infections. As a measure of the increasing toll taken by AIDS on Kenyan society, the percentage of respondents who reported "personally knowing someone who has AIDS or has died from AIDS" has risen from about 40 percent of men and women in the 1993 KDHS to nearly three-quarters of men and women in 1998.

While nearly all survey respondents reported a general knowledge of AIDS, there remain significant numbers of women and men in Kenya who still lack an appreciation for key aspects of the epidemic. For example, about 1 in 10 men and women do not think that AIDS can be prevented. For those who did report that AIDS was preventable, less than one-half cited condom use as an effective means to prevent the spread of the virus. Male respondents tend to be slightly more knowledgeable than women about means of preventing HIV transmission. Men get their AIDS-related information predominantly from mass media sources. Women, on the other hand, rely more than men on community level sources such as friends, relatives, and health facility staff.

Consistent condom use is a powerful weapon to combat HIV transmission. Almost all men and women reported that they know of condoms, but when asked whether they know where to get them, 39 percent of women and 24 percent of men where not able to cite a single source. In the most recent sexual encounter before the survey, just 21 percent of men and 6 percent of women reported having used a condom.

For both men and women, condom use is much more limited with spouses than with premarital and extramarital sexual partners.

When KDHS respondents were asked about their experience with the test for HIV, the AIDS virus, 14 percent of women and 17 percent of men reported that they had already been tested. Of those not yet tested, over 60 percent of women and men reported a desire to be tested. However, over one-third of respondents desiring to be tested were not able to cite a source to obtain an AIDS test.

Female Circumcision. The 1998 KDHS included a series of questions regarding the experience of women and their eldest daughters with the practice of female circumcision (FC). The results indicate that 38 percent of women age 15-49 in Kenya have been circumcised. The prevalence of FC has however declined significantly over the last 2 decades from about one-half of women in the oldest age cohorts to about one-quarter of women in the youngest cohorts (including daughters age 15+). There exists wide variation in the prevalence of FC across Kenya's ethnic groups, from virtually no FC practice amongst the Luo and Luyha, to very widespread or universal practice amongst the Kisii and Masai.

About one-half of circumcisions are performed by circumcision practitioners; about one-third by doctors, trained nurses, or midwives; and most of the remainder by traditional birth attendants. The instrument most commonly used to perform the circumcision was a razor blade. Three-quarters of respondents reported that they would like to see the practice of FC stopped.

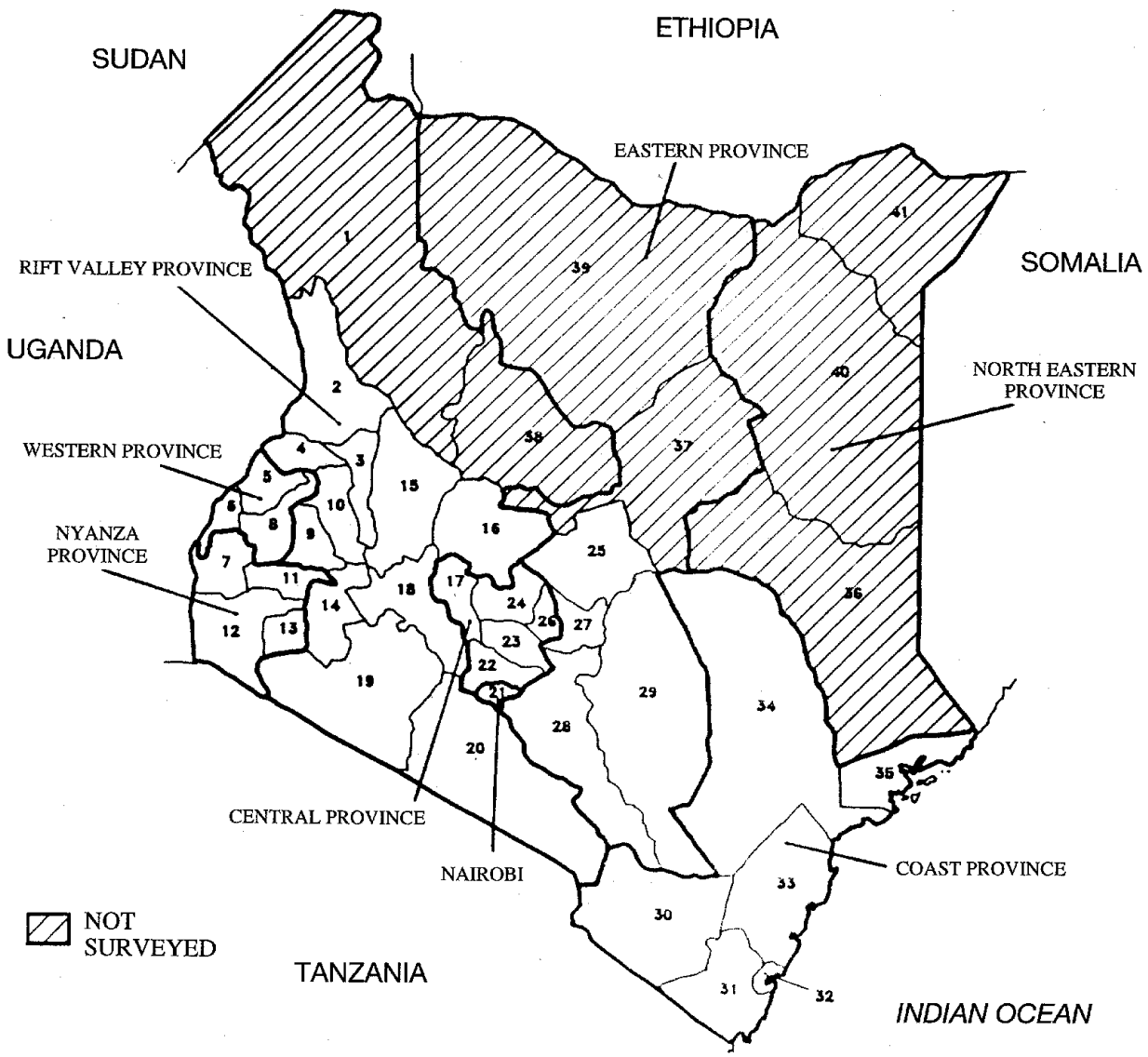
Adolescents. It is increasingly recognized that the concerns of Kenya's youth need to be understood and addressed within the development process. It is thus useful to summarize, for males and females age 15-19, some important KDHS findings in the following key areas: education, fertility, family planning, sex activity, and AIDS.

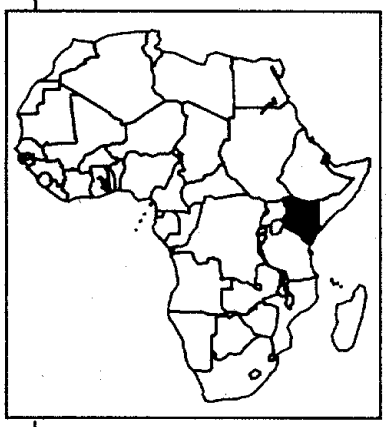
Education remains the primary pathway towards economic and social advancement in Kenya. By age 15, most boys and girls should have completed their primary education. However, since the 1993 KDHS the percentage of young persons age 15-19 who have actually achieved this goal has declined sharply from 56 to 40 percent (females) and 52 to 38 percent (males). This pattern represents a disinvestment in Kenya's future.

Despite declines in fertility at all other age groups, teenage fertility remains constant at early-1990s levels. It is still true that one-half of Kenyan women will have started childbearing before the age of 20. Sex begins on average at age 16.2 for boys and 16.8 for girls; yet, contraceptive use is very low in the age group 15-19 and seldom involves effective family planning methods. This is not surprising, since youth are little exposed to family planning information and services. Among females age 15-19 who are not using a family planning method, very few were contacted by community-based distribution agents. Unlike older females, when attending health facilities, female adolescents are seldom given information about pregnancy prevention. This is puzzling since 79 percent of women (age 15-49) interviewed and 88 percent of men (age 15-54) reported that they felt family planning information should be made available to persons under age 18.

In the same vein, the KDHS data also indicate that respondents under age 20 are more likely than older respondents to demonstrate a lack of understanding about key aspects of the AIDS epidemic. For example, adolescents were less likely to know about sexually-transmitted diseases (STDs), more likely to hold misconceptions about modes of HIV transmission, less likely to know of a place where condoms can be obtained, and less likely to report multiple sources for information about HIV/AIDS.

KENYA





MAP KEY

21 Nairobi

CENTRAL PROVINCE
- 22 Kiambu
- 26 Kirinyaga
- 23 Murang'a
- 17 Nyandarua
- 24 Nyeri

COAST PROVINCE
- 33 Kilifi
- 31 Kwale
- 35 Lamu
- 32 Mombasa
- 30 Taita
- 34 Tana River

EASTERN PROVINCE
- 27 Embu
- 37 Isiolo
- 29 Kitui
- 28 Machakos*
- 39 Marsabit
- 25 Meru *

NORTHEASTERN PROVINCE
- 36 Garissa
- 41 Mandera
- 40 Wajir

NYANZA PROVINCE
- 13 Kisii*
- 11 Kisumu
- 7 Siaya
- 12 South Nyanza*

RIFT VALLEY PROVINCE
- 15 Baringo
- 3 Elgeyo Marakwet
- 20 Kajiado
- 14 Kericho*
- 16 Laikipia
- 18 Nakuru
- 9 Nandi
- 19 Narok
- 38 Samburu
- 4 Trans Nzoia
- 1 Turkana
- 10 Uasin Gishu
- 2 West Pokot

WESTERN PROVINCE
- 5 Bungoma
- 6 Busia
- 8 Kakamega*

* Note: Each of the six districts marked with an asterisk was recently subdivided into two or more districts. The former boundaries are shown here since they were used in this survey.

CHAPTER 1

INTRODUCTION

Peter Thumbi

1.1 Geography, History and Economy

Geography

Kenya covers an area of 582,000 square kilometres. It borders Ethiopia in the north, Sudan in the northwest, Uganda in the west, Tanzania in the south, and Somalia in the east. It has 400 kilometres of Indian Ocean shoreline. Lying between 3 degrees north and 5 degrees south latitude and between 34 and 41 degrees east longitude, it is entirely within the equatorial zone. The country is bisected by the equator.

The country falls into two distinct regions: lowland and highland (upland). Altitude plays an important role in Kenya's climatic patterns, patterns of human settlement, and agricultural activities. The country has an unusually diverse physical environment, including savanna grasslands and woodlands, tropical rain forest, and semi-desert environments. Approximately 80 percent of the land area of Kenya is arid or semi-arid and only 20 percent is arable. A large proportion of the arid and semi-arid land has been set aside for wildlife conservation.

The main climatic feature is the long rainy season from March to May. This is followed by a long dry spell from May to October. Short rains come between October and December. In the area around Lake Victoria in the west, rains are well distributed throughout the year.

Kenya is divided into 8 provinces, which are subdivided into districts. In all, there are 75 districts, seven of which were recently delineated.

History

Kenya became a nation independent from British rule on December 12, 1963. It was a multi-party state until 1982, when the constitution was amended to make it a one-party state. In November 1991, in line with political changes then taking place the world over, Parliament repealed the section of the constitution which made Kenya a one-party state.

The country is multi-ethnic, with 43 ethno-linguistic groups. The major groups are Kikuyu, Luo, Luhya, Kamba Kalenjin, Mijikenda, Meru, Embu, and Kisii. Kikuyus live primarily in Central Province, Luos inhabit the Western part of Nyanza Province, Luhyas live in Western Province, Kambas in the southern part of Eastern Province, Kalenjins in Rift Valley Province, Mijikendas in Coast Province, Merus and Embus in the northern part of Eastern Province, and Kisiis in the eastern part of Nyanza Province. Christianity and Islam are the major religions.

Economy

Agriculture is the mainstay of Kenya's economy, accounting for 26 percent of the gross domestic product (GDP) while manufacturing accounts for about 14 percent. Tea, tourism, coffee, and horticulture in that order are the main foreign-exchange earners.

Since independence in 1963, the economy of the country has had mixed performance. In the first 10 years of independence, the country enjoyed high GDP growth rates averaging 6.5 percent per annum, low inflation, high job creation, and a relatively stable balance-of-payments position.

During the 1973-1980 period the country's record growth was upset by three major shocks. The first was the sharp rise in oil prices in 1973, which created considerable internal and external economic imbalance. In 1977-78, the price of coffee and tea rose significantly, which immediately improved the balance-of-payments position but subsequently created internal economic imbalances. The third shock was experienced when oil prices rose again in 1979. Despite these setbacks, Kenya enjoyed an average growth in the GDP of 5.2 percent per annum, reflecting a moderate reduction in the high growth rates achieved in the first 10 years of independence.

The 1980-1985 period was characterised by slow growth in the GDP (2.5 percent). This economic decline resulted from several confounding factors, including the high cost of oil, a global recession in 1980-1982, as well as a drought in 1984. To accelerate economic growth, the government implemented adjustment programmes in the agricultural, trade, and financial sectors in 1986. The adjustment programmes accelerated the growth in the GDP to an average of 5.8 percent per annum.

In 1990, growth in the GDP fell to 4.3 percent and in 1991 to 2.2 percent; by 1992, it was just 0.4 percent per annum. In 1993, the government introduced more and far-reaching structural reforms, including removal of price controls, removal of all import licencing, and removal of foreign exchange controls. These reforms bore fruit, with the GDP growing at 3.0 percent and 4.9 percent in 1994 and 1995, respectively. The growth slowed to 4.8 percent in 1996 and declined substantially to 1.2 percent in 1997.

1.2 Population

Kenya's population increased from 5.4 million in 1948 to 16.2 million in 1979 and to 23.2 million in 1989 (CBS, 1994) (see Table 1.1). Results of the 1989 census indicate that the intercensal population growth rate for Kenya is 3.4 percent per annum, although the current growth rate is probably around 3.0 percent or slightly less. This represents a decline from the growth rate of 3.8 percent per annum estimated from the 1979 population census. Even with declining population growth (driven by declining fertility rates, see Chapter 3), and increases in mortality associated with the HIV/AIDS epidemic, the size of Kenya's population is expected to exceed 30 million by the year 2000 (NCPD, 1997).

Table 1.1 Basic demographic indicators, Kenya, 1969, 1979, and 1989 censuses

Indicator	Population census 1969[a]	1979[b]	1989[c]
Population (millions)	10.9	16.2	23.2[d]
Density (pop./km^2)	19.0	27.0	37.0
Percent urban	9.9	15.1	18.1
Crude birth rate	50.0	54.0	48.0
Crude death rate	17.0	14.0	11.0
Growth rate	3.3	3.8	3.4[d]
Total fertility rate (children per woman)	7.6	7.8	6.7
Infant mortality rate (per 1,000 live births)	119	88	66
Life expectancy at birth (years)	50	54	60

[a] CBS, 1970
[b] CBS 1981b
[c] CBS, 1991a; CBS, 1994; CBS, 1996
[d] Based on 1979-89 intercensal period

The crude birth rate increased from 50 per 1,000 in 1969 to 54 per 1,000 in 1979 but declined to 48 per 1,000 in 1989, whereas the crude death rate decreased from 17 to 14 to 11 per 1,000 in the same period. The infant mortality rate decreased from 119 deaths per 1,000 live births in 1969 to 88 in 1979 and further to 66 deaths per 1,000 live births in 1989. As a result of high fertility and declining mortality in the past, Kenya is characterised by a young population. Almost 50 percent of Kenya's population is less than 15 years of age.

Kenya's population lives mainly in rural areas. According to the 1989 census, only 18 percent of Kenya's population lives in urban areas (CBS, 1994). Most of the urban population (89 percent) is concentrated in towns with a population of 10,000 or more, of which there were 46 in 1989. Small towns, defined as those with a population of less than 10,000, have higher a growth rate than larger towns. Towns with a population of less than 5,000 had an intercensal growth rate of 9.1 percent while towns with a population of 5,000 to 10,000 and those with more than 10,000 had intercensal growth rates of 6.8 and 4.9 percent, respectively. The observed increase in the urban population is largely attributable to urban-rural migration.

1.3 Population and Family Planning Policies and Programmes

The Government of Kenya adopted an explicit population policy in 1967 when the official national family planning programme was launched. Family planning was integrated into the maternal and child health division of the Ministry of Health. In 1984, a set of population policy guidelines were issued to guide population policy and programme implementation.

The International Conference on Population and Development (ICPD), held in Cairo in 1994, agreed upon a Programme of Action on Population and Development which changed the scope of population policy and programme by placing more emphasis on the welfare of an individual rather than on the achievement of demographic targets. The Government updated the Sessional Paper No. 4 of 1984 on Population Policy Guidelines to address population and development issues which had emerged since that time and to have a population policy that was in line with ICPD Programme of Action. This culminated in the formulation of Sessional Paper No.1 of 1997 on National Population Policy for Sustainable Development, which substantially widened the scope of the population policy.

The National Population Policy for Sustainable Development has a set of goals, objectives and targets to guide its implementation up to the year 2010. The targets are categorised into three broad areas: demographic, health and social service. Demographic targets include:

- Reduction of the infant mortality rate (per 1,000 live births) from 67 in 1995 to 66 by the year 2000 to 63 by 2005 and to 59 by 2010;
- Reduction of the maternal mortality ratio (per 100,000 births) from 365 in 1995 to 230 by 2005 and to 170 by 2010;
- Reduction of the total fertility rate (average number of births per woman) from 5.0 in 1995 to 4.0 by the year 2000 to 3.5 by 2005 and to 2.5 by 2010; and
- Increase in the contraceptive prevalence rate (all methods among all women) from 33 percent in 1993 to 43 percent by the year 2000 to 53 by 2005 and to 62 by 2010.

Health service targets include:

- Increase in full immunisation coverage from 80 percent in 1995 to 98 percent by the year 2010; and
- Increase in professionally attended deliveries from 45 percent in 1995, to 90 percent by the year 2010.

1.4 Health Priorities and Programmes

In 1994, the government of Kenya issued a health policy framework paper which presents a comprehensive vision of current Ministry of Health policies and provides guidelines to health policy makers for regularly reviewing and revising policies within a set framework. Kenya's health policy framework has identified the critical problems for the Kenyan health sector as: finances, inadequate capacity of the public health-care system, inequitable distribution of key health personnel (with a noted concentration in urban areas and in in-patient services), and inadequate and unenforced laws governing the health sector.

To improve the overall function of the health sector, the health policy framework has identified the major strategies to be employed. The paper which will operate with the strategic theme of "Investing in Health" has stipulated the following overall goal until the year 2010:

- Ensure the equitable allocation of Government resources to reduce disparities in health status;
- Increase the cost effectiveness and the cost efficiency of resource allocation and use;
- Continue to manage population growth;
- Enhance the role of Government in all aspects of health care provision;
- Create an enabling environment for increased private sector and community involvement in health service provision and finance; and
- Increase and diversify per capita financial flows to the health sector.

To meet the goal of the health sector and to respond to the future health needs of the Kenyan people, the Government has proposed and committed to implementing reforms in the health sector. These reforms will include:

- Adoption of an explicit strategy to reduce the burden of disease among the Kenyan population and definition of those cost-effective and essential curative and preventive services which will be provided for by the Ministry of Health;
- Reinforcement of the provincial level to permit effective supervision of the districts and further decentralisation of planning, management and resource creation;
- Strengthening of nongovernmental organisations (NGO), local authorities, and private- and mission-sector health service providers;
- Generation of increased levels of financial resources for the provision of cost-effective services through widely accepted cost sharing and alternative health-financing initiatives;
- Prevention and control of AIDS, HIV infection, and sexually transmitted diseases;
- Increasing inter-sectoral collaboration with other ministries involved in the improvement of health status; and

- Encouraging nongovernmental organisations to take a greater role in the delivery and financing of health care services.

Use of community-based health workers (CBHWs) and community-based distribution (CBD) agents to provide services is being emphasised. It is estimated that, at present, CBD agents employed by government and nongovernmental agencies to provide nonclinical family planning methods have increased from slightly over 10,000 in 1992 to about 20,000 in 1998.

In 1981, the Ministry of Health started a major programme in preventive health, the Kenya Expanded Programme on Immunisation (KEPI). Several other government programmes aimed at the reduction of diseases, improvement of nutrition, and provision of maternal and child health services have also been launched. However, budgetary constraints have been a major hindrance to provision of health services in the country.

1.5 Objectives of the 1998 Kenya Demographic and Health Survey

The principal aim of the 1998 KDHS project is to provide up-to-date information on fertility and childhood mortality levels, nuptiality, fertility preferences, awareness and use of family planning methods, use of maternal and child health services, and knowledge and behaviours related to HIV/AIDS and other sexually-transmitted diseases. It was designed as a follow-on to the 1989 KDHS and 1993 KDHS, national-level surveys of similar size and scope. Ultimately, the 1998 KDHS project seeks to:

- Assess the overall demographic situation in Kenya;
- Assist in the evaluation of the population and reproductive health programmes in Kenya;
- Advance survey methodology; and
- Assist the NCPD to strengthen its capacity to conduct demographic and health surveys.

The 1998 KDHS was specifically designed to:

- Provide data on the family planning and fertility behaviour of the Kenyan population, and to thereby enable the NCPD to evaluate and enhance the national family planning programme;
- Measure changes in fertility and contraceptive prevalence and at the same time study the factors which affect these changes, such as marriage patterns, desire for children, availability of contraception, breastfeeding habits, and important social and economic factors;
- Examine the basic indicators of maternal and child health in Kenya, including nutritional status, use of antenatal and maternity services, treatment of recent episodes of childhood illness, and use of immunisation services;
- Describe levels and patterns of knowledge and behaviour related to the prevention of AIDS and other sexually transmitted infection;
- Measure adult and maternal mortality at the national level; and
- Ascertain the extent and pattern of female circumcision in the country.

1.6 Survey Organisation

The 1998 KDHS was a national survey carried out by the National Council for Population and Development (NCPD) in collaboration with the Central Bureau of Statistics (CBS). Macro International Inc. (USA) provided technical and financial assistance through its contract with the U.S. Agency for International Development (USAID). Funding for the KDHS was provided by USAID and the British Department for International Development (DFID). The United Nations Population Fund (UNFPA), the Division of Primary Health Care (DPHC), and the National AIDS Control Programme (NASCOP) provided logistical assistance.

1.7 Sample Design

The 1998 KDHS is national in scope, with the exclusion of all three districts in North Eastern Province and four other northern districts (Samburu and Turkana in Rift Valley Province and Isiolo and Marsabit in Eastern Province). Together the excluded areas account for less than 4 percent of Kenya's population. The KDHS utilised a two-stage, stratified sample consisting of 536 selected sample units (clusters). Six of the 536 clusters (1 percent) were not surveyed due to inaccessibility. Details of the sample design and implementation are given in Appendix A.

Despite the need for obtaining district-level data for planning purposes, reliable estimates could not be produced from the KDHS for all districts in the country—which have increased in number from 48 to 75 since 1993—without expanding the sample to an unmanageable size. It was felt, however, that reliable estimates for certain variables could be produced for the rural areas in 15 districts: Bungoma, Kakamega, Kericho, Kilifi, Kisii, Machakos, Meru, Murang'a, Nakuru, Nandi, Nyeri, Siaya, South Nyanza, Taita-Taveta, and Uasin Gishu. These areas plus Nairobi and Mombasa were targeted because: (1) before subdivision, they were generally the larger districts in their provinces, (2) most were districts in which the NCPD had posted District Population Officers, and (3) the districts were also targeted in the 1989 and 1993 KDHS projects. Although most of these districts were subdivided in the recent past, the previous boundaries have been used in order to maintain comparability with the two previous KDHS surveys. Due to this oversampling at the district level, the KDHS sample is not self-weighting at the national level. Sample weights were used to compensate for the unequal probability of selection between geographically defined strata, and weighted figures are used throughout the remainder of this report.

During late 1997 to early 1998, field staff from the Central Bureau of Statistics conducted a household listing in each of the selected clusters. From these household lists, a systematic sample of households was drawn: 22 households per urban cluster and 17 households per rural cluster totaling 9,465 selected households. All women age 15-49 were to be interviewed (i.e., eligible) in these households. Every second household was included in the male sample and, in those households, all men age 15-54 were also eligible for interview.

1.8 Questionnaire

Three types of questionnaires were used in the 1998 KDHS: the Household Questionnaire, the Women's Questionnaire, and the Men's Questionnaire. The Women's and Men's questionnaires were based on the DHS Model A Questionnaire, which is designed for use in countries with relatively high levels of contraceptive use. A series of meetings were held with policy experts, programme managers, and other professionals to review, adapt, and revise the questionnaires. This process culminated in a set of English-language questionnaires, which were translated into Kiswahili and nine of the most widely spoken local languages: Kalenjin, Kamba, Kikuyu, Kisii, Luhya, Luo, Masai, Meru, and Mijikenda.

The Household Questionnaire was used to list all of the usual members and visitors in the selected households. Basic information on each person listed was collected including age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify all of the women age 15-49 and men age 15-54 eligible for the individual interview. In addition, information was collected about characteristics of the household, such as the source of water, type of toilet facilities, materials used to construct the household's dwelling, and ownership of various consumer goods.

The Women's Questionnaire was used to collect information from women age 15-49, and included questions on the following topics:

- Background characteristics (age, education, religion, etc.),
- Reproductive history (to arrive at fertility and childhood mortality rates),
- Knowledge and use of family planning methods,
- Antenatal and delivery care,
- Infant feeding practices including patterns of breastfeeding,
- Childhood vaccinations,
- Recent episodes of childhood illness and responses to illness,
- Marriage and sexual activity,
- Fertility preferences,
- Husband's background and respondent's work status,
- Mortality of adults, including maternal mortality,
- AIDS-related knowledge, attitudes, and behaviour,
- Female circumcision, and
- Nutritional status of children and mothers.

The Men's Questionnaire covered many of the same topics but excluded the detailed reproductive history and sections dealing with maternal and child health, maternal mortality, and female circumcision. The Men's Questionnaire is consequently much shorter than the Women's Questionnaire.

The questionnaires were pretested by language-specific teams of one woman and one man who had been trained for two weeks at the Machakos Technical Training Institute. During the pretest fieldwork, supervised by NCPD staff, 200 Household, Women's, and Men's Questionnaires were completed in locations around Kenya where interviews could be carried out in the various local languages. Based on observations in the field and suggestions made by the pretest field teams and trainers, revisions were made in the wording and translation of the questionnaires.

1.9 Training and Fieldwork

A total of 120 interviewers were recruited by NCPD from areas where they would eventually conduct the KDHS fieldwork. A three-week training course was organised for the recruits at the St. Mary's Pastoral Training Centre in Nakuru. The first phase of the training course consisted of lectures on the underlying rationale of the questionnaires' content and how to complete the questionnaire. Local language-specific groups were formed to review the translations, after which supervised mock interviews between participants were conducted to allow practice in proper interviewing techniques and the posing of questions. Several days were spent training participants in the methods for measuring height and weight of women and children. Towards the end of the training, the participants spent several days practicing interviews under close supervision in households near the training centre.

Fieldwork commenced on 16 February 1998 and was completed on 29 July 1998. The interviewers were organised into 12 mobile teams. Each team consisted of 1 supervisor, 1 field editor, 4-5 female

interviewers, and 1 male interviewer, with the exception of the Masai team which had just 2 female interviewers and 1 male interviewer. Nine NCPD staff based in Nairobi coordinated the work, while 17 field coordinators were involved in the day-to-day supervision of the teams.

Table 1.2 shows response rates for the survey. A total of 9,465 households were selected for inclusion in the 1998 KDHS, of which 8,661 were occupied and thus eligible for interview. Of the eligible households, 8,380 were successfully interviewed, giving a response rate of 97 percent. The main reason for eligible households not being interviewed was that a competent member of the household could not be found and interviewed during the course of work in the cluster. In interviewed households, 8,233 eligible women (age 15-49) were identified and 7,881 were successfully interviewed, yielding a response rate of 96 percent.

Of the 4,747 households subsampled for inclusion in the KDHS male survey, 4,337 households were occupied and therefore eligible for interview. About 97 percent of these households were successfully interviewed. A total of 3,845 men (age 15-54) were identified in the surveyed households and 3,407 of these were interviewed, yielding a response rate of 89 percent. Response rates for male and female individual interviews were higher in rural areas than in urban areas. The main reason for nonresponse was failure to find the individuals despite repeated visits to the household and place of work.

Table 1.2 Results of the household and individual interviews

Number of households, number of interviews and response rates, according to urban-rural residence, Kenya 1998

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households sampled	2,002	7,463	9,465
Households occupied	1,777	6,884	8,661
Households interviewed	1,647	6,733	8,380
Household response rate	92.7	97.8	96.8
Individual interviews: women			
Number of eligible women	1,576	6,657	8,233
Number of eligible women interviewed	1,466	6,415	7,881
Eligible woman response rate	93.0	96.4	95.7
Individual interviews: men			
Number of eligible men	855	2,990	3,845
Number of eligible men interviewed	656	2,751	3,407
Eligible man response rate	76.7	92.0	88.6

CHAPTER 2

CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

Vane Nyong'a and George Bicego

This chapter presents information on social and economic characteristics of the household population and the individual survey respondents, such as: age, sex, education, patterns of employment, and place of residence. It also examines the environmental profile of households in the KDHS sample. Taken together, these descriptive data provide a context for the interpretation of demographic and health indices, and can furnish an approximate indication of the representativeness of the survey.

The background characteristics of women age 15-49 and men age 15-54 are discussed in the last part of the chapter. This information is useful for understanding the factors which affect health-seeking behaviours and contraceptive use.

2.1 Household Population

The KDHS household questionnaire was used to collect data on the demographic and social characteristics of all usual residents of the sampled household and visitors who had spent the previous night in the household.[1]

2.1.1 Age-Sex Composition

The distribution of the KDHS household population is shown in Table 2.1, by five-year age groups, according to sex and urban-rural residence. The KDHS households constitute a population of 36,169 persons. Fifty-one percent of the population are females and 49 percent are males. There are more persons in the younger age groups than in the older age groups of each sex in both urban and rural areas.

The age-sex structure of the population can be understood by use of a population pyramid (see Figure 2.1). The Kenya pyramid is wide-based, a pattern that is typical of high-fertility populations. The number of children under age five is less than the number age 5-9, which is slightly less than the number age 10-14, a finding that is consistent with recent fertility decline (see Chapter 3 for details).

[1] A household refers to a person or group of related and unrelated persons who live together in the same dwelling unit(s), who acknowledge one adult male or female as head of household, who share the same housekeeping arrangements, and are considered as one unit. A member of the household is any person who usually lives in the household and a visitor is someone who is not a usual member of the household but had slept in the household the night before the interview date. The household population presented in this chapter includes, unless otherwise stated, all usual members of the household who slept in the household the night before the survey and visitors (de facto population).

Table 2.1 Household population by age, residence and sex

Percent distribution of the de facto household population by five-year age group, according to urban-rural residence and sex, Kenya 1998

	Urban			Rural			Total		
Age group	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	13.4	13.1	13.2	15.6	14.1	14.8	15.2	13.9	14.5
5-9	12.1	11.4	11.7	17.1	15.2	16.1	16.1	14.5	15.3
10-14	9.1	11.9	10.4	17.6	16.6	17.1	15.9	15.8	15.8
15-19	9.1	12.5	10.8	11.1	9.9	10.5	10.7	10.4	10.5
20-24	10.2	14.1	12.1	6.7	7.5	7.1	7.4	8.6	8.0
25-29	12.6	12.1	12.4	5.1	6.8	6.0	6.6	7.7	7.2
30-34	9.5	7.4	8.5	4.8	4.9	4.9	5.7	5.4	5.5
35-39	7.9	6.6	7.2	4.3	5.4	4.9	5.0	5.6	5.3
40-44	5.3	3.1	4.2	3.5	3.8	3.6	3.8	3.7	3.7
45-49	3.8	2.8	3.3	3.1	2.7	2.9	3.3	2.7	3.0
50-54	3.1	2.4	2.8	2.3	3.6	3.0	2.4	3.4	2.9
55-59	1.7	1.2	1.4	2.4	2.9	2.7	2.3	2.6	2.4
60-64	1.1	0.5	0.8	2.2	2.2	2.2	1.9	1.9	1.9
65-69	0.5	0.4	0.4	1.5	1.9	1.7	1.3	1.7	1.5
70-74	0.5	0.4	0.4	1.3	1.1	1.2	1.2	1.0	1.1
75-79	0.3	0.1	0.2	0.6	0.6	0.6	0.6	0.5	0.5
80 +	0.0	0.2	0.1	0.7	0.6	0.7	0.5	0.6	0.6
Missing/Don't know	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	3,484	3,229	6,714	14,204	15,239	29,456	17,689	18,468	36,169[1]

[1] Total includes 12 persons for whom sex is missing

Figure 2.1
Population Pyramid of Kenya

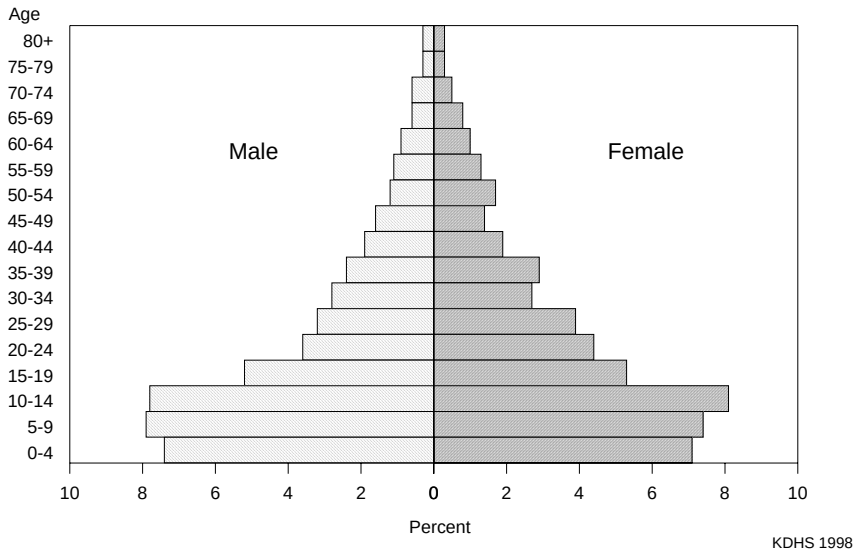


Table 2.2 shows the change in the age structure of Kenya's population by comparing the proportion of persons in broad age groups from the 1989 KDHS, the 1993 KDHS, and the 1998 KDHS. The proportion of the population under 15 years of age has fallen from 53 percent in 1989 to 49 percent in 1993 to 46 percent in 1998. As a result of this shift, the dependency ratio[2] in Kenya has dropped from 127 in 1989 to 112 in 1994 to 98 in 1998. This means that, currently, there is slightly less than one person under 15 years or over 64 years in Kenya for every person age 15-64 years.

Table 2.2 Population by age from selected sources

Percent distribution of the de facto household population by age group at different dates, Kenya 1989, 1993, 1998

Age group	1989 KDHS	1993 KDHS	1998 KDHS
< 15	52.5	49.1	45.7
15-64	44.0	47.0	50.6
64+	3.5	3.6	3.7
Missing/Don't know	0.0	0.3	0.1
Median age	NA	15.3	16.9

NA = Not applicable

2.1.2 Household Composition

Table 2.3 shows that about one in three Kenyan households is headed by a female. There is a larger proportion of female-headed households in rural areas (34 percent) than in urban areas (23 percent). There is not much variation in this indicator by province, although households in Nairobi and Rift Valley provinces are less likely than households in the other provinces to be headed by a woman.

Table 2.3 Household composition

Percent distribution of households by sex of head of household, household size, and presence of foster children, according to urban-rural residence and province, Kenya 1998

Characteristic	Residence		Province							Total
	Urban	Rural	Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	
Household headship										
Male	76.8	65.6	80.4	63.6	68.3	64.9	65.5	72.4	64.6	68.3
Female	23.2	34.4	19.6	36.4	31.7	35.1	34.5	27.6	35.4	31.7
Number of usual members										
1	26.3	12.5	26.9	20.9	19.0	11.7	11.8	14.7	11.8	15.8
2	17.6	11.2	20.4	15.5	14.2	10.6	11.9	10.2	10.6	12.7
3	14.1	13.3	13.6	15.7	13.1	13.0	13.4	11.7	14.9	13.5
4	14.3	14.9	14.5	17.3	12.1	14.5	13.4	15.3	15.0	14.7
5	11.7	14.1	12.2	11.4	10.6	14.1	16.2	13.4	14.1	13.5
6	7.0	12.2	6.7	9.2	9.2	12.0	12.7	11.8	12.1	11.0
7	3.5	9.1	2.4	5.1	7.2	9.3	9.1	9.3	8.9	7.8
8	2.5	5.7	1.6	3.0	5.5	5.9	6.7	5.1	5.3	4.9
9+	2.9	7.0	1.4	1.5	9.0	9.0	4.7	8.6	6.9	6.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean size	3.3	4.6	3.1	3.5	4.4	4.8	4.5	4.6	4.5	4.3
Percent with foster children [1]	8.1	17.6	5.7	9.5	15.2	13.4	19.0	16.8	24.9	15.3

Note: Table is based on de jure members; i.e., usual residents.
[1] *Foster children* are children under age 15 living in households with neither their mother nor their father present.

[2] The dependency ratio is defined as the sum of all persons age under 15 years or over 64 years divided by the number of persons age 15-64, multiplied by 100.

The average size of a Kenyan household has decreased from 4.8 persons in the 1993 KDHS to 4.3 persons in the 1998 KDHS. Urban households are on average smaller (3.3 persons) than rural households (4.6 persons). There is considerable variation in household size across provinces, with the largest occurring in Eastern Province (4.8 persons) and the smallest in Nairobi (3.1 persons).

Fifteen percent of households have foster children—8 percent of households in urban areas and 18 percent of households in rural areas. Foster children are those persons under 15 years of age who have neither natural parent in the household.

Information regarding fosterhood and orphanhood of children under age 15 is provided in Table 2.4. About 58 percent of children under 15 years of age are living with both their parents, 26 percent are living with their mother (but not with their father), 3 percent with their father (but not their mother), and 10 percent are living with neither parent.

Among children under age 15 years, 8 percent have lost their fathers, 3 percent have lost their mothers, and about 1 percent of children have lost both of their parents.

Table 2.4 Fosterhood and orphanhood

Percent distribution of de jure children under age 15 by survival of parents and child's living arrangements, according to child's age, sex, residence, and province, Kenya 1998

Background characteristic	Living with both parents	Living with mother but not father		Living with father but not mother		Not living with either parent				Missing information on father/ mother	Total	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Father only alive	Mother only alive	Both dead			
Age												
<2	65.0	25.8	3.0	0.5	0.1	1.9	0.3	0.3	0.1	3.1	100.0	3,190
3-5	62.0	21.6	3.2	2.1	0.7	6.0	0.6	0.3	0.5	3.1	100.0	2,998
6-9	56.8	19.4	6.3	2.8	1.1	8.2	0.9	1.2	0.8	2.5	100.0	4,500
10-14	52.5	18.0	7.6	3.1	1.5	9.5	1.2	1.8	1.6	3.3	100.0	5,710
Sex												
Male	58.8	20.6	5.7	2.6	1.0	6.3	0.8	0.9	0.8	2.6	100.0	8,311
Female	56.9	20.5	5.4	2.1	0.9	7.8	0.9	1.2	1.0	3.4	100.0	8,078
Residence												
Urban	62.2	18.6	3.5	4.3	1.3	4.9	0.7	1.1	0.7	2.5	100.0	2,362
Rural	57.1	20.9	5.9	2.0	0.9	7.4	0.8	1.0	0.9	3.1	100.0	14,035
Province												
Nairobi	69.4	12.9	3.9	1.9	2.4	3.9	1.1	0.9	0.6	3.0	100.0	809
Central	54.0	29.4	3.1	0.8	0.9	5.4	0.1	0.5	0.5	5.5	100.0	1,813
Coast	51.6	24.4	5.9	2.5	1.1	9.7	0.7	1.3	1.2	1.7	100.0	1,162
Eastern	56.4	24.5	5.6	2.1	1.3	4.8	0.7	1.2	0.4	3.0	100.0	2,770
Nyanza	58.7	15.4	8.8	2.4	1.1	6.2	1.0	1.2	1.5	3.6	100.0	3,446
Rift Valley	62.1	18.7	5.1	2.0	0.6	6.9	0.5	0.7	0.7	2.7	100.0	4,227
Western	52.7	20.5	3.6	4.5	0.3	12.5	2.1	1.7	0.9	1.2	100.0	2,171
Total	57.9	20.5	5.5	2.3	1.0	7.0	0.8	1.1	0.9	3.0	100.0	16,397

Note: By convention, *foster children* are those who are not living with either biological parent. This includes *orphans*, i.e., children with both parents dead.

2.1.3 Educational Level of Household Members

Table 2.5 shows the distribution of female and male household members (age 6 and above) by the highest level of education attended (even if they did not complete that level), and the median number of years of education completed, according to age and residence. Generally, educational attainment is higher for

Table 2.5 Educational level of the female and male household population

Percent distribution of the de facto female and male household population age six and over by highest level of education attended, and median number of years of schooling, according to selected background characteristics, Kenya 1998

Background characteristic	Level of education					Total	Number of women/ men	Median number of years of schooling
	No education	Primary incomplete	Primary complete	Second-ary +	Don't know/ missing			
				FEMALE				
Age								
6-9	16.2	82.8	0.0	0.1	0.9	100.0	2,171	0.0
10-14	5.0	91.4	2.4	1.0	0.1	100.0	2,916	3.4
15-19	3.4	56.7	17.9	18.8	0.0	100.0	1,912	6.4
20-24	5.3	32.4	25.8	36.5	0.0	100.0	1,594	7.5
25-29	7.2	36.9	20.3	35.3	0.3	100.0	1,425	7.3
30-34	8.6	25.9	29.7	35.5	0.3	100.0	990	6.6
35-39	19.2	29.0	24.2	27.6	0.1	100.0	1,031	6.1
40-44	31.1	27.6	20.1	20.2	1.0	100.0	676	4.2
45-49	40.4	30.8	15.7	12.6	0.5	100.0	507	2.6
50-54	57.3	20.4	11.9	8.7	1.7	100.0	633	0.0
55-59	66.1	24.2	5.2	3.0	1.5	100.0	477	0.0
60-64	73.0	20.8	1.9	1.8	2.4	100.0	345	0.0
65+	83.7	10.5	1.5	0.8	3.6	100.0	696	0.0
Residence								
Urban	9.4	37.6	16.4	36.2	0.4	100.0	2,726	6.9
Rural	21.5	54.1	12.2	11.6	0.7	100.0	12,667	3.5
Province								
Nairobi	4.5	33.7	18.8	42.6	0.3	100.0	1,076	7.4
Central	17.1	48.4	17.7	16.4	0.3	100.0	1,919	4.7
Coast	36.0	38.6	11.8	12.5	1.1	100.0	1,120	1.7
Eastern	20.9	51.1	14.4	13.3	0.4	100.0	2,716	3.7
Nyanza	17.5	59.3	9.1	13.3	0.7	100.0	3,284	3.7
Rift Valley	20.9	53.3	11.9	13.0	0.9	100.0	3,430	3.8
Western	18.3	53.4	11.7	16.2	0.5	100.0	1,847	3.7
Total	19.3	51.2	12.9	15.9	0.6	100.0	15,393[1]	4.1
				MALE				
Age								
6-9	16.8	82.3	0.0	0.1	0.8	100.0	2,347	0.0
10-14	3.5	94.5	1.2	0.7	0.1	100.0	2,815	3.1
15-19	2.7	59.4	14.6	16.5	0.2	100.0	1,896	6.4
20-24	2.7	26.9	28.4	41.8	0.2	100.0	1,304	7.7
25-29	3.2	26.6	20.8	49.1	0.2	100.0	1,169	7.9
30-34	4.2	14.9	31.6	49.1	0.2	100.0	1,010	7.8
35-39	4.4	17.3	27.5	49.9	0.9	100.0	885	7.7
40-44	9.4	17.0	28.5	44.1	1.0	100.0	674	6.9
45-49	13.4	22.7	25.8	37.9	0.2	100.0	578	6.7
50-54	13.3	25.2	31.7	27.7	2.0	100.0	432	6.6
55-59	27.4	31.8	24.4	15.2	1.1	100.0	404	3.9
60-64	34.4	39.0	14.1	11.0	1.5	100.0	343	3.1
65+	59.1	30.1	3.6	3.6	3.6	100.0	626	0.0
Residence								
Urban	5.5	31.3	16.4	46.1	0.7	100.0	2,931	7.6
Rural	11.6	56.8	14.3	16.6	0.6	100.0	11,567	4.1
Province								
Nairobi	3.6	26.0	15.3	54.6	0.4	100.0	1,252	8.9
Central	6.9	50.4	18.9	23.1	0.7	100.0	1,758	5.5
Coast	17.7	43.5	16.2	21.6	0.9	100.0	1,067	4.8
Eastern	11.7	56.8	14.6	16.2	0.8	100.0	2,466	4.2
Nyanza	7.1	58.8	13.9	19.7	0.6	100.0	2,914	4.7
Rift Valley	13.8	52.3	13.7	19.6	0.7	100.0	3,438	4.4
Western	11.2	56.5	12.6	19.3	0.4	100.0	1,603	3.9
Total	10.4	51.7	14.7	22.6	0.7	100.0	14,499[1]	5.0

[1] Includes 20 women and 16 men for whom age is missing

males than females, although this varies substantially by age. About 90 percent of males have attended school at some time versus 81 percent of females. The percentage of children in the youngest age group (6-9 years) who never attended school is difficult to interpret since some children not yet attending will eventually go to school (i.e., late beginners). Comparing children ages 10-14 and 15-19, the percentage who never attended school has increased, suggesting that education prospects for both boys and girls have not improved and perhaps have worsened over the last decade.

While most Kenyans attend school, only a small proportion are able to continue to higher levels of education. The median number of years of schooling completed for females and males is 4 and 5 years, respectively. Sixteen percent of females and 23 percent of males have reached the secondary level of education.

An encouraging long-term trend toward increasing educational attainment is observed by looking at differences among age groups in the median number of years completed. The median educational attainment peaks at over seven completed years for females (age 20-24) and about eight years for males (25-29). This trend, however, captures patterns occurring several years before the survey, and is not sensitive to recent changes. As expected, educational attainment is greater in urban than rural areas. The median number of completed years of education is highest in Nairobi and Central Provinces (both males and females), and lowest in the Coast Province (females) and Western Province (males).

One way to assess more recent trends in educational attainment is to compare the 1993 and 1998 KDHS surveys with regard to the percentage of males and females age 15-19 who have completed primary school. Between 1993 and 1998, the percentage of females age 15-19 who have completed primary school has declined from 56 to 40 percent. For males age 15-19, the percentage has decreased from 52 to 38 percent. These results reflect a disinvestment in Kenya's future.

2.1.4 School Enrolment

In Table 2.6, school enrolment ratios by age group, sex, and residence for the population age 6 to 24 years are presented. A school enrolment ratio is the number of enrolled persons in a specific age group per hundred persons in that particular age group. Eighty-five percent of persons age 6-15 are in school; rural enrolment is about the same (85 percent) as urban enrolment (84 percent). There is a significantly higher enrolment ratio in rural areas (45 percent) than in urban areas (29 percent) for the age group 16-20 years. This is explained largely by the fact that individuals tend to enroll and advance to the next school level at older ages in rural areas. By age 21-24, urban and rural areas have comparable enrolment ratios at 5-6 percent.

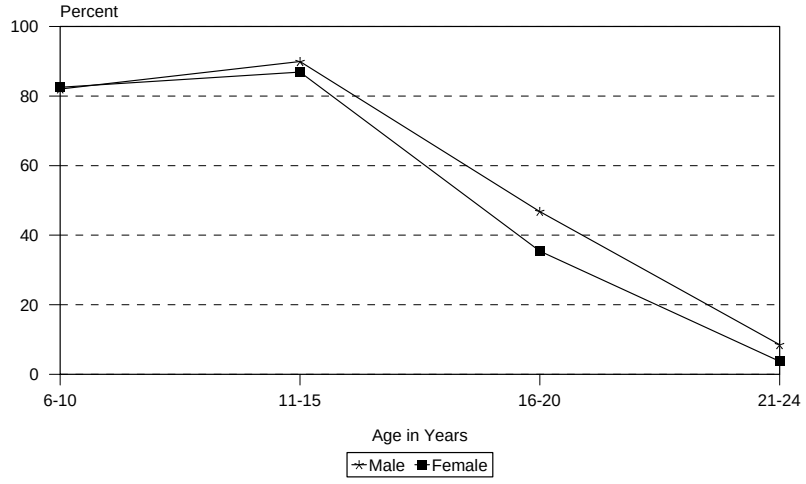
Table 2.6 School enrolment

Percentage of the de facto household population age 6-24 years enrolled in school, by age, sex, and residence, Kenya 1998

	Male			Female			Total		
Age	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-10	86.2	81.3	82.0	84.5	82.2	82.5	85.4	81.8	82.3
11-15	87.8	90.2	89.9	77.7	88.3	86.9	82.3	89.2	88.4
6-15	86.9	85.5	85.7	81.2	85.1	84.6	84.0	85.3	85.2
16-20	38.2	48.9	46.8	21.8	39.9	35.4	28.9	44.5	41.0
21-24	6.4	9.3	8.5	3.9	3.6	3.7	5.0	6.1	5.8

Figure 2.2 shows that the rate of school entrance is nearly the same for boys as for girls, but that girls tend to drop out earlier than boys. About 82 percent of both girls and boys are enrolled at age 6-10, and 87 to 90 percent at age 11-15, but by age 16-20 only 35 percent of Kenyan females are still in school versus 47 percent of males. By age 21-24, 4 percent of women and 9 percent of men are still in school.

Figure 2.2
Percentage of Males and Females Enrolled in School by Age



2.2 Housing Characteristics

Information on the characteristics of sampled households is shown in Table 2.7. The physical characteristics of the household have an important effect on environmental exposure to disease, as well as reflecting the household's economic condition.

Fifteen percent of the households in Kenya have electricity, up from 11 percent based on the 1993 KDHS. There is a significant difference in access to electricity between rural and urban areas. Forty-eight percent of urban households have electricity compared with just 4 percent of rural households.

About 23 percent of households have water piped into the residence, yard, or plot: 58 percent of households in urban areas and 12 percent in rural areas. In rural areas, natural (but often contaminated) water sources (e.g., rivers, streams, lakes, ponds) are the main source of drinking water (55 percent), followed by public wells (15 percent). The median time to get to the source of drinking water is 15 minutes in rural areas and less than a minute in urban areas.

About 85 percent of Kenyan households have access to some type of toilet facility. The most common type of toilet in rural areas is the traditional pit latrine (73 percent); in urban areas, 43 percent of households use a flush toilet, 42 percent use a traditional pit latrine, and 11 percent use a Blair toilet.[3]

[3] Ventilated, improved pit toilet or latrine.

Table 2.7 Housing characteristics

Percent distribution of households by housing characteristics, according to urban-rural residence and province, Kenya 1998

Characteristic	Residence		Province							Total
	Urban	Rural	Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	
Electricity										
No	47.5	4.3	60.1	11.4	22.7	6.3	7.0	9.0	7.1	14.5
Yes	52.2	95.4	39.9	87.9	76.5	93.5	92.8	90.5	92.9	85.1
Missing/Don't know	0.3	0.3	0.0	0.6	0.8	0.1	0.2	0.5	0.0	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source of drinking water										
Piped into residence	58.2	12.3	77.6	30.9	21.3	17.5	5.9	18.1	13.4	23.2
Public tap	25.9	6.3	14.5	6.5	33.9	12.1	6.6	9.1	8.1	11.0
Well in residence	3.3	8.6	1.2	13.6	4.6	1.9	3.9	15.2	4.9	7.3
Public well	3.5	14.9	0.2	5.1	15.5	18.1	18.0	8.4	18.9	12.2
River, stream	3.5	49.3	0.4	34.9	17.8	43.8	52.7	42.5	50.1	38.4
Pond, lake	0.1	5.5	0.0	3.2	3.7	4.1	10.3	3.5	0.7	4.2
Rainwater	0.4	1.6	0.0	2.8	0.3	1.1	0.9	2.4	0.6	1.3
Other	4.9	1.2	6.1	2.5	2.6	1.2	1.5	0.5	3.3	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Time to water source (in minutes)										
<15 minutes	82.9	43.8	95.1	66.5	46.0	37.2	35.4	56.5	48.9	53.1
Median time to source	0.0	14.8	0.0	2.2	14.3	19.8	19.7	9.4	14.1	9.7
Sanitation facility										
Own flush toilet	24.7	1.5	26.9	2.8	9.1	3.8	3.1	5.8	6.4	7.0
Shared flush toilet	18.3	0.6	29.1	1.8	4.4	1.1	0.5	3.5	2.0	4.8
Traditional pit toilet	42.3	73.3	29.7	85.3	50.1	69.8	67.4	62.8	82.2	65.9
Vent. improved pit latrine	10.7	5.7	13.2	9.0	8.8	6.3	4.7	5.2	5.1	6.9
No facility	2.6	18.6	0.8	0.6	26.9	18.8	24.2	20.7	4.3	14.8
Other	1.0	0.1	0.0	0.0	0.0	0.1	0.0	1.2	0.0	0.3
Missing/Don’t know	0.3	0.3	0.2	0.4	0.7	0.1	0.2	0.8	0.0	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Main floor material										
Mud, sand, dung	20.0	76.9	16.7	62.1	50.9	65.0	78.0	67.8	79.2	63.4
Wood planks	0.8	1.1	0.4	4.1	0.2	0.4	0.8	0.9	0.0	1.0
Polished wood/vinyl/tiles	5.5	0.5	8.6	1.0	1.0	0.0	0.3	2.0	0.8	1.7
Cement	73.7	21.2	74.3	32.0	47.6	34.6	20.9	28.9	19.9	33.6
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Missing/Don’t know	0.1	0.3	0.0	0.8	0.3	0.1	0.2	0.3	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Persons per sleeping room										
1-2	63.2	56.9	63.7	76.1	66.6	60.7	55.2	48.3	48.1	58.4
3-4	25.7	27.4	26.1	17.6	23.9	27.1	28.4	30.9	31.5	27.0
5-6	8.6	9.8	9.2	3.6	6.2	8.6	10.8	12.6	12.6	9.5
7+	1.6	5.2	0.8	0.8	2.1	3.4	5.1	7.2	7.6	4.3
Missing/Don’t know	1.0	0.7	0.2	1.9	1.3	0.2	0.6	1.1	0.1	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	2.4	2.8	2.4	2.0	2.4	2.7	2.9	3.1	3.2	2.7
Total	1,988	6,393	856	1,188	605	1,303	1,643	1,827	959	8,380

The most commonly used flooring materials in Kenya are earth/sand/dung, followed by cement. Almost three-quarters of urban households have cement floors, while about the same proportion of rural households have floors made of packed earth, sand, or occasionally dung.

A question on the number of rooms used for sleeping by households was included in the KDHS questionnaire. This information provides a rough measure of household crowding. The results indicate that, in the average household, 2.7 persons sleep together per sleeping room, with only a small urban-rural differential observed. Of the rural-based provinces, sleeping arrangements are most crowded in Western and Rift Valley provinces (more than 3 persons per room) and least crowded in Central Province (2 persons per room).

2.2.1 Household Durable Goods

Table 2.8 shows the percentage of households owning certain durable goods by residence. The availability of durable consumer goods is a rough measure of household socioeconomic status. Among selected durable goods, a radio is available in 63 percent of the households and a bicycle in 24 percent of the households. The percentage of households that have a television has more than doubled from 6 percent in the 1993 KDHS to 13 percent in 1998.

The proportion of households with durable goods varies by urban-rural residence. For example, 78 percent of households in urban areas have a radio compared with 58 percent of rural households, and 33 percent of urban households enjoy a television compared with just 7 percent of rural households. On the whole, 36 percent of rural households and 20 percent of urban households have none of the selected durable goods.

Table 2.8 Household durable goods

Percentage of households possessing selected durable consumer goods, by urban-rural residence and province, Kenya 1998

	Residence		Province							
Durable goods	Urban	Rural	Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	Total
Radio	78.2	58.4	79.2	68.9	56.9	59.9	54.5	61.9	67.0	63.1
Television	33.4	6.7	38.1	13.1	15.1	8.8	6.8	11.8	8.0	13.0
Telephone	9.1	0.7	11.2	1.8	3.5	0.9	1.2	1.9	2.5	2.7
Refrigerator	13.3	0.8	16.7	2.4	8.2	0.7	1.3	2.3	2.4	3.8
Bicycle	15.3	26.6	11.0	18.2	18.6	28.7	25.7	22.8	38.6	23.9
Motorcycle	1.8	0.6	2.2	0.9	1.1	0.7	0.3	1.1	0.4	0.9
Private car	12.2	2.5	15.3	4.0	3.3	2.4	2.8	5.5	2.8	4.8
None of the above	20.0	36.4	19.3	29.3	37.8	35.3	38.8	34.4	26.7	32.5
Number of households	1,988	6,392	856	1,188	604	1,303	1,643	1,827	959	8,380

2.3 Characteristics of Survey Respondents

2.3.1 Background Characteristics

Background characteristics of the 3,407 men and 7,881 women interviewed in the KDHS are presented in Table 2.9. The distribution of the respondents according to age shows a similar pattern for males and females. The proportion of the respondents in each age group declines with increasing age for

Table 2.9 Background characteristics of respondents

Percent distribution of women and men by selected background characteristics, Kenya 1998

Background characteristic	Weighted percent	Number of women		Weighted percent	Number of men	
		Weighted	Un-weighted		Weighted	Un-weighted
Age						
15-19	23.5	1,851	1,852	23.8	811	831
20-24	19.6	1,548	1,542	17.3	589	596
25-29	17.4	1,371	1,344	13.6	463	458
30-34	12.5	986	977	12.3	418	404
35-39	12.6	991	999	11.0	375	382
40-44	8.1	637	643	8.5	291	288
45-49	6.3	497	524	8.2	278	272
50-54	-	-	-	5.4	183	176
Residence						
Urban	23.2	1,830	1,466	26.8	913	656
Rural	76.8	6,051	6,415	73.2	2,494	2,751
Province						
Nairobi	9.8	770	419	12.7	431	168
Central	10.6	834	787	10.0	341	307
Coast	7.7	605	1,226	7.1	242	532
Eastern	17.6	1,386	1,186	18.6	633	553
Nyanza	21.5	1,690	1,390	18.8	641	542
Rift Valley	21.5	1,696	1,977	22.3	758	919
Western	11.4	899	896	10.6	361	386
Marital status						
Never married	30.1	2,372	2,375	43.7	1,489	1,518
Married	58.8	4,630	4,631	51.5	1,756	1,719
Living together	2.6	203	216	1.0	35	44
Widowed	3.7	289	299	0.6	21	21
Divorced	1.8	141	135	0.6	21	22
Not living together	3.1	246	225	2.5	85	83
Education						
No education	11.5	909	1,010	3.8	131	136
Primary incomplete	36.7	2,893	2,903	30.7	1,047	1,108
Primary complete	22.5	1,777	1,816	24.7	841	862
Secondary+	29.2	2,302	2,152	40.7	1,388	1,301
Secondary incomplete	11.3	890	884	12.8	436	447
Secondary complete	15.6	1,229	1,120	23.7	808	741
Higher	2.3	183	148	4.2	144	113
Currently attending school						
Yes	12.7	1,003	1,018	15.8	537	542
No	86.9	6,851	6,833	82.2	2,801	2,792
Religion						
Catholic	27.7	2,186	2,128	30.4	1,036	1,003
Protestant/other Christian	64.5	5,083	5,026	58.2	1,983	2,005
Muslim	5.1	399	444	4.7	160	179
No religion	1.8	145	214	5.6	192	188
Other religion	0.8	60	57	0.8	29	26
Missing	0.1	9	12	0.2	8	6
Ethnic group						
Kalenjin	12.6	992	1,316	11.7	399	549
Kamba	12.8	1,008	855	13.0	441	385
Kikuyu	17.9	1,414	1,255	18.6	634	522
Kisii	10.9	860	645	10.1	345	255
Luhya	14.5	1,142	1,117	14.8	504	518
Luo	13.6	1,074	959	13.0	441	404
Masai	1.4	113	70	1.6	53	32
Meru/Embu	7.2	564	503	8.3	284	253
Mijikenda/Swahili	5.0	391	633	4.1	139	234
Somali	0.2	16	19	0.4	14	8
Taita/Taveta	1.0	81	291	1.0	34	135
Other	2.8	218	210	3.3	111	106
Missing	0.1	7	8	0.2	8	6
Total	100.0	7,881	7,881	100.0	3,407	3,407

both sexes. About 43 percent of the women and 41 percent of the men are in the age range 15 to 24 years, 26 percent of females and 30 percent of males are in the 25 to 34 year age range, and the rest of the respondents are in the age groups 35 to 49 years (women) and 35-54 years (men).

The proportion of males in urban areas (27 percent) is larger than that of females (23 percent). This is expected since men are more likely to migrate to cities and towns in search of work. For both sexes, the largest proportion of the population is in Rift Valley and Nyanza provinces, whilst the smallest proportion is in Coast Province.

Fifty-nine percent of females compared with 52 percent of males are currently married. Male respondents were much more likely than female respondents to have never married.

The proportion of women who have never been to school is three times greater than that for men (12 versus 4 percent). Male respondents were also much more likely to reach secondary school (41 percent) than their female counterparts (29 percent), and nearly twice as likely to continue school beyond the secondary level.

Table 2.9 also shows that with respect to religion, the large majority of the both male and female respondents reported themselves as Christians (one-third of which were Roman Catholic). Five percent of respondents (males and females) reported their religion as Muslim. Men (6 percent) were more likely than women (2 percent) to report that they had no religion.

The KDHS also collected information on ethnic affiliation of the respondent. The Kikuyu are the most numerous group in Kenya, followed closely by the other major ethnic groups: Luhya, Luo, Kamba, and Kalenjin.

2.3.2 Educational level of survey respondents

Presented in Table 2.10 are the percent distributions of female and male respondents by highest level of education attended according to age, urban-rural residence, and province. Younger people have attended school to higher levels than older people. The majority of men (60 percent) and nearly one-half of women in urban areas have attended at least some secondary school, while the large majority of people in rural Kenya have not gone beyond the primary level of education. Among the rural-based provinces, Central Province has the largest proportion of men and women who have attended secondary school or above. As described above, the educational level of women in Coast Province is much lower than that of women in other provinces.

Table 2.10 Level of education

Percent distribution of women and men by the highest level of education attended, according to selected background characteristics, Kenya 1998

Background characteristic	Highest level of education: women					Number of women	Highest level of education: men					Number of men
	No education	Primary incomplete	Primary complete	Secondary+	Total		No education	Primary incomplete	Primary complete	Secondary+	Total	
Age												
15-19	2.9	55.3	18.5	23.3	100.0	1,851	1.8	55.5	15.4	27.3	100.0	811
20-24	4.4	32.6	26.2	36.7	100.0	1,548	1.4	26.8	27.2	44.6	100.0	589
25-29	7.0	36.1	20.4	36.6	100.0	1,371	2.6	25.7	20.0	51.7	100.0	463
30-34	8.8	27.1	29.1	35.0	100.0	986	3.7	16.7	33.5	46.1	100.0	418
35-39	19.8	28.7	24.3	27.1	100.0	991	2.0	18.6	28.2	51.2	100.0	375
40-44	31.4	27.5	21.3	19.8	100.0	637	6.3	16.7	32.0	44.9	100.0	291
45-49	41.9	28.5	17.0	12.5	100.0	497	12.7	26.6	25.2	35.4	100.0	278
50-54	–	-	-	-	-	-	10.6	31.6	29.8	28.1	100.0	183
Residence												
Urban	5.5	22.5	22.7	49.4	100.0	1,830	2.3	15.0	23.1	59.6	100.0	913
Rural	13.4	41.0	22.5	23.1	100.0	6,051	4.4	36.5	25.3	33.9	100.0	2,494
Province												
Nairobi	1.2	21.0	23.4	54.4	100.0	770	1.8	13.7	19.0	65.5	100.0	431
Central	4.7	29.1	32.0	34.2	100.0	834	1.5	22.1	34.6	41.8	100.0	341
Coast	30.6	26.5	21.8	21.1	100.0	605	7.5	26.7	27.6	38.1	100.0	242
Eastern	10.0	39.3	25.7	25.1	100.0	1,386	2.8	41.0	26.4	29.8	100.0	633
Nyanza	10.7	47.2	16.6	25.4	100.0	1,690	2.2	37.2	21.0	39.6	100.0	641
Rift Valley	14.5	39.2	21.7	24.6	100.0	1,696	6.6	29.9	26.0	37.4	100.0	758
Western	12.2	35.7	21.6	30.5	100.0	899	4.9	34.2	20.6	40.4	100.0	361
Total	11.5	36.7	22.5	29.2	100.0	7,881	3.8	30.7	24.7	40.7	100.0	3,407

2.3.3 Reasons for Leaving School

Among women age 15-24 years who had ever attended school but were not currently attending, the KDHS asked why they had left school. One of most important determinants of a woman's social and economic status is her educational level. Knowledge of the reasons why women leave school can provide guidance for policies designed to enhance women's status.

Table 2.11 shows the percent distribution of women age 15-24 years who were no longer attending school by their reported reason for leaving school, according to highest level of education attended. The most common reason for leaving school was the family could not pay the school fees (42 percent). This pattern is especially marked for those women who left after having completed primary school (i.e., have not advanced to secondary school).

Once women start attending secondary school, school costs are still the primary problem for leaving, but other reasons become more important. For those women who finished their education while still in secondary school, a prominent reason for leaving is pregnancy or marriage. For those who left after having completed secondary school, the main reason cited is that she had "had enough" school. Women in rural areas are much more likely than their urban counterparts to have reported that they left school because of pregnancy or marriage (not shown).

Table 2.11 Reasons for leaving school

Percent distribution of women age 15-24 who had ever attended school but were not currently attending by reason for leaving school, according to highest level of education attended, Kenya 1998

Reason stopped attending school	Highest level of education					Total
	Primary incomplete	Primary complete	Secondary incomplete	Secondary complete	Higher	
Got pregnant	11.3	8.7	30.8	1.1	(0.0)	9.9
Got married	11.4	6.4	8.4	3.8	(5.5)	8.1
Take care of children	1.1	0.3	0.0	0.0	(0.0)	0.5
Family needed help	1.0	0.1	0.3	0.2	(0.0)	0.5
Could not pay school fees	47.6	59.7	48.7	4.3	(0.0)	42.2
Need to earn money	1.0	0.4	0.3	2.2	(0.0)	1.0
Graduated, enough	2.4	8.5	1.8	84.4	(86.1)	21.4
Did not pass exams	1.4	4.1	0.0	1.7	(0.0)	2.1
Did not like school	13.5	8.1	4.4	0.3	(0.0)	8.4
School not accessible	0.5	0.0	0.0	0.0	(0.0)	0.2
Other	7.9	2.4	2.9	0.3	(0.0)	4.3
Don't know/missing	0.9	1.3	2.3	1.7	(8.4)	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	938	677	184	450	27	2,276

Note: Figures in parentheses are based on 25-49 cases.

2.3.4 Access to Mass Media

Table 2.12 shows the percentage of male and female respondents exposed to different types of mass communication media by age, urban-rural residence, province, and educational level. It is important to know which types of persons are more or less likely to be reached by the media for purposes of planning programmes intended to spread information about health and family planning. About 37 percent of the women and 61 percent of men read newspapers or magazine weekly, 26 percent of women and 46 percent of men watch television at least once a week, and 58 percent of women and 81 percent of men listen to radio every day. Fifteen percent of women and one-third of men are exposed to all three of these media sources.

Thirty percent of women and 10 percent of men have no access to mass media. The proportion of persons with no access to mass media is about three times higher in rural areas than in urban areas. The rural disadvantage is much less pronounced regarding radio listening than for TV viewing or newspaper reading (Figure 2.3). The less-educated men and women tended to have much less exposure to media outlets. Among rural-based provinces, women in Nyanza Province were the least likely to have access to the media.

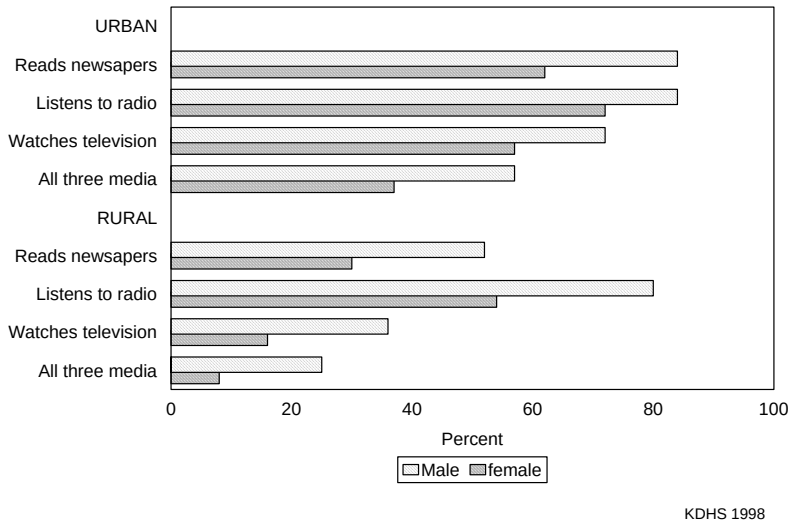
Since the 1993 KDHS, the percentage of women exposed regularly to television has gone up sharply (15 to 26 percent) while the percentage listening daily to the radio has declined (65 to 58 percent).

Table 2.12 Access to mass media

Percentage of women and men who usually read a newspaper once a week, watch television once a week, or listen to radio weekly, by selected background characteristics, Kenya 1998

Background characteristic	No mass media	Mass media: Read newspaper weekly	Mass media: Watch television weekly	Mass media: Listen to radio daily	Mass media: All three media	Number of women
FEMALE						
Age						
15-19	30.6	41.6	27.1	51.2	14.2	1,851
20-24	24.8	44.6	28.1	62.4	17.7	1,548
25-29	25.8	40.7	27.3	63.8	16.7	1,371
30-34	30.7	37.0	27.0	60.8	18.1	986
35-39	34.8	27.5	24.4	57.7	12.0	991
40-44	36.8	23.8	18.0	56.7	9.9	637
45-49	39.7	20.7	18.4	53.4	8.5	497
Residence						
Urban	12.2	61.6	57.3	71.6	37.4	1,830
Rural	35.7	29.5	16.1	54.1	8.0	6,051
Province						
Nairobi	10.7	61.8	67.3	70.9	42.0	770
Central	25.5	36.8	22.0	66.8	12.7	834
Coast	31.0	36.7	34.5	57.1	19.2	605
Eastern	32.4	38.0	18.6	54.9	11.1	1,386
Nyanza	43.5	30.1	12.2	43.4	6.8	1,690
Rift Valley	28.1	38.5	29.4	60.8	16.6	1,696
Western	26.6	24.1	16.9	67.9	8.4	899
Education						
No education	55.1	1.3	10.2	41.6	0.5	909
Primary incomplete	40.0	24.1	16.2	48.4	6.2	2,893
Primary complete	25.6	39.0	24.1	61.8	12.8	1,777
Secondary+	11.7	65.6	45.0	74.2	32.9	2,302
Total	30.2	36.9	25.7	58.2	14.8	7,881
MALE						
Age						
15-19	12.0	51.6	44.0	75.9	27.0	811
20-24	8.4	65.4	50.5	82.3	36.8	589
25-29	6.4	68.4	48.8	84.4	37.7	463
30-34	10.9	64.0	49.1	82.8	36.3	418
35-39	8.5	65.4	49.3	84.3	39.3	375
40-44	8.9	61.7	40.9	83.0	31.0	291
45-49	15.5	54.3	40.2	78.2	32.3	278
50-54	13.5	56.2	34.3	81.2	26.5	183
Residence						
Urban	3.4	83.9	71.8	83.6	56.6	913
Rural	12.7	52.1	36.4	80.1	24.9	2,494
Province						
Nairobi	3.0	84.5	80.4	82.1	61.9	431
Central	5.3	66.2	48.0	92.1	42.3	341
Coast	16.0	62.0	39.8	75.0	32.5	242
Eastern	14.4	56.6	46.5	77.3	31.6	633
Nyanza	13.9	55.5	40.2	71.6	23.8	641
Rift Valley	11.9	53.7	43.4	80.8	30.1	758
Western	2.0	56.4	21.2	97.0	18.4	361
Education						
No education	38.1	5.2	18.6	56.7	2.5	131
Primary incomplete	17.4	35.7	35.1	74.6	18.5	1,047
Primary complete	9.5	60.0	41.6	80.0	28.3	841
Secondary+	2.6	85.0	59.2	88.7	50.6	1,388
Total	10.2	60.6	45.9	81.0	33.4	3,407

Figure 2.3
Access to Media by Urban-rural Residence and Sex



2.3.5 Women's Employment Status

The KDHS collected information from women regarding their current employment situation. Table 2.13 shows that 48 percent of women are not currently employed, [4] 39 percent are employed all year, 10 percent are employed seasonally, and 3 percent are employed once in a while. Proportionally, there are more women who work seasonally in rural areas (11 percent) than in urban areas (6 percent); whereas, urban women are more likely to report regular full-time employment (42 percent) than rural women (32 percent). Seasonal work decreases with increasing level of education.

Substantial regional variations exist in employment characteristics of women. Over one-half of women are currently employed in Nairobi, Nyanza, and Rift Valley provinces; whereas, less than 40 percent of women in Coast Province are currently employed. Eastern, Nyanza, and Rift Valley provinces have a relatively high percentage (13 percent or more) of their employed female work force engaged in seasonal or occasional jobs.

[4] *Employment* is defined as receiving payment in cash or kind for work.

Table 2.13 Employment

Percent distribution of women by employment status and continuity of employment, according to selected background characteristics, Kenya 1998

Background characteristic	Not currently employed		Currently employed					Total	Number of women
	Did not work in last 12 months	Worked in last 12 months	All year		Season-ally	Occasion-ally	Missing		
			5+ days per week	<5 days per week					
Age									
15-19	75.3	2.3	11.9	2.4	5.4	2.6	0.1	100.0	1,851
20-24	47.1	3.6	30.5	4.5	9.3	4.9	0.1	100.0	1,548
25-29	35.9	3.1	41.5	5.5	10.6	3.4	0.1	100.0	1,371
30-34	30.6	2.8	45.6	5.4	11.3	3.8	0.5	100.0	986
35-39	30.4	1.8	47.3	5.6	11.3	3.3	0.3	100.0	991
40-44	29.7	1.1	50.4	4.9	11.9	1.8	0.2	100.0	637
45-49	34.9	2.4	42.4	4.1	13.4	2.5	0.2	100.0	497
Residence									
Urban	42.0	3.3	42.1	2.5	6.2	3.7	0.1	100.0	1,830
Rural	46.5	2.4	32.1	5.0	10.6	3.3	0.2	100.0	6,051
Province									
Nairobi	40.6	2.6	47.5	2.1	3.1	4.1	0.0	100.0	770
Central	55.6	1.1	30.8	2.4	6.0	4.1	0.0	100.0	834
Coast	62.3	1.5	23.5	2.1	8.7	1.6	0.3	100.0	605
Eastern	48.1	4.6	27.4	6.5	10.2	3.2	0.1	100.0	1,386
Nyanza	35.2	2.2	39.1	4.8	14.3	4.3	0.1	100.0	1,690
Rift Valley	41.2	2.6	38.5	4.1	10.1	2.9	0.4	100.0	1,696
Western	52.2	2.4	28.0	6.5	8.1	2.6	0.2	100.0	899
Education									
No education	42.3	2.0	36.7	5.4	11.6	1.9	0.1	100.0	909
Primary incomplete	49.1	2.1	30.0	4.2	10.9	3.6	0.1	100.0	2,893
Primary complete	44.3	3.0	35.0	5.4	8.2	3.8	0.3	100.0	1,777
Secondary+	43.0	3.3	38.6	3.5	8.1	3.3	0.2	100.0	2,302
Total	45.4	2.6	34.4	4.4	9.6	3.4	0.2	100.0	7,881

2.3.6 Employer and Form of Earnings

Table 2.14 shows the percent distribution of the 4,086 employed women by type of employer and form of earnings, according to background characteristics. About 49 percent of the women are self-employed and earning cash, 14 percent are self-employed and not earning cash, 26 percent are employed by nonrelatives and earning cash, and only 1 percent are employed by nonrelatives and not earning cash. About 10 percent of employed women work for relatives; more than half of these earn cash for their work. Taken together, about 1 in 5 working women is not paid in cash for her work.

Generally, rural-based employed women are more likely than their urban counterparts to be self-employed but are also more likely to not receive cash for their work. Urban women, especially those in Nairobi, tend to be employed by nonrelatives and receive cash for their work. Women in Nyanza are the most likely to be self-employed and also the most likely to receive no cash for their work. A relatively high percentage of women working in Rift Valley province are employed by relatives and most are paid in cash.

The pattern of employer-type and form of earnings shows that women with more education are less likely to be self-employed and to work without cash compensation.

Table 2.14 Employer and form of earnings

Percent distribution of currently employed women by employer and form of earnings, according to selected background characteristics, Kenya 1998

Background characteristic	Self-employed		Employed by a nonrelative		Employed by a relative		Missing	Total	Number of women
	Earns cash	Does not earn cash	Earns cash	Does not earn cash	Earns cash	Does not earn cash			
Age									
15-19	28.2	7.0	35.5	2.2	6.9	20.2	0.1	100.0	413
20-24	44.6	12.8	28.9	0.7	6.5	6.0	0.6	100.0	763
25-29	50.8	13.5	26.5	0.8	5.3	3.1	0.0	100.0	836
30-34	50.7	15.8	27.4	0.8	3.7	1.1	0.5	100.0	653
35-39	55.4	15.7	20.2	0.4	6.4	1.6	0.3	100.0	670
40-44	55.7	17.3	21.0	0.6	4.6	0.8	0.0	100.0	440
45-49	50.2	21.2	24.3	0.1	3.0	1.2	0.0	100.0	311
Residence									
Urban	42.4	3.8	47.9	1.8	2.9	1.3	0.0	100.0	999
Rural	50.6	17.9	19.2	0.5	6.2	5.4	0.3	100.0	3,087
Province									
Nairobi	39.5	4.6	50.8	2.1	2.9	0.0	0.0	100.0	438
Central	53.2	4.0	32.5	0.0	7.7	2.7	0.0	100.0	361
Coast	49.2	7.2	33.0	0.7	4.7	5.1	0.1	100.0	218
Eastern	58.4	8.3	27.3	0.1	3.8	2.0	0.0	100.0	654
Nyanza	43.7	31.2	13.8	0.7	2.3	8.3	0.0	100.0	1,058
Rift Valley	47.7	12.2	23.7	1.1	10.7	3.9	0.7	100.0	949
Western	52.6	9.7	26.9	0.6	4.2	5.1	0.9	100.0	408
Education									
No education	51.9	23.5	16.7	0.6	4.7	2.6	0.0	100.0	506
Primary incomplete	49.5	18.8	18.0	0.8	6.8	5.7	0.3	100.0	1,412
Primary complete	56.6	11.1	19.9	1.0	6.6	4.5	0.4	100.0	935
Secondary+	40.0	8.2	44.2	0.7	3.0	3.6	0.2	100.0	1,232
Total	48.6	14.4	26.2	0.8	5.4	4.4	0.3	100.0	4,086

2.3.7 Occupation

Information on current occupation of employed women is shown in Table 2.15. Forty-eight percent of the women have agricultural occupations and 52 percent have nonagricultural occupations. The majority of women who have agricultural occupations work on their own land while the majority of women who do not work in agriculture have sales and services occupations. Eight percent of employed Kenyan women do domestic work, and 12 percent work in the professions or in technical, clerical, or managerial fields.

As expected, employment in nonagricultural occupations is relatively more common among women who live in urban areas and those who have more formal education. The urban employment profile of women is concentrated into professional, technical, and sales and service work on one hand and domestic help on the other.

Table 2.15 Occupation

Percent distribution of currently employed women by occupation and type of agricultural land worked or type of nonagricultural employment, according to selected background characteristics, Kenya 1998

Background characteristic	Agricultural				Nonagricultural							
	Own land	Family land	Rented land	Other's land	Prof./ tech./ manag.	Sales/ services	Skilled manual	Unskilled manual	Household and domestic	Missing	Total	Number of women
Age												
15-19	9.7	27.9	0.9	3.5	0.6	17.8	4.8	2.6	32.1	0.1	100.0	413
20-24	21.2	15.1	1.7	6.5	12.2	25.2	5.0	1.5	11.5	0.2	100.0	763
25-29	26.3	10.0	2.7	6.0	15.1	26.2	5.4	2.6	5.7	0.2	100.0	836
30-34	27.5	6.8	2.3	7.4	15.7	27.9	5.3	3.4	3.4	0.3	100.0	653
35-39	32.8	9.5	2.9	5.4	12.1	26.4	4.5	1.4	4.7	0.3	100.0	670
40-44	39.4	8.4	3.2	8.2	12.3	23.9	1.7	1.2	1.6	0.1	100.0	440
45-49	41.9	9.8	1.2	5.8	10.1	21.0	2.8	2.1	5.3	0.0	100.0	311
Residence												
Urban	2.6	1.7	0.4	2.8	25.3	37.3	4.3	3.4	22.0	0.2	100.0	999
Rural	35.6	15.3	2.8	7.3	7.7	20.8	4.5	1.7	4.1	0.2	100.0	3,087
Province												
Nairobi	0.8	0.4	0.0	2.5	26.5	33.6	4.2	2.5	29.0	0.4	100.0	438
Central	25.3	7.4	1.4	8.3	13.8	23.1	9.1	6.2	5.4	0.0	100.0	361
Coast	10.4	4.3	0.1	4.9	14.3	40.6	9.2	4.6	11.4	0.2	100.0	218
Eastern	34.1	10.4	3.8	7.2	9.4	20.5	4.3	3.2	7.0	0.0	100.0	654
Nyanza	39.2	12.4	1.6	6.1	6.8	25.6	4.0	0.6	3.7	0.0	100.0	1,058
Rift Valley	28.6	19.9	3.6	6.9	11.1	20.2	3.0	1.3	5.2	0.3	100.0	949
Western	23.8	15.9	2.6	5.8	13.5	24.0	3.2	0.9	9.7	0.6	100.0	408
Education												
No education	43.0	13.1	2.6	10.0	0.7	20.6	1.4	2.6	6.0	0.0	100.0	506
Primary incomplete	33.0	16.6	2.6	8.3	0.9	24.0	2.0	2.2	10.2	0.0	100.0	1,412
Primary complete	27.1	12.4	2.3	5.0	4.2	29.5	7.4	2.1	9.5	0.4	100.0	935
Secondary+	15.2	6.0	1.7	3.0	35.3	23.8	6.4	1.9	6.6	0.2	100.0	1,232
Total	27.5	12.0	2.2	6.2	12.0	24.8	4.5	2.1	8.4	0.2	100.0	4,086

Note: *Professional/technical/managerial* includes professional, technical, clerical and managerial occupations.

2.3.8 Decision on Use of Earnings

Information on who decides how the cash earnings of employed women are used is a measure of women's status. Table 2.16 shows that 55 percent of the 3,278 women who receive cash earnings decide for themselves how to spend their money, 26 percent decide jointly with their husband/partner, and for 16 percent their husband/partner decides how their earnings are used.

Younger, urban women with more education are less likely to report that their husband/partner decides how to spend their earnings, but this pattern is not a strong one. Sixty-three percent of employed women in urban areas make their own decision on how to use the money they earn, compared with 52 percent of employed women in rural areas. Among the provinces, women in Rift Valley are most likely to report that their husband/partner makes the spending decisions.

Table 2.16 Decision on use of earnings

Percent distribution of women receiving cash earnings by person who decides on use of earnings, according to selected background characteristics, Kenya 1998

Background characteristic	Person who decides how earnings are used					Missing	Total	Number of women
	Self only	Husband/ partner	Jointly with husband/ partner	Someone else	Jointly with someone else			
Age								
15-19	60.1	11.0	8.0	13.9	7.0	0.0	100.0	291
20-24	58.5	15.7	21.7	2.2	1.9	0.0	100.0	612
25-29	51.6	15.4	31.7	0.4	0.7	0.2	100.0	690
30-34	53.2	16.5	29.5	0.0	0.3	0.4	100.0	536
35-39	54.1	19.2	25.5	0.2	0.3	0.7	100.0	550
40-44	53.6	15.6	30.4	0.3	0.1	0.0	100.0	358
45-49	54.7	14.6	30.2	0.0	0.2	0.3	100.0	241
Residence								
Urban	62.9	11.9	20.5	2.6	1.8	0.2	100.0	931
Rural	51.5	17.4	28.3	1.5	1.0	0.3	100.0	2,347
Province								
Nairobi	64.4	11.7	17.1	3.2	3.2	0.5	100.0	408
Central	47.2	12.9	38.0	0.6	0.7	0.5	100.0	337
Coast	65.8	14.8	13.6	3.2	2.4	0.2	100.0	189
Eastern	47.9	14.3	34.0	2.2	1.6	0.0	100.0	586
Nyanza	61.5	13.5	23.8	0.9	0.2	0.0	100.0	633
Rift Valley	49.1	22.7	26.0	1.3	0.7	0.3	100.0	783
Western	56.8	15.6	22.8	2.6	1.6	0.7	100.0	342
Education								
No education	54.3	21.8	21.8	0.8	1.2	0.1	100.0	371
Primary incomplete	55.4	16.0	22.9	3.7	1.6	0.3	100.0	1,052
Primary complete	55.9	16.7	24.9	1.5	0.8	0.2	100.0	777
Secondary+	53.5	13.1	31.4	0.6	1.2	0.3	100.0	1,078
Marital status								
Currently married	89.6	0.5	0.0	5.8	4.0	0.0	100.0	993
Not married	39.6	22.5	37.4	0.0	0.1	0.4	100.0	2,284
Total	54.8	15.9	26.1	1.8	1.3	0.3	100.0	3,278

2.3.9 Child Care While Working

Table 2.17 gives the percent distribution of employed women, by whether they have a child under six years of age, and if they do, who takes care of the child when they are working. Slightly over half (52 percent) of employed women have a child under age six.

Of employed women who have a child under six, 42 percent look after their own child(ren) while at work, and 17 percent have relatives (other than husband) to look after their children. In 15 percent of cases, another child (largely female) minds the young child. In urban areas (especially Nairobi) and among women with more education, a woman's young child is more likely to be taken care of by a hired worker and less likely by some other child (male or female). For example, use of other children to take care of a woman's children under six during working hours increases from 7 percent for employed women with secondary education to 11 percent for women with completed primary education to 19 percent for women with incomplete primary education to 29 percent for women with no education.

Table 2.17 Child care while working

Percent distribution of currently employed women by whether they have a child under six years of age at home, and the percent distribution of employed mothers who have a child under six by person who cares for child while mother is at work, according to selected background characteristics, Kenya 1998

Background characteristic	No child under six at home	One or more children under six at home	Child's caretaker while mother is at work												Number of employed women
			Re-spond-ent	Husband/ partner	Other relative	Neigh-bor/ Friend	Hired help	Child is in school	Other female child	Other male child	Not worked since birth[1]	Other	Missing	Total	
Residence															
Urban	63.2	36.8	33.0	1.1	11.3	4.7	28.8	7.9	5.5	1.0	1.9	0.4	4.3	100.0	999
Rural	42.8	57.2	44.0	1.7	18.6	3.8	5.6	3.6	12.0	4.3	2.2	0.9	3.2	100.0	3,087
Province															
Nairobi	68.5	31.5	29.3	1.3	8.0	6.7	42.7	2.7	4.0	1.3	1.3	0.0	2.7	100.0	438
Central	48.7	51.3	48.6	1.8	18.5	0.3	7.4	6.5	4.7	0.5	4.3	1.0	6.4	100.0	361
Coast	55.9	44.1	41.5	3.4	21.1	3.5	12.2	4.0	10.1	2.2	1.6	0.0	0.5	100.0	218
Eastern	51.0	49.0	32.4	2.1	25.4	1.8	11.0	5.8	11.3	3.2	3.1	0.6	3.3	100.0	654
Nyanza	44.7	55.3	41.2	2.2	15.7	6.8	4.6	3.6	13.0	6.8	0.8	1.4	3.8	100.0	1,058
Rift Valley	38.4	61.6	51.2	0.9	13.1	3.2	6.8	4.9	12.2	2.3	1.9	0.7	2.8	100.0	949
Western	45.0	55.0	37.7	0.8	24.3	3.3	8.5	1.8	11.4	4.8	3.8	0.3	3.3	100.0	408
Education															
No education	57.5	42.5	50.9	1.9	9.8	4.3	1.0	0.1	19.6	9.3	0.2	0.3	2.5	100.0	506
Primary incomplete	43.6	56.4	47.7	1.7	18.3	4.4	1.4	2.3	13.9	5.4	1.5	0.6	2.9	100.0	1,412
Primary complete	46.1	53.9	45.6	2.3	20.5	3.0	4.2	4.6	8.7	2.4	3.0	1.1	4.5	100.0	935
Secondary+	49.7	50.3	29.2	0.9	16.2	4.1	27.5	8.2	5.9	0.7	2.9	0.9	3.5	100.0	1,232
Work status															
For family member	48.8	51.2	57.3	0.0	16.1	1.9	2.8	4.3	12.7	2.6	0.3	1.2	0.8	100.0	399
For someone else	60.1	39.9	13.4	1.6	23.2	5.7	28.0	8.7	11.3	2.4	2.4	0.3	3.0	100.0	1,105
Self-employed	42.3	57.7	48.7	1.9	15.8	3.8	5.1	3.0	10.5	4.3	2.3	0.9	3.8	100.0	2,574
Occupation															
Agricultural	40.5	59.5	53.1	1.3	15.1	3.4	2.4	3.5	12.8	3.9	1.3	0.9	2.2	100.0	1,959
Nonagricultural	54.5	45.5	29.0	2.0	20.1	4.7	18.4	5.3	8.7	3.5	3.2	0.7	4.6	100.0	2,120
Employment status															
All year, full week	49.7	50.3	42.9	1.8	14.5	4.0	12.0	5.2	9.5	3.7	2.0	0.8	3.6	100.0	2,711
All year, part week	39.9	60.1	37.3	0.9	23.7	4.4	7.2	2.3	14.6	4.0	2.4	0.3	2.8	100.0	349
Seasonal	42.5	57.5	42.8	1.3	21.8	3.9	5.1	3.0	12.6	3.3	2.4	0.7	3.1	100.0	754
Occasional	52.5	47.5	41.0	2.7	22.4	3.0	3.2	2.6	14.3	4.3	2.0	2.0	2.5	100.0	266
Total	47.8	52.2	42.1	1.6	17.3	4.0	9.6	4.3	10.9	3.7	2.1	0.8	3.4	100.0	4,086

Note: Total includes two women for whom information on employment status was not available.
[1] Respondent is currently employed but has not worked since last birth.

CHAPTER 3

FERTILITY LEVELS AND DIFFERENTIALS

John Kekevole

3.1 Introduction

The assessment of Kenya's fertility dynamics has been an important objective of the national demographic and health surveys since they were initiated in the late 1970s. The focus on fertility is due in part to its important role in determining Kenya's population growth rate.

This chapter presents the KDHS findings on fertility levels, trends and differentials, based on analysis of the complete birth histories of women age 15-49. This information was collected by first asking the women to indicate the number of their own children who were living with them, the number who were staying elsewhere, and the number who had died. As in previous Demographic and Health Surveys, the women were then asked to provide a detailed history of each live birth. The information collected on each live birth included name, sex, date of birth, survival status (whether alive or dead), current age if alive, and age at death if dead.

3.2 Current Fertility

The most widely used measures of current fertility are the total fertility rate (TFR) and its component age-specific fertility rates (ASFR). The TFR is defined as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children at the currently observed age-specific rates.[1]

The results in Table 3.1 indicate that the total fertility rate for the three years preceding the survey (early 1995 to early 1998) is 4.7 children per woman. Peak childbearing occurs during ages 20-24 and 25-29, falling sharply after age 34. The total fertility rate is higher in rural areas (5.2 children per woman) than in urban areas (3.1 children per woman). This pattern of higher rural fertility is evident at every age.

Table 3.1 Current fertility

Age-specific and cumulative fertility rates and the crude birth rate for the three years preceding the survey, by urban-rural residence, Kenya 1998

	Residence		
Age group	Urban	Rural	Total
15-19	90	119	111
20-24	190	271	248
25-29	165	237	218
30-34	115	208	188
35-39	48	122	109
40-44	6	59	51
45-49	10	17	16
TFR women 15-49	3.12	5.16	4.70
TFR women 15-44	3.07	5.08	4.62
General fertility rate	125	179	166
Crude birth rate	33.6	34.7	34.6

Note: Rates are for the period 1-36 months preceding the survey. Rates for age group 45-49 may be slightly biased due to truncation. Total fertility rate expressed per woman. General fertility rate (births divided by number of women 15-49), expressed per 1,000 women. Crude birth rate expressed per 1,000 population.

[1] Numerators for the age-specific fertility rates are calculated by summing the number of live births that occurred in the 1-36 months preceding the survey (determined by the date of interview and birth date of the child), and classifying them by age (in five-year groups) of the mother at the time of birth (determined by the mother's birth date). The denominators of the rates are the number of woman-years lived in each of the specified five-year age groups during the 1-36 months preceding the survey.

Table 3.2 and Figure 3.1 show differentials in fertility by urban-rural residence, province, and level of education. Educational attainment of a woman is closely linked to fertility; the TFR for women with no formal education is 5.8 children per woman, versus 5.2 for women with primary incomplete education, 4.8 for women with a completed primary education only, and 3.5 for women with at least some secondary schooling. Fertility varies widely across provinces, ranging from a low of 2.6 children per woman in Nairobi to over 5 children per woman in Western, Rift Valley and Coast provinces.

Table 3.2 also allows a crude assessment of differential trends in fertility over time among population subgroups. The mean number of children ever born to women age 40-49 is a measure of past completed fertility. A comparison of current fertility with past fertility (TFR) shows that there has been a substantial decline in urban and rural areas, in all provinces, and in the four education categories. Overall, comparison of past and present fertility indicators suggests a recent decline of about two children per woman, from 6.6 to 4.7 children per woman.

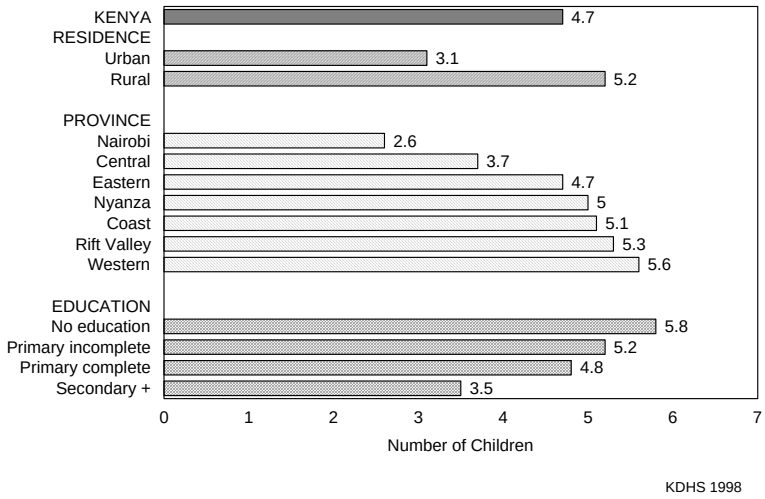
Table 3.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage currently pregnant and mean number of children ever born to women age 40-49, by selected background characteristics, Kenya 1998

Background characteristic	Total fertility rate[1]	Percentage currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	3.12	5.56	4.59
Rural	5.16	7.99	6.99
Province			
Nairobi	(2.61)	5.01	4.14
Central	(3.67)	5.32	5.93
Coast	5.05	8.95	6.28
Eastern	4.68	7.70	6.56
Nyanza	4.98	7.27	7.40
Rift Valley	5.31	8.24	7.03
Western	(5.63)	8.75	6.97
Education			
No education	(5.80)	5.76	7.11
Primary incomplete	5.24	8.80	7.21
Primary complete	4.79	8.10	6.31
Secondary+	3.53	5.83	4.93
Total	4.70	7.43	6.62

Note: Figures in parentheses are based on 400-999 women.
[1] Women age 15-49 years

Figure 3.1
Total Fertility Rate by Background Characteristics



At the time of the survey, 7 percent of interviewed women reported that they were pregnant. This is an underestimate of the true percentage pregnant because many women who are early in their pregnancy will not yet know that they are pregnant and some women may not want to declare that they are pregnant. Still, differentials in pregnancy status parallel differentials in current fertility.

3.3 Fertility Trends

Trends in current fertility can be examined by observing a time series of estimates produced from demographic surveys fielded over the last two decades, beginning with the 1977/78 Kenya Fertility Survey (KFS). The estimates shown in Table 3.3 describe the ongoing Kenyan fertility transition. The TFR has declined dramatically from 8.1 children per woman in the mid-1970s to the current level of 4.7 children per woman; a decline of 42 percent over a 20-year period. Based on this cursory analysis, the steepest drop in the TFR occurred during the late 1980s and early 1990s, and has slowed somewhat during the mid-1990s. Figure 3.2 shows that fertility has fallen recently at every age except amongst the youngest women, age 15-19.

Table 3.3 Trends in fertility

Age-specific fertility rates (per 1,000 women) and total fertility rates for selected surveys, 1997/78/KFS, 1989 KDHS, 1993 KDHS, and 1998 KDHS

Age group	1977/78 KFS 1975-78[a]	1989 KDHS[b] 1984-89	1993 KDHS[c] 1990-93	1998 KDHS 1995-98
15-19	168	152	110	111
20-24	342	314	257	248
25-29	357	303	241	218
30-34	293	255	197	188
35-39	239	183	154	109
40-44	145	99	70	51
45-49	59	35	50	16
TFR women age 15-49	8.1	6.7	5.4	4.7

Note: Rates refer to the three-year period preceding the survey except for the 1989 KDHS (five-year period before survey).
[a] CBS, 1980
[b] NCPD, 1989
[c] NCPD, 1994

Figure 3.2
Age-Specific Fertility Rates for Women Age 15-49
1989 KDHS, 1993 KDHS, and 1998 KDHS

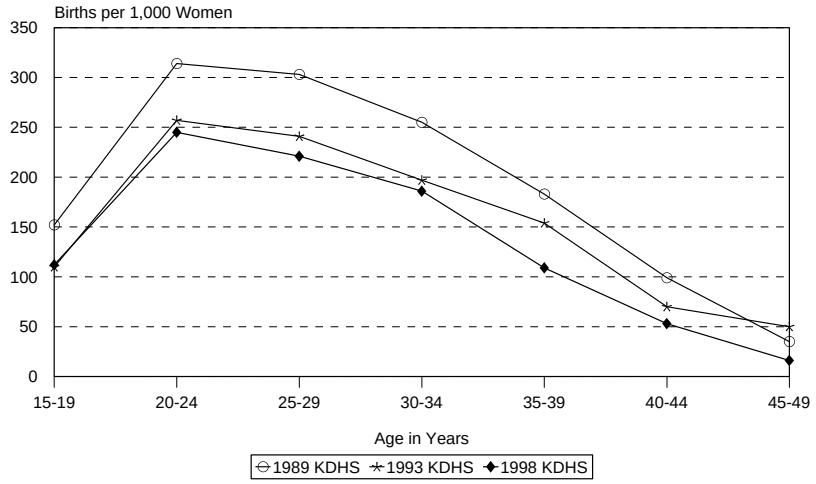


Table 3.4 gives an idea of trends in fertility occurring at the provincial level since the 1993 KDHS. Some provinces (Nairobi and Eastern) continue to experience substantial declines in fertility (20 percent or more), while others have experienced much more modest declines. Coast, Rift Valley, and Central provinces are examples where fertility has declined by no more than 7 percent since the 1993 KDHS. Coast Province, once characterised by relatively low fertility (probably due in large part to STD-related subfertility), now has one of the highest levels of fertility in the country.

Table 3.4 Trends in fertility by province

Total fertility rates by province, and percent decline, 1993 KDHS and 1998 KDHS

Province	1993 KDHS (1990-93)	1998 KDHS (1995-98)	Percent decline
Nairobi	3.4	2.6	24
Central	3.9	3.7	5
Coast	5.3	5.1	4
Eastern	5.9	4.7	20
Nyanza	5.8	5.0	14
Rift Valley	5.7	5.3	7
Western	6.4	5.6	13
Total	5.4	4.7	13

Note: Rates refer to the 3-year period prior to the survey.

Tables 3.5 and 3.6 provide further evidence of a recent fertility decline in Kenya. Table 3.5 shows the age-specific fertility rates (ASFR) for five-year periods preceding the survey. Within each age group, substantial and sustained declines in ASFRs are observed from 10-14 years before the survey (circa 1983-88) to 0-4 years before the survey (circa 1993-98).[2]

Fertility rates for ever-married women by duration since first marriage for five-year periods preceding the survey are shown in Table 3.6. This table is analogous to Table 3.5, but is confined to ever-married women and replaces age with duration since first marriage. The data confirm a sharp decline in fertility, and indicate that the drop has occurred within marriage and at all marital durations.

Table 3.5 Age-specific fertility rates

Age-specific fertility rates for 5-year periods preceding the survey, Kenya 1998

Age group	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
15-19	111	131	165	177
20-24	246	271	317	318
25-29	222	266	325	327
30-34	185	217	287	[263]
35-39	107	163	[206]	-
40-44	54	[98]	-	-
45-49	[16]	-	-	-

Note: Age-specific fertility rates per 1,000 women. Estimates enclosed in brackets are truncated.

Table 3.6 Fertility by marital duration

Fertility rates for ever-married women by number of years since first marriage, for 5-year periods preceding the survey, Kenya 1998

Years since first marriage	Number of years preceding the survey			
	0-4	5-9	10-14	15-19
0-4	336	364	399	377
5-9	236	290	339	351
10-14	200	241	304	314
15-19	136	204	265	[229]
20-24	95	133	[255]	[218]
25-29	34	[84]	[150]	-

Note: Fertility rates per 1,000 women. Estimates enclosed in brackets are truncated.

[2] The rates for the older age groups (shown in brackets in Table 3.5) become progressively more truncated as one goes further back in time. For example, rates cannot be calculated for women age 45-49 years for the period 5-9 years before the survey, because these women would have been over age 50 years at the time of the survey and were not interviewed.

3.4 Children Ever Born and Living

The distribution of women by the number of children ever born is presented in Table 3.7 for all women and for currently married women. The table also shows the mean number of children ever born (CEB) to women in each five-year age group. On average, women in their late twenties have given birth to almost 3 children, women in their late thirties have had over 5 children, and women currently at the end of their childbearing years have had nearly 7 children. Of the 6.9 children ever born to women age 45-49, only 5.8 will have survived.

The results for younger women who are currently married differ from those for the sample as a whole because of the large percentage of young unmarried women with minimal fertility. Differences at older ages generally reflect the impact of marital dissolution (either divorce or widowhood). Only 2-3 percent of married women age 45-49 have not had a child. Under the proposition that desire for at least one child is universal in Kenya, this 2-3 percent is a rough measure of primary infertility or the inability to bear children.

Table 3.7 Children ever born and living

Percent distribution of all women and of currently married women by number of children ever born and mean number of children ever born (CEB) and mean number of living children, according to five-year age groups, Kenya 1998

Age group	Number of children ever born											Total	Number of women	Mean number of CEB	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	82.7	14.1	3.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,851	0.21	0.18
20-24	30.8	31.7	22.4	11.0	2.7	1.3	0.2	0.0	0.0	0.0	0.0	100.0	1,548	1.28	1.15
25-29	7.4	16.9	26.2	19.8	15.2	9.1	3.5	1.6	0.2	0.1	0.0	100.0	1,371	2.70	2.43
30-34	2.7	6.6	15.9	17.8	17.2	15.1	12.8	7.4	3.0	1.1	0.4	100.0	986	4.03	3.59
35-39	2.4	2.9	7.0	10.1	17.3	12.9	16.3	12.2	9.1	6.0	3.8	100.0	991	5.32	4.83
40-44	1.7	2.1	3.5	8.9	10.8	9.5	13.8	14.8	11.2	11.0	12.7	100.0	637	6.37	5.59
45-49	2.6	2.2	4.1	4.7	7.1	8.6	13.3	10.4	14.3	12.5	20.1	100.0	497	6.94	5.81
Total	27.7	14.0	13.1	10.2	8.8	6.7	6.3	4.6	3.4	2.6	2.8	100.0	7,881	2.89	2.57
CURRENTLY MARRIED WOMEN															
15-19	34.9	47.9	15.9	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	285	0.84	0.73
20-24	12.3	33.1	31.8	16.5	4.3	1.7	0.3	0.0	0.0	0.0	0.0	100.0	948	1.74	1.57
25-29	3.4	12.0	26.7	22.4	17.7	10.9	4.4	2.0	0.2	0.1	0.0	100.0	1,069	3.02	2.72
30-34	1.5	4.5	14.7	17.6	18.0	16.2	13.7	8.7	3.4	1.2	0.5	100.0	822	4.27	3.81
35-39	1.7	2.2	6.2	10.0	16.8	12.9	17.5	12.1	9.8	6.6	4.2	100.0	832	5.49	5.03
40-44	1.5	1.3	1.8	7.9	12.0	8.7	14.2	14.7	11.9	12.3	13.7	100.0	511	6.60	5.82
45-49	2.7	1.6	3.6	4.6	4.9	7.1	13.8	10.7	14.6	12.8	23.6	100.0	365	7.23	6.11
Total	6.1	13.4	17.1	14.1	12.4	9.2	8.9	6.4	4.7	3.6	4.0	100.0	4,834	3.97	3.54

3.5 Birth Intervals

Information on the length of birth intervals provides insight into birth spacing patterns. Research has shown that children born too soon after the birth of a previous birth are at increased risk of poor health, particularly when the interval is less than 24 months. Maternal health is also threatened by rapid childbearing. Table 3.8 shows the distribution of births in the five years before the survey by the number of months (interval) since the previous birth, according to various demographic and socioeconomic variables.

Table 3.8 Birth intervals

Percent distribution of births in the five years preceding the survey by number of months since previous birth and median length of birth interval, according to selected demographic and socioeconomic characteristics, Kenya 1998

Characteristic	Number of months since previous birth					Total	Number of births	Median number of months since previous birth
	7-17	18-23	24-35	36-47	48+			
Age of mother								
15-19	25.7	26.3	28.8	15.7	3.6	100.0	61	23.9
20-29	10.0	17.6	36.7	18.4	17.3	100.0	2,098	30.6
30-39	7.1	11.3	33.6	17.4	30.5	100.0	1,666	35.2
40 +	4.6	7.4	26.3	22.3	39.4	100.0	336	39.8
Birth order								
2-3	8.6	16.7	32.8	17.7	24.2	100.0	1,880	32.5
4-6	9.2	12.6	36.2	18.1	24.0	100.0	1,499	33.1
7 +	7.7	12.2	35.7	19.9	24.5	100.0	782	33.3
Sex of prior birth								
Male	8.1	14.5	34.9	18.2	24.3	100.0	2,116	32.9
Female	9.2	14.3	34.2	18.3	24.1	100.0	2,045	32.9
Survival of prior birth								
Dead	26.8	19.6	25.0	12.8	15.7	100.0	455	25.0
Living	6.4	13.7	35.7	18.9	25.2	100.0	3,706	33.7
Residence								
Urban	11.2	13.2	28.4	15.5	31.7	100.0	639	34.8
Rural	8.2	14.6	35.7	18.8	22.8	100.0	3,522	32.7
Province								
Nairobi	10.6	15.9	23.9	15.0	34.5	100.0	208	35.9
Central	6.4	12.0	24.1	20.8	36.8	100.0	338	38.8
Coast	8.7	15.1	26.9	19.8	29.5	100.0	317	35.8
Eastern	6.7	12.0	36.4	19.4	25.6	100.0	674	34.2
Nyanza	9.1	13.6	37.7	18.0	21.6	100.0	936	32.0
Rift Valley	9.4	15.2	35.4	17.5	22.5	100.0	1,128	31.7
Western	9.5	17.3	40.0	17.7	15.5	100.0	559	30.4
Education								
No education	8.7	12.7	34.0	18.4	26.2	100.0	574	34.2
Primary incomplete	8.8	15.0	37.3	19.3	19.5	100.0	1,656	32.0
Primary complete	7.3	14.7	32.7	18.7	26.7	100.0	997	34.0
Secondary+	9.8	13.9	31.8	15.9	28.6	100.0	933	33.5
Total	8.7	14.4	34.5	18.3	24.2	100.0	4,161	32.9

Note: First-order births are excluded. The interval for multiple births is the number of months since the end of the preceding pregnancy that ended in a live birth.

Nearly one in four children (23 percent) is born after a "too short" interval (less than 24 months). The median interval length is shorter among births to young women and especially when the previous child has died. The median birth interval length is 33 months for all births, but only 24 months if the mother is less than 20 years old, and 25 months if the previous child is dead.

Birth intervals are longer in urban areas (35 months) than rural areas (33 months). This could be related to the higher rates of contraceptive use (for spacing) among urban women, especially those living in Nairobi. Birth interval length varies substantially amongst the provinces from 30 months in Western Province to 39 months in Central Province.

3.6 Age at First Birth

One of the factors that typically drives transition from high to low fertility is a rising age at first birth. The KDHS data show that there has been a trend over the last two decades toward delaying the first birth (Table 3.9). In the youngest cohort for which a median age at first birth can be calculated (age 25-29), first birth occurs at a median age of 19.6 years.[3] This is only very slightly higher than the median age at first birth for the same age cohort observed in the 1993 KDHS (19.3 years), suggesting a rather modest rise in age at first birth in the few years before the 1998 survey. However, a more significant longer-term trend is suggested by the fall in the percentage of first births occurring before age 18; from 39 percent in the cohort currently age 40-44 to 32 percent in the age group 25-29 to 23 percent among women currently age 20-24. This slow but steady decline indicates success in delaying childbearing and thereby allowing girls and women the chance to participate more fully in social and economic activities of the country.

Table 3.9 Age at first birth

Percent distribution of women 15-49 by age at first birth, according to current age, Kenya 1998

Current age	Women with no births	Age at first birth						Total	Number of women	Median age at first birth
		<15	15-17	18-19	20-21	22-24	25+			
15-19	82.7	1.4	10.1	5.8	NA	NA	NA	100.0	1,851	a
20-24	30.8	4.1	19.2	23.0	17.9	5.1	NA	100.0	1,548	a
25-29	7.4	7.4	24.5	21.7	18.0	15.4	5.6	100.0	1,371	19.6
30-34	2.7	7.0	25.5	24.0	16.4	16.7	7.7	100.0	986	19.5
35-39	2.4	7.6	26.5	24.0	18.8	12.9	7.8	100.0	991	19.3
40-44	1.7	13.1	25.4	24.9	14.8	13.0	7.2	100.0	637	18.9
45-49	2.6	10.2	22.5	18.2	19.7	17.2	9.5	100.0	497	19.9

NA = Not applicable

[a] The medians for cohorts 15-19 and 20-24 could not be determined because half of the women had not had a birth before reaching the lowest age of the age group.

[3] For the age group 20-24, less than 50 percent of women had had a birth by age 20 precluding a precise estimate of the median age at first birth. However, this does mean that the median age at first birth for women 20-24 is no less than 20.0 years. This additional piece of evidence supports the notion that age at first birth is rising.

Table 3.10 summarises the median age at first birth for different age cohorts across urban-rural and educational subgroups. For all age groups of women, the median age at first birth is higher for urban areas than for rural areas. Similarly, age at first birth increases markedly with increasing level of education; for example, within the cohort age 25-29, women without any education have their first birth around age 17, five years earlier than their counterparts with a secondary or higher education. Childbearing begins earliest in Nyanza Province (18 years) and latest in Nairobi Province (22 years).

Table 3.10 Median age at first birth by background characteristics

Median age at first birth among women 25-49, by current age and selected background characteristics, Kenya 1998

Background characteristic	Current age					Women age 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	21.1	21.2	19.9	20.1	20.7	20.7
Rural	19.2	19.1	19.3	18.7	19.6	19.1
Province						
Nairobi	22.3	22.0	20.0	20.5	22.0	21.9
Central	20.4	20.1	20.1	19.0	20.9	20.1
Coast	20.2	20.0	19.4	18.3	20.3	19.9
Eastern	20.0	19.4	19.4	19.3	20.0	19.6
Nyanza	18.3	17.9	18.6	18.0	18.3	18.2
Rift Valley	18.7	19.4	19.3	18.9	21.1	19.2
Western	20.1	20.2	20.0	18.9	19.3	19.8
Education						
No education	17.1	17.8	18.4	18.3	18.7	18.2
Primary incomplete	17.9	18.0	18.2	18.2	19.5	18.1
Primary complete	19.8	19.3	19.4	18.7	20.7	19.5
Secondary+	22.0	21.5	20.9	21.7	22.4	21.6
Total	19.6	19.5	19.3	18.9	19.9	19.4

Note: The medians for cohorts 15-19 and 20-24 could not be determined because half of the women had not had a birth before reaching the lowest age of the age group.

3.7 Adolescent Fertility

The issue of adolescent fertility is an important one on both health and social grounds. Children born to very young mothers are at increased risk of illness and death. Adolescent mothers are more likely to experience adverse pregnancy outcomes and are more constrained in their ability to pursue educational opportunities than their counterparts who delay childbearing. Adolescent mothers may also suffer irreparable damage to their self-esteem due to the inherent incompatibility between the roles they are expected to assume as mothers and their physical and emotional immaturity (McCauley and Salter, 1995; Zabin and Kiragu 1998).

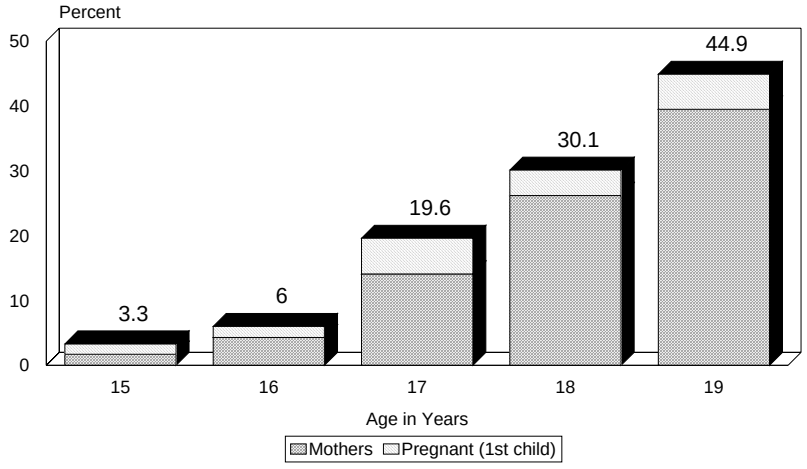
Table 3.11 shows the percentage of adolescent women (age 15-19) who were mothers or were pregnant with their first child at the time of the survey, according to selected background characteristics. The proportion of teenagers who are already mothers is 17 percent, and another 4 percent are currently pregnant. The proportion of adolescents already on the family formation pathway rises rapidly with age from 3 percent at age 15 years to 45 percent at age 19 years (Figure 3.3). As expected, rural adolescents and those with less education tend to start childbearing earlier. Adolescent childbearing is especially prevalent in the Coast and Rift Valley provinces, where 28 percent of women age 15-19 are either pregnant or already mothers.

Table 3.11 Adolescent pregnancy and motherhood

Percentage of women 15-19 who are mothers or pregnant with their first child, by selected background characteristics, Kenya 1998

Background characteristic	Percentage who are: Mothers	Pregnant with first child	Percentage who have begun child-bearing	Number of women
Age				
15	1.7	1.6	3.3	421
16	4.3	1.7	6.0	335
17	14.1	5.5	19.6	299
18	26.2	3.9	30.1	430
19	39.5	5.4	44.9	365
Residence				
Urban	14.9	2.7	17.5	408
Rural	18.0	3.8	21.8	1,443
Province				
Nairobi	9.2	1.0	10.2	180
Central	13.3	1.8	15.1	144
Coast	25.2	2.6	27.8	132
Eastern	12.4	3.3	15.7	347
Nyanza	19.3	3.7	23.0	460
Rift Valley	23.1	4.7	27.8	357
Western	16.4	5.3	21.6	232
Education				
No education	40.6	0.7	41.4	54
Primary incomplete	17.2	4.5	21.7	1,024
Primary complete	25.7	4.2	29.9	343
Secondary+	8.1	1.1	9.2	431
Total	17.3	3.5	20.9	1,851

Figure 3.3
Percentage of Adolescent Women Who Are Mothers or Pregnant with Their First Child, by Age



KDHS 1998

CHAPTER 4

FERTILITY REGULATION

Karugu Ngatia, Zipora Gatiti, and Samuel Ogola

This chapter presents the 1998 KDHS results regarding various aspects of contraceptive knowledge, attitudes, and behaviour. While the focus is on women, some results from the male survey are also presented, since men play an important role in the realisation of reproductive goals. To get an indication of interspousal communication and (perceived) agreement in knowledge and attitudes of couples regarding family planning, the responses of men were, where possible, compared with responses of their spouses in the same household.

4.1 Knowledge of Contraceptive Methods

An important objective of the 1998 KDHS was to develop a profile of Kenyan men and women regarding knowledge of family planning methods. Individuals who are adequately informed about their options regarding methods of contraception are better able to develop a rational approach to planning their families. Information on knowledge of contraception was collected by asking the respondent to name ways or methods by which a couple could delay or avoid pregnancy. If the respondent failed to mention a particular method spontaneously, the interviewer described the method and asked if the respondent recognised it. As married women have the greatest level of exposure to the risk of pregnancy, the following presentation places emphasis on this subgroup.

Table 4.1 shows the percent distribution of all women and men, currently married women and men, and sexually active, unmarried women and men by knowledge of contraceptive methods. Knowledge of family planning methods is nearly universal, with 96 percent of all women age 15-49 and 98 percent of all men age 15-54 knowing at least one modern method of family planning.

Amongst the married population, men's knowledge of contraceptive methods is slightly more

Table 4.1 Knowledge of contraceptive methods

Percentage of all women and men, of currently married women and men, and of sexually active and inactive unmarried women and men who know specific contraceptive methods, Kenya 1998

	Women				Men			
Contraceptive method	All women	Currently married women	Sexually active unmarried women	No sexual experience	All men	Currently married men	Sexually active unmarried men	No sexual experience
Any method	96.8	98.3	99.3	88.7	98.0	99.2	99.6	88.8
Any modern method	96.3	97.7	99.1	88.3	97.7	98.6	99.6	88.8
Pill	92.6	96.5	95.1	75.8	89.9	95.6	91.1	65.0
IUD	72.0	79.9	77.2	37.8	65.4	76.3	60.6	29.8
Injectables	89.7	95.1	93.4	66.2	84.4	92.2	83.1	54.7
Diaphragm/Foam/Jelly	33.6	36.9	40.0	19.2	36.3	38.2	41.0	14.3
Condom	91.5	93.4	97.9	81.0	96.9	97.6	99.3	87.6
Female sterilisation	81.8	88.4	81.7	58.0	79.5	88.1	76.6	50.7
Male sterilisation	47.7	53.0	51.0	27.8	60.3	68.9	55.7	27.6
Implants	48.7	56.1	57.2	18.9	27.0	33.7	25.3	6.0
Any traditional method	72.6	78.1	78.2	49.5	85.1	91.5	85.8	55.9
Periodic abstinence	68.8	73.7	76.1	47.0	82.0	88.3	83.7	51.5
Withdrawal	36.9	40.9	43.4	18.3	60.5	67.8	61.1	26.1
Other	8.1	9.9	6.5	3.0	6.3	9.1	4.4	0.6
Number of respondents	7,881	4,834	434	1,242	3,407	1,791	537	436
Mean number of methods	6.7	7.2	7.2	4.5	6.9	7.6	6.8	4.1

extensive, on average, than women's. But among the unmarried, both those sexually active and those sexually inexperienced, women tend to be more informed about family planning. For instance, married women and men know an average of 7.2 and 7.6 methods, respectively, compared with 7.2 and 6.8 methods for unmarried sexually active women and men. The gap in knowledge between married and unmarried men, while not large, is most apparent for long-term and permanent methods. That this gap does not exist for women suggests that, while men tend to wait until marriage to become familiar with some methods of family planning (except for condoms), women begin their knowledge-seeking earlier—often before marriage. If true, this indicates young men in particular could benefit from programmes to improve knowledge of contraceptive methods.

Among both currently married men and women, the pill, injectables, and condoms are the best-known methods of family planning. Injectables and the IUD tend to be better known among female respondents; whereas, male respondents are more likely to know about male sterilisation, withdrawal, and periodic abstinence than female respondents. Due to the recent introduction of contraceptive implants to the family planning programme in Kenya, and thus their more limited availability, implants are not well known, and were cited by only 56 percent of currently married women and 34 percent of currently married men. In 1993, just 14 percent of currently married women knew of implants. The vaginal methods (diaphragms, foams, jellies) are not well known by either male and female respondents. Other traditional methods of family planning (e.g., herbs) were mentioned by 10 percent of married women and 9 percent of married men.

Knowledge of modern methods of contraception has increased since the 1993 KDHS. Knowledge of the pill was already high in 1993 (92 percent among currently married women) but rose further to 97 percent. Among other modern methods, significant increases in knowledge occurred for injectables (88 to 95 percent), condoms (83 to 93 percent), male sterilisation (41 to 53 percent), IUD (73 to 80 percent), and female sterilisation (81 to 88 percent).

Table 4.2 shows the distribution of couples in the KDHS sample of households by contraceptive knowledge. For most methods, both husband and wife tend to report knowledge of family planning. The exceptions occur for the least-known methods (i.e., vaginals, implants, periodic abstinence, and "other traditional methods"); in these cases, usually only the husband or only the wife knows of the method. When

Table 4.2 Couples' knowledge of contraceptive methods

Percent distribution of couples by knowledge of specific contraceptive methods, Kenya 1998

Background characteristic	Both know method	Husband knows method, not wife	Wife knows method, not husband	Neither know	Total	Number of couples
Any method	97.3	1.9	0.8	0.1	100.0	1,335
Any modern method	96.3	2.1	0.7	1.0	100.0	1,335
Pill	92.8	2.5	2.6	2.0	100.0	1,335
IUD	64.8	11.2	13.7	10.2	100.0	1,335
Injectables	87.7	3.9	6.1	2.3	100.0	1,335
Diaphragm/Foam/Jelly	17.4	21.8	18.3	42.5	100.0	1,335
Condom	92.3	4.8	1.4	1.4	100.0	1,335
Female sterilisation	78.1	9.5	9.3	3.1	100.0	1,335
Male sterilisation	40.3	28.3	13.0	18.4	100.0	1,335
Implants	23.3	10.2	32.8	33.7	100.0	1,335
Any traditional method	72.1	19.6	6.4	2.0	100.0	1,335
Periodic abstinence	66.6	22.5	7.7	3.3	100.0	1,335
Withdrawal	30.2	39.0	10.2	20.6	100.0	1,335
Other	1.2	7.7	9.1	82.1	100.0	1,335

only the husband *or* the wife knows the method, usually it is the husband who knows the method. The exception is implants, which are more likely to be known by women than men.

4.2 Ever Use of Contraception

All women interviewed in the KDHS who said that they had heard of a method of family planning were asked if they had ever used any method (with the intention of delaying or avoiding pregnancy). Table 4.3 shows the percentage of women who have ever used family planning, according to method and age. Sixty-four percent of currently married women reported having ever used a method of family planning; 53 percent used a modern method, and 22 percent used a traditional method. The modern methods most commonly used are the pill (33 percent), injectables (25 percent), and condoms (10 percent). Ever use of other modern methods does not exceed 8 percent.

Table 4.3 Ever use of contraception

Percentage of all women and of currently married women who have ever used a contraceptive method, by method and age, Kenya 1998

		Modern method								Traditional method				
Age	Any method	Any modern method	Pill	IUD	Inject-ables	Con-dom	Female sterili-sation	Im-plants	Other modern methods	Any trad. method	Periodic absti-nence	With-drawal	Other	Number of women
ALL WOMEN														
15-19	15.8	9.9	4.3	0.1	1.7	5.9	0.0	0.0	0.0	8.7	8.1	1.1	0.3	1,851
20-24	52.1	38.7	23.7	2.0	15.0	12.4	0.0	1.0	0.0	23.7	22.3	4.5	1.1	1,548
25-29	67.3	57.3	38.2	5.5	26.7	13.4	1.2	1.4	0.7	23.8	21.6	4.2	2.1	1,371
30-34	70.2	60.5	40.6	8.8	30.5	11.9	5.2	1.2	0.9	23.8	21.4	4.7	2.1	986
35-39	68.6	61.8	35.6	13.2	32.2	6.8	11.7	1.5	1.3	16.9	14.3	2.9	2.5	991
40-44	61.1	53.1	27.0	14.8	23.8	7.0	15.2	0.4	1.6	17.0	13.0	2.5	3.8	637
45-49	52.7	42.7	26.3	13.4	17.0	5.1	10.9	0.4	1.5	17.8	14.2	2.7	3.5	497
Total	51.3	42.2	25.7	6.2	18.8	9.4	4.2	0.8	0.6	18.4	16.5	3.2	1.8	7,881
CURRENTLY MARRIED WOMEN														
15-19	37.2	23.5	10.9	0.0	5.4	13.6	0.0	0.0	0.0	22.8	20.2	4.8	1.3	285
20-24	59.7	45.5	29.0	3.0	19.4	11.8	0.0	1.2	0.0	24.9	22.8	5.0	1.6	948
25-29	69.6	58.3	38.8	5.8	27.3	11.7	1.4	1.3	0.5	25.0	22.5	4.4	2.6	1,069
30-34	71.1	60.4	40.5	8.7	31.2	10.6	5.7	1.1	0.7	24.0	22.0	5.0	1.6	822
35-39	69.5	62.8	35.5	13.5	31.8	6.6	12.9	1.6	1.4	16.4	13.4	3.2	2.7	832
40-44	63.6	55.2	27.3	16.0	24.1	5.4	16.8	0.5	1.9	17.7	13.9	2.5	3.2	511
45-49	52.8	42.9	25.6	12.8	18.5	5.8	11.9	0.3	1.6	18.2	14.8	2.2	3.2	365
Total	64.1	53.4	32.7	8.3	24.9	9.7	6.2	1.1	0.8	21.9	19.3	4.1	2.3	4,834

4.3 Current Use of Contraceptive Methods

The contraceptive prevalence rate (CPR) for Kenya—i.e., percentage of currently married women who are using any method of family planning—is 39 percent (Table 4.4). Most current users of contraception use a modern method; the CPR for modern methods is 32 percent, while 8 percent of currently married women use a traditional method (considered less effective for the prevention of unwanted pregnancy).

Injectables and pills are the most commonly used contraceptive methods; they are currently used by 12 and 9 percent of married women, respectively. Six percent of married women have been sterilised, 3 percent are using the IUD, and 1 percent each are using condoms and implants. Use of male sterilisation and vaginal methods (diaphragm, foam, etc.) is rare. Current use of periodic abstinence as a contraceptive method (rhythm, calendar method, Billings, etc.) was reported by 6 percent, withdrawal by 1 percent, and other traditional methods by 1 percent of married women.

Table 4.4 Current use of contraception: women

Percentage of all women, of currently married women, and of sexually active unmarried women who are currently using a contraceptive method, by method and age, Kenya 1998

		Modern method								Traditional method						
Age	Any method	Any modern method	Pill	IUD	Inject-ables	Con-dom	Female sterili-sation	Im-plants	Other modern	Any trad. method	Periodic absti-nence	With-drawal	Other	Not currently using	Total	Number of women
ALL WOMEN																
15-19	7.6	4.2	1.7	0.0	1.0	1.6	0.0	0.0	0.0	3.3	3.0	0.1	0.2	92.4	100.0	1,851
20-24	27.0	19.9	7.9	0.8	8.9	1.6	0.0	0.7	0.0	7.1	6.4	0.3	0.4	73.0	100.0	1,548
25-29	38.7	31.1	10.3	2.1	14.6	1.6	1.2	1.4	0.0	7.6	6.5	0.5	0.6	61.3	100.0	1,371
30-34	43.8	34.9	11.4	2.6	12.9	1.8	5.2	1.0	0.0	8.8	7.3	0.9	0.6	56.2	100.0	986
35-39	44.0	37.7	5.7	2.7	15.1	1.3	11.7	1.2	0.0	6.3	4.9	0.5	0.9	56.0	100.0	991
40-44	40.8	33.3	5.2	5.8	5.7	0.6	15.2	0.4	0.3	7.5	5.6	0.5	1.5	59.2	100.0	637
45-49	28.0	23.6	2.6	3.1	5.3	1.7	10.9	0.0	0.0	4.4	3.0	0.1	1.3	72.0	100.0	497
Total	29.9	23.6	6.5	1.9	8.8	1.5	4.2	0.7	0.0	6.3	5.3	0.4	0.6	70.1	100.0	7,881
CURRENTLY MARRIED WOMEN																
15-19	18.0	10.1	3.8	0.0	4.1	2.3	0.0	0.0	0.0	7.9	6.7	0.1	1.2	82.0	100.0	285
20-24	31.2	24.8	10.0	1.3	11.1	1.6	0.0	0.7	0.0	6.4	5.3	0.5	0.7	68.8	100.0	948
25-29	40.1	32.2	10.6	2.5	15.4	1.2	1.4	1.2	0.0	8.0	6.7	0.6	0.6	59.9	100.0	1,069
30-34	45.6	35.9	11.9	2.8	13.2	1.4	5.7	0.9	0.0	9.7	8.1	1.1	0.5	54.4	100.0	822
35-39	47.2	40.4	6.1	3.1	15.6	1.2	12.9	1.4	0.0	6.8	5.2	0.6	1.0	52.8	100.0	832
40-44	44.3	36.5	6.1	6.2	6.0	0.4	16.8	0.5	0.4	7.8	5.9	0.4	1.6	55.7	100.0	511
45-49	31.1	26.1	3.3	3.2	5.9	1.9	11.9	0.0	0.0	5.0	3.9	0.1	1.0	68.9	100.0	365
Total	39.0	31.5	8.5	2.7	11.8	1.3	6.2	0.8	0.0	7.5	6.1	0.6	0.8	61.0	100.0	4,834
SEXUALLY ACTIVE, UNMARRIED WOMEN																
15-19	30.4	20.4	6.9	0.0	2.2	11.3	0.0	0.0	0.0	9.9	9.0	1.0	0.0	69.6	100.0	149
20-24	50.7	35.0	11.8	0.0	17.3	4.1	0.0	1.8	0.0	15.7	15.7	0.0	0.0	49.3	100.0	98
25+	57.1	49.5	13.1	3.2	17.5	7.6	5.7	2.3	0.0	7.6	7.6	0.0	0.0	42.9	100.0	187
Total	46.5	36.2	10.7	1.4	12.2	8.1	2.5	1.4	0.0	10.2	9.9	0.3	0.0	53.5	100.0	434

Use of modern methods rises with age from 10 percent among married women age 15-19 to a peak of 40 percent at age 35-39, after which it declines to 26 percent among women age 45-49. As expected, female sterilisation is used more commonly by older women, while pills and injectables are used by women in the peak childbearing years (age 20-39).

Use of modern methods is slightly higher among sexually active unmarried women (36 percent) than among married women (32 percent). The difference is largely attributable to the greater use of condoms by unmarried women (8 percent) than currently married women (1 percent).

Reported use of family planning by men (and their partners) is higher than use reported by women[1] (Table 4.5). The CPR for married men age 15-54 is 62 percent; for modern methods, the CPR is 39 percent. Most of the male-female difference in use of modern methods is explained by higher reported use of the pill (12 percent) and condoms (8 percent) among men. Men also report much higher use of periodic abstinence (20 percent) than women, but this is probably the result of men adopting a broader (and incorrect) definition of this method to include all periods of abstinence (volitional or not).

There is a sharp contrast between married men and sexually active unmarried men regarding injectables and pill use on one hand and condom use on the other. Nearly one-half of unmarried men (47 percent) report using condoms (vs. 8 percent of married men), but only 4 percent report using the pill or injectables (vs. 21 percent of married men). This may represent different reproductive and health (disease prevention) strategies related to marital status. That sexually active unmarried women are reporting greater pill or injectables use (23 percent) than their male counterparts (4 percent) may mean that these men are often not told by their partners of pill or injectables use.

4.4 Trends at the National Level

Compared with other countries in East and southern Africa where DHS surveys have been recently conducted, Kenya's level of contraceptive use is exceeded only by Zimbabwe and South Africa (Figure 4.1). Contraceptive use, especially use of modern methods, has risen sharply since the early 1980s and is probably the principal cause of the fertility decline shown in the previous section. The 1984 Contraceptive Prevalence Survey (CPS), 1989 KDHS, 1993 KDHS, and 1998 KDHS have documented the increase in modern method use from 10 to 18 to 27 to, now, 32 percent. The rate of increase in uptake of contraception has slowed, however. Between 1984 and 1993, nearly two percentage points were added to the contraceptive prevalence rate (modern methods) each year; this has slowed to less than one percentage point per year between the 1993 KDHS and 1998 KDHS.

The current method mix indicates a shift in the contraceptive behaviour of Kenyan women (Figure 4.2). The rapid increase in use of injectables (from 7 percent in 1993 to 12 percent in 1998) to become the predominant method, plus small rises in the use of implants, condoms, and female sterilisation, have more than offset small drops in pill and IUD use. Thus, new acceptance of contraception and method switching have characterised the 1993-1998 intersurvey period.

[1] It should be borne in mind that contraceptive use among males is likely to be higher than among females because men who are in a polygynous or multi-partner relationship will often report on use with *any* partner.

Table 4.5 Current use of contraception: men

Percentage of all men, of currently married men, and of sexually active unmarried men who are currently using a contraceptive method, by method and age, Kenya 1998

Age	Any method	Modern method: Any modern method	Pill	IUD	Injectables	Condom	Female sterilisation	Implants	Other modern	Traditional method: Any trad. method	Periodic abstinence	Withdrawal	Other	Not currently using	Total	Number of men
ALL MEN																
15-19	24.7	17.5	0.9	0.0	0.1	16.6	0.0	0.0	0.0	7.1	7.0	0.1	0.0	75.3	100.0	811
20-24	54.6	34.8	2.5	0.0	0.9	31.0	0.0	0.0	0.4	19.8	18.3	0.8	0.7	45.4	100.0	589
25-29	60.3	43.3	10.1	1.1	5.2	25.0	0.0	1.5	0.3	17.0	16.3	0.4	0.3	39.7	100.0	463
30-34	62.4	40.0	15.7	1.0	11.5	9.2	1.3	1.2	0.0	22.5	19.3	0.6	2.6	37.6	100.0	418
35-39	64.6	41.1	13.9	1.3	13.4	8.2	2.6	1.4	0.5	23.5	21.2	0.5	1.8	35.4	100.0	375
40-44	59.4	35.7	11.3	3.4	6.6	5.1	8.0	0.6	0.9	23.7	20.6	0.7	2.4	40.6	100.0	291
45-49	64.8	42.5	6.8	5.3	5.2	5.7	17.9	1.6	0.0	22.3	18.8	1.4	2.2	35.2	100.0	278
50-54	56.9	32.1	6.8	1.8	2.4	4.6	16.3	0.0	0.0	24.8	17.4	1.4	6.0	43.1	100.0	183
Total	51.7	33.7	7.4	1.2	4.9	15.9	3.5	0.7	0.2	18.0	16.0	0.6	1.4	48.3	100.0	3,407
CURRENTLY MARRIED MEN																
15-19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	100.0	6
20-24	44.9	20.7	3.3	0.0	5.3	12.1	0.0	0.0	0.0	24.2	18.7	5.2	0.3	55.1	100.0	95
25-29	57.8	41.6	15.7	0.9	7.9	15.5	0.0	1.0	0.5	16.2	15.4	0.7	0.1	42.2	100.0	283
30-34	64.4	39.6	17.0	1.2	12.2	6.3	1.6	1.3	0.0	24.8	21.2	0.7	3.0	35.6	100.0	364
35-39	67.2	42.0	15.3	1.4	13.7	7.1	2.8	1.5	0.2	25.2	22.7	0.5	2.0	32.8	100.0	341
40-44	63.8	38.9	12.3	3.7	7.2	5.3	8.7	0.6	1.0	25.0	21.6	0.8	2.6	36.2	100.0	265
45-49	66.3	43.3	6.2	5.6	5.5	5.4	19.0	1.7	0.0	23.0	19.2	1.5	2.3	33.7	100.0	263
50-54	58.5	33.1	7.2	1.9	2.4	4.6	17.1	0.0	0.0	25.4	17.7	1.5	6.2	41.5	100.0	175
Total	62.3	39.1	12.4	2.2	8.7	7.8	6.6	1.1	0.3	23.3	19.8	1.1	2.4	37.7	100.0	1,791
SEXUALLY ACTIVE, UNMARRIED MEN																
15-19	59.3	44.5	1.9	0.0	0.0	42.6	0.0	0.0	0.0	14.8	14.5	0.3	0.0	40.7	100.0	193
20-24	71.0	52.7	2.0	0.0	0.0	50.7	0.0	0.0	0.0	18.3	18.3	0.0	0.0	29.0	100.0	210
25+	73.3	57.2	4.7	2.0	3.9	46.0	0.0	0.7	0.0	16.1	16.1	0.0	0.0	26.7	100.0	134
Total	67.4	50.9	2.7	0.5	1.0	46.6	0.0	0.2	0.0	16.5	16.4	0.1	0.0	32.6	100.0	537

Note: An asterisk indicates that the figure is based on fewer than 25 unweighted cases and has been suppressed.

Figure 4.1
Current Use of Family Planning among Currently Married Women Age 15-49, Selected Countries in East Africa and Southern Africa

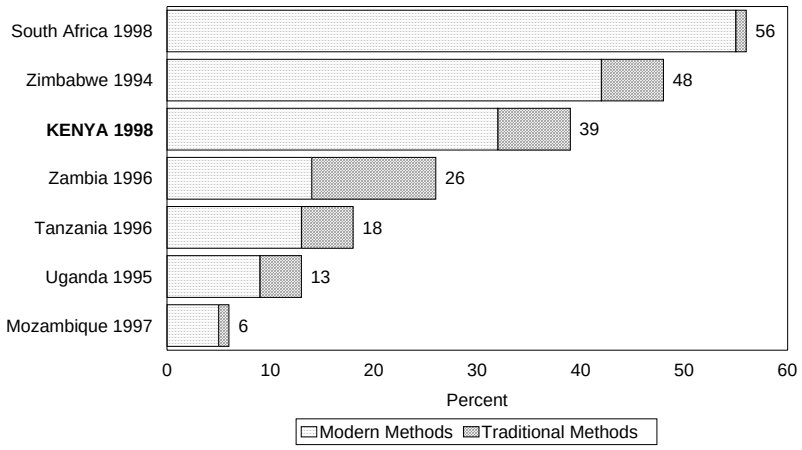


Figure 4.2
Percentage of Currently Married Women Currently Using Contraception by Method,1993 KDHS and 1998 KDHS

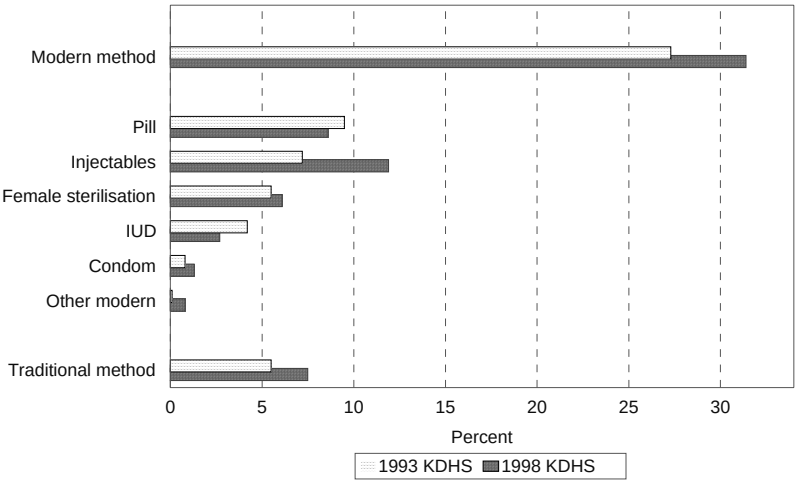


Table 4.6 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to selected background characteristics, Kenya 1998

Background characteristic	Any method	Modern method								Traditional method					Total	Number of women
		Any modern method	Pill	IUD	Inject-ables	Con-dom	Female sterili-sation	Im-plants	Other modern	Any trad. method	Periodic absti-nence	With-drawal	Other	Not currently using		
Residence																
Urban	49.6	41.0	12.5	5.8	12.6	1.9	5.9	2.1	0.2	8.6	6.9	0.9	0.7	50.4	100.0	1,010
Rural	36.2	29.0	7.5	1.9	11.6	1.2	6.3	0.5	0.0	7.2	5.9	0.5	0.8	63.8	100.0	3,824
Province																
Nairobi	56.3	46.8	16.7	7.7	10.8	3.6	5.4	2.3	0.5	9.5	8.1	0.5	0.9	43.7	100.0	408
Central	61.1	54.8	16.6	7.3	22.6	0.9	7.1	0.3	0.0	6.3	5.6	0.1	0.6	38.9	100.0	517
Coast	22.1	20.0	5.4	1.1	7.4	1.1	4.1	0.8	0.0	2.2	1.2	0.5	0.5	77.9	100.0	373
Eastern	45.6	36.0	13.1	2.6	11.4	1.5	6.4	1.1	0.0	9.6	8.4	0.1	1.1	54.4	100.0	824
Nyanza	28.2	25.0	3.4	1.2	10.7	0.8	8.4	0.6	0.0	3.2	2.4	0.4	0.4	71.8	100.0	1,048
Rift Valley	37.7	26.4	5.5	2.0	12.2	1.4	4.6	0.6	0.0	11.3	8.9	1.3	1.1	62.3	100.0	1,089
Western	30.2	21.9	6.0	0.4	7.8	0.8	6.0	0.9	0.0	8.3	6.5	0.8	1.0	69.8	100.0	575
Education																
No education	22.8	16.1	2.1	0.1	5.8	0.0	7.9	0.3	0.0	6.7	4.1	0.8	1.8	77.2	100.0	688
Primary incomplete	27.9	21.8	5.3	1.1	9.5	0.9	4.6	0.3	0.0	6.1	4.8	0.4	0.9	72.1	100.0	1,630
Primary complete	43.7	37.0	10.5	2.5	14.9	2.0	6.9	0.3	0.0	6.7	5.8	0.3	0.6	56.3	100.0	1,182
Secondary+	56.7	46.3	14.0	6.2	15.1	2.0	6.6	2.3	0.1	10.3	9.0	0.9	0.5	43.3	100.0	1,333
No. of living children																
0	12.2	5.7	3.1	0.5	0.4	1.7	0.0	0.0	0.0	6.4	5.8	0.6	0.0	87.8	100.0	354
1	31.3	24.7	12.5	1.5	6.9	2.3	0.3	1.3	0.0	6.6	5.9	0.2	0.5	68.7	100.0	693
2	44.9	35.2	13.3	3.4	14.7	1.5	0.9	1.2	0.2	9.7	8.3	0.4	1.0	55.1	100.0	901
3	40.1	32.7	9.4	3.1	14.9	1.0	3.6	0.5	0.0	7.4	5.2	1.2	1.0	59.9	100.0	738
4+	43.0	35.9	5.8	3.0	13.1	1.0	12.2	0.8	0.0	7.1	5.6	0.6	0.9	57.0	100.0	2,147
Total	39.0	31.5	8.5	2.7	11.8	1.3	6.2	0.8	0.0	7.5	6.1	0.6	0.8	61.0	100.0	4,834

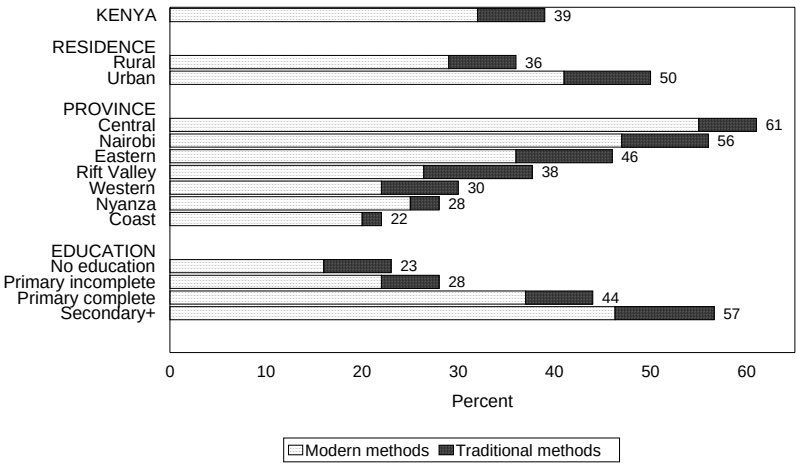
4.5 Differentials in Current Use by Background Characteristics

Table 4.6 and Figure 4.3 show that women in some areas of Kenya are more likely to use contraceptives than others. Urban women are more likely to use modern contraception (41 percent) than their rural counterparts (29 percent), and this applies to each specific method except for injectables and female sterilisation which are used at similar rates by urban and rural women. Even traditional methods are more likely to be used in urban than rural areas, although the differential is small.

At the provincial level, modern method use is highest in Central Province (55 percent) and Nairobi (47 percent), and lowest in Coast Province (20 percent) and Western Province (22). Since the 1993 KDHS, contraceptive use has increased in all provinces except for Western Province, where the CPR remains at 1993 levels. As a proportion of overall modern method use, pills are favoured in Eastern Province (36 percent of all modern method use), the IUD in Nairobi (16 percent), injectables in Rift Valley (46 percent), and female sterilisation in Nyanza (34 percent). Use of periodic abstinence as a means of pregnancy prevention is used by 8-9 percent of currently married women in Rift Valley, Eastern, and Nairobi Provinces.

Figure 4.3 also shows differences in contraceptive use among women of different education levels. As expected, higher contraceptive use is associated with higher levels of education. Use of modern methods increases from 16 percent among married women with no education to 46 percent among women with some secondary education. Modern method use increases with the number of children a woman has.

Figure 4.3
Current Use of Family Planning among Currently Married Women Age 15-49, by Background Characteristics



KDHS 1998

4.6 Trends in Use of Contraception in Selected Districts

As in the 1993 KDHS, the 1998 KDHS sample allows estimates of contraceptive prevalence to be calculated for 16 "oversampled" districts (Table 4.7). Since the number of women on which each district estimate is based is rather small, the trends between 1993 and 1998 need to be interpreted with caution. [2]

Table 4.7 Trend in current use of contraception by district

Percentage of currently married women using any method and any modern method, by selected districts, 1993 KDHS and 1998 KDHS

	Any method		Any modern method	
District	1993	1998	1993	1998
Mombasa	37.6	33.6	32.0	30.2
Murang'a	47.1	57.4	40.2	50.0
Nyeri	64.2	70.9	60.3	62.9
Kilifi	13.8	15.4	10.3	13.4
Taita Taveta	33.7	34.2	28.7	29.5
Machakos	38.2	43.7	27.2	34.1
Meru	41.2	55.3	40.3	50.8
Kisii	40.3	40.9	37.9	40.9
Siaya	15.2	17.7	10.9	14.3
South Nyanza	12.8	12.8	11.3	9.5
Kericho	26.4	32.6	23.6	25.3
Nakuru	28.8	41.8	23.1	32.0
Nandi	23.9	32.8	22.2	27.0
Uasin Gishu	25.9	27.6	21.1	21.1
Bungoma	20.8	29.0	16.9	21.4
Kakamega	28.2	30.7	25.8	21.5

Note: Each district-level estimate (1993 and 1998) is based on 240-527 unweighted cases (averaging 373).

Of the 16 districts under study here, 9 show small to negligible changes; the 1998 CPR (modern methods) is within just 3 percentage points of the 1993 value. In Bungoma and Nandi districts, small but significant rises (5 percentage points) were observed, while more substantial increases of (7-11 percentage points) were experienced in Murang'a, Machakos, Meru, and Nakuru. Only one district, Kakamega, experienced a significant decline in modern contraceptive use of 4-5 percentage points. In this same district, however, use of traditional methods increased markedly.

4.7 Number of Children at First Use of Contraception

Family planning methods may be used by couples for either spacing births or limiting family size. Table 4.8 shows the distribution of ever-married women by age and number of children at first use of contraception. The results indicate that Kenyans are today adopting family planning methods at an earlier age than before. Younger cohorts of women reported first use at lower parity than older cohorts of women.

Table 4.8 Number of children at first use of contraception

Percent distribution of ever-married women by number of living children at the time of first use of contraception, and median number of children at first use, according to current age, Kenya 1998

		Number of living children at time of first use of contraception								
Current age	Never used contra-ception	0	1	2	3	4+	Missing	Total	Number of women	Median number of chil-dren at first use [1]
15-19	63.9	20.2	13.5	2.5	0.0	0.0	0.0	100.0	309	0.0
20-24	40.6	18.3	29.1	9.1	1.9	1.1	0.0	100.0	1,007	0.4
25-29	31.5	10.1	28.3	17.8	6.9	5.3	0.1	100.0	1,197	0.9
30-34	29.6	6.0	21.3	14.7	11.2	17.1	0.0	100.0	926	1.5
35-39	30.9	3.1	14.4	10.4	9.8	31.1	0.3	100.0	963	2.7
40-44	38.8	2.1	8.3	6.7	8.2	35.4	0.5	100.0	618	3.7
45-49	47.1	3.0	7.7	7.6	5.9	28.6	0.0	100.0	489	3.4
Total	36.8	8.7	19.9	11.4	6.9	16.2	0.1	100.0	5,509	1.3

[1] Among ever-married women who have ever used contraception

[2] District-level estimates are based on 240-527 women, and limited to the rural parts of those districts with the exception of Mombasa, which is largely urban.

For example, the oldest cohorts of ever-married women (currently age 40 or above) reported first use after having, on average, more than three births compared with less than one child among the youngest cohorts (under age 30). From another perspective, 18-20 percent of the cohort under age 25 started contracepting before the birth of their first child compared with only 2-3 percent of the cohort age 35 and above. This pattern is consistent with a growing demand among women for methods to space their children.

4.8 Knowledge of the Fertile Period

An elementary knowledge of reproductive physiology provides a useful background for successful practice of coitus-related methods such as the calendar method, the Billings method, and other methods collectively called "periodic abstinence." The successful use of these methods depends in part on an understanding of when, during the ovulatory cycle, a woman is most likely to conceive. In the KDHS, all women were asked, "When during a woman's cycle is she most likely to conceive?" Table 4.9 provides the results for all women and those who reported current use of periodic abstinence. Nearly half of all women either said that they did not know when the most likely time was to conceive or they said "anytime" was most likely. Only 23 percent of women correctly mentioned that a woman is most likely to conceive in the middle of her ovulatory cycle, which is only marginally better than the 20 percent estimated in the 1993 KDHS.

Table 4.9 Knowledge of the fertile period

Percent distribution of all women and of women who currently use periodic abstinence by knowledge of the fertile period during the ovulatory cycle, Kenya 1998

Perceived fertile period	All women	Current users of periodic abstinence[1]
During period	2.0	3.0
After period ends	18.8	23.0
Middle of the cycle	22.8	35.7
Before period begins	6.1	7.3
At any time	24.8	16.9
Other	0.5	0.9
Don't know	24.9	12.9
Missing	0.1	0.3
Total	100.0	100.0
Number	7,881	414

[1] Eighty-six percent of periodic abstinence users reported use of calendar rhythm method.

Women who are currently using a method of periodic abstinence do indeed know more about the ovulatory cycle than women in general. Still, only one-third of reported users of methods that depend on knowledge of the cycle gave responses that clearly showed an understanding of when the fertile period occurs.

4.9 Knowledge of Contraceptive Effects of Breastfeeding

Information on knowledge of the contraceptive effect of breastfeeding is shown in Table 4.10. Over half of currently married Kenyan women believe that breastfeeding does not affect the chance of a woman becoming pregnant. Only 22 percent correctly reported that breastfeeding can reduce the risk of pregnancy. Differentials in knowledge of the contraceptive effect of breastfeeding were small or negligible.

Only one in 12 women has ever used breastfeeding to avoid pregnancy; only 2 percent are currently relying on breastfeeding as a contraceptive method. Women from Eastern and Rift Valley provinces are more likely than women from other provinces to rely on this method. Two percent of currently married women meet the criteria for use of the lactational amenorrhoeic method (LAM) of family planning.[3]

[3] LAM users are currently married women who are breastfeeding a child under six months of age, are still postpartum amenorrhoeic, and are not feeding the child anything but breast milk and plain water.

Table 4.10 Perceived contraceptive effect of breastfeeding

Percent distribution of currently married women by perceived risk of pregnancy associated with breastfeeding, percentage of currently married women who previously relied and who currently rely on breastfeeding to avoid pregnancy, and percentage who meet lactational amenorrheic method (LAM) criteria, according to selected background characteristics, Kenya 1998

Background characteristic	Perceived risk of pregnancy associated with breastfeeding						Reliance on breastfeeding to avoid pregnancy			
	Un-changed	In-creased	De-creased	Depends	Don't know/ Missing	Total	Previ-ously	Cur-rently	Meet LAM[1] criteria	Number of women
Age										
15-19	54.9	14.9	18.8	11.4	0.0	100.0	4.7	2.7	4.1	285
20-24	52.3	18.2	20.8	8.7	0.0	100.0	6.4	2.2	2.6	948
25-29	56.3	15.9	22.9	4.7	0.1	100.0	8.2	2.9	2.2	1,069
30-34	56.4	15.5	24.1	4.1	0.0	100.0	9.1	2.6	2.3	822
35-39	57.7	13.6	24.9	3.8	0.0	100.0	9.5	3.0	0.5	832
40-44	57.5	16.8	19.3	6.4	0.0	100.0	7.4	1.4	0.4	511
45-49	59.2	12.9	22.5	5.4	0.1	100.0	6.7	0.6	0.0	365
Residence										
Urban	55.5	16.8	19.8	7.9	0.0	100.0	7.0	1.8	1.2	1,010
Rural	56.2	15.4	23.1	5.3	0.0	100.0	8.0	2.5	1.9	3,824
Province										
Nairobi	50.9	23.9	16.2	9.0	0.0	100.0	4.5	0.9	0.9	408
Central	68.6	9.3	16.4	5.6	0.2	100.0	6.2	0.7	2.1	517
Coast	73.3	5.6	15.4	5.5	0.2	100.0	6.0	1.8	1.3	373
Eastern	48.4	10.3	29.8	11.5	0.0	100.0	12.3	2.7	2.8	824
Nyanza	49.9	21.7	25.9	2.5	0.0	100.0	4.4	1.8	1.4	1,048
Rift Valley	56.3	15.6	22.8	5.4	0.0	100.0	11.3	4.4	1.2	1,089
Western	59.0	19.0	19.0	3.1	0.0	100.0	5.9	2.0	2.5	575
Education										
No education	57.1	15.0	20.0	7.8	0.1	100.0	7.5	3.1	0.8	688
Primary incomplete	55.3	17.4	21.5	5.7	0.1	100.0	8.4	2.1	2.2	1,630
Primary complete	56.0	14.8	23.1	6.1	0.0	100.0	8.4	2.5	1.7	1,182
Secondary+	56.4	14.7	24.1	4.8	0.0	100.0	6.7	2.2	1.7	1,333
Total	56.0	15.7	22.4	5.9	0.0	100.0	7.8	2.4	1.7	4,834

[1] See text for LAM criteria

4.10 Timing of Female Sterilisation

Table 4.11 shows the distribution of sterilised women by the age at which they had the procedure, according to the number of years prior to the survey the procedure was done. The results indicate that 72 percent of women who are sterilised had the procedure after reaching age 30, and 29 percent after reaching age 35. The median reported age at sterilisation is 32 years, nearly the same as that documented from the 1993 KDHS data.

Table 4.11 Timing of sterilisation

Percent distribution of sterilised women by age at the time of sterilisation, according to the number of years since the operation, Kenya 1998

Years since operation	Age at time of sterilisation						Total	Number of women	Median age[1]
	<25	25-29	30-34	35-39	40-44	45-49			
<2	7.1	15.8	43.8	15.7	12.9	4.7	100.0	51	32.9
2-3	3.1	15.6	30.6	38.6	12.0	0.0	100.0	44	33.7
4-5	6.0	14.3	56.9	18.3	4.4	0.0	100.0	69	32.7
6-7	0.0	15.5	46.0	28.7	9.8	0.0	100.0	45	32.9
8-9	5.0	25.8	37.2	23.8	8.2	0.0	100.0	53	31.3
10+	20.6	29.8	41.2	8.4	0.0	0.0	100.0	73	a
Total	8.0	20.0	43.5	20.7	7.1	0.7	100.0	335	32.3

[1] Median age was calculated only for women less than 40 years of age to avoid problems of censoring.
[a] Not calculated due to censoring

4.11 Source of Family Planning Methods

Information on where women obtain their contraceptives is useful for family planning programme managers and implementors. In the KDHS, women who reported using a modern method of contraception at the time of the survey were asked where they obtained the method the last time. Since women often do not know exactly into which category the source they use falls (e.g., government hospital, mission health centre, etc.), interviewers were instructed to record the full name of the source or facility. Supervisors and field editors were then instructed to verify that the name and source type were consistent, asking informants in the clusters for the names of local family planning outlets, if necessary. This practice, used during the 1993 KDHS as well, was designed to improve the accuracy of source reporting.

Table 4.12 shows that public (government) facilities provide contraceptives to 58 percent of users, while 33 percent are supplied through private medical sources, 5 percent through other private sources (e.g., shops), and 3 percent through community-based distribution.[4] This represents a significant shift away from public sources, down from 68 percent in the 1993 KDHS. The most common single source of contraceptives within the public sector is government hospitals (30 percent), followed by government health centres (16 percent). The most frequently used non-public sources are private hospitals and clinics (14 percent). Mission hospitals serve 8 percent of current modern method users.

While public sources continue to provide about two-thirds of IUD insertions and female sterilisations, the percentage of pill and injectables users whose source is a government facility has dropped from over 70 percent in 1993 to 53 percent (pills) and 64 percent (injectables) in 1998. Public-sector supply of condoms has also decreased—from 37 percent in 1993 to 21 percent in 1998.

[4] CBD programs may be administered by either a public or a private organisation.

Table 4.12 Source of supply for modern contraceptive methods

Percent distribution of current users of modern contraceptive methods by most recent source of supply, according to specific methods, Kenya 1998

Source of supply	Pill	IUD	Inject-ables	Con-dom	Female sterili-sation	Im-plants	All modern methods[1]
Public sector	52.8	66.7	64.0	21.2	63.8	51.6	58.0
Government hospital	18.0	46.2	24.5	5.9	56.1	47.1	29.5
Government health centre	19.7	16.3	21.3	6.7	5.3	4.1	16.1
Government dispensary	15.1	4.2	18.3	8.7	2.4	0.4	12.3
Private medical	30.0	32.6	35.0	24.8	36.2	47.3	33.4
Mission church hospital/centre	3.8	3.3	9.6	1.5	15.4	13.7	8.1
FPAK health centre/clinic	3.6	7.4	2.4	7.6	6.4	13.2	4.5
Other private service	0.9	0.5	0.5	0.4	1.5	0.0	0.8
Private hospital/clinic	9.1	17.2	19.2	2.3	11.2	16.8	13.8
Pharmacy	8.5	0.0	0.1	13.0	0.0	0.0	3.2
Private doctor	4.2	4.0	3.2	0.0	1.7	3.6	3.0
Other private	5.3	0.0	0.3	46.3	0.0	0.0	4.5
Shop	1.7	0.0	0.0	33.2	0.0	0.0	2.6
Friends, relatives	3.6	0.0	0.3	13.1	0.0	0.0	1.9
Mobile clinic	0.4	0.2	0.4	1.5	0.0	1.1	0.4
CBD worker	10.9	0.6	0.2	3.9	0.0	0.0	3.4
Other	0.4	0.0	0.0	2.0	0.0	0.0	0.2
Don't know/missing	0.2	0.0	0.2	0.3	0.0	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	510	146	695	119	335	53	1,860

CBD = Community-based distribution
[1] Total includes 2 users of diaphragm, foams, and jellies

4.12 Willingness to Pay for Pills

Current pill users who reported that they did not pay for their pills (52 percent of all pill users) were asked about their willingness to pay for pills. Table 4.13 shows that 43 percent of these users said that they would not pay for the pills, and 7 percent said that they did not know whether they would pay. The median response for those women willing to pay was between a maximum of 10 shillings and a maximum of 25 shillings. The reports from rural women differed little from those of women living in urban centres.

Table 4.13 Willingness to pay for pill supply

Percent distribution of current users of the pill who are supplied without cost, by willingness to pay for pills and maximum amount they are willing to pay for one cycle/packet of pills, according to urban-rural residence, Kenya 1998

Residence	Not willing to pay for pills	Will pay less than 10 ksh	Will pay as much as: 10 ksh	25 ksh	50 ksh	75 ksh	Don't know	Total	Number of women
Urban	41.2	8.7	15.1	19.4	5.1	5.1	5.5	100.0	93
Rural	44.1	2.4	15.1	18.4	8.8	3.4	7.7	100.0	174
Total	43.1	4.6	15.1	18.8	7.5	4.0	6.9	100.0	267

4.13 Rates of Discontinuation within 12 Months of Use

Couples can realise their reproductive goals only when they use their methods of choice continuously. A prominent concern for managers of family planning programmes is the discontinuation of method use. In the KDHS calendar, all segments of contraceptive use between January 1993 and the date of interview were recorded along with reasons for any discontinuation of use during this period. One-year contraceptive discontinuation rates, based on these "calendar data," are presented in Table 4.14.[5]

The results indicate that almost one in three family planning users in Kenya stops using their adopted method within 12 months of starting use. Nine percent of users stop using as a result of their concern over adverse health problems or side effects, 5 percent because they want to become pregnant, and 5 percent due to method failure (i.e., they become pregnant while using). Less prominent reasons include infrequent sex (3 percent) and cost or access (3 percent)—cited often by condom users—husbands' disapproval (2 percent), and switching to a more effective method (2 percent). About half of pill and injectables discontinuations in the first 12 months were related to the woman's concern over side effects or adverse health effects.

Table 4.14 Contraceptive discontinuation rates

First-year contraceptive discontinuation rates by reason for discontinuation, according to method, Kenya 1998

Contraceptive method	Method failure	To become pregnant	Side effects, health concerns	Husband disap-proved	Access/ incon-venient/ cost	Desires more effective method	Infre-quent sex	Other reason	Don't know/ Missing	All reasons
Pill	2.3	4.6	17.3	1.3	3.5	1.7	1.4	1.9	2.2	36.2
Injectables	0.9	3.4	11.4	0.8	1.2	0.1	0.6	0.9	2.4	21.8
Condom	3.6	7.8	0.4	9.1	8.3	7.7	15.4	3.7	5.6	61.6
Periodic abstinence	13.9	6.0	0.0	0.6	1.1	3.3	4.2	1.2	2.6	33.0
Total	5.0	4.6	8.5	1.6	2.7	2.4	3.2	1.4	2.7	32.6

Table 4.15 also looks at reasons for discontinuation, but from a different perspective; all of the 2,763 discontinuations occurring in the last five years (regardless of duration of use) are distributed by reason for discontinuation, according to method.

In the early stages of family formation, couples generally prefer using family planning methods that are reversible so they can conceive later. The desire to become pregnant is the most important reason (27 percent) for respondents to discontinue use of any family planning method, although side effects/health concerns also figure prominently in a couple's decision to discontinue use (23 percent). Indeed, as cited above, for injectables and pills, side effects and health concerns (combined) are by far the most commonly cited reasons for stopping use. Users of the IUD also discontinue due to concerns about health consequences and side effects related to use.

[5] The discontinuation rates presented here include only those segments of contraceptive use that *began* since January 1993. The rates apply to the 3- 63 month period prior to the survey; exposure during the month of interview and the two months prior are excluded to avoid the biases that may be introduced by unrecognised pregnancies. These cumulative discontinuation rates represent the proportion of users discontinuing a method within 12 months after the start of use. The rates are calculated by dividing the number of women discontinuing a method by the number exposed at that duration. The single-month rates are then cumulated to produce a one-year rate. In calculating the rate, the various reasons for discontinuation are treated as competing risks.

Table 4.15 Reasons for discontinuation

Percent distribution of discontinuations of contraceptive methods in the last five years by main reason for discontinuation, according to specific methods, Kenya 1998

Main reason for discontinuation	Pill	IUD	Inject-ables	Con-dom	Periodic absti-nence	With-drawal	All methods
Became pregnant	8.6	5.3	3.5	6.6	42.2	31.6	16.5
To become pregnant	29.5	40.2	27.6	13.7	26.4	15.6	26.9
Husband disapproved	2.3	1.1	2.0	12.4	0.7	0.4	2.8
Side effects	30.7	32.6	34.4	0.4	0.0	4.5	19.5
Health concerns	5.5	7.6	7.5	0.0	0.0	2.9	3.9
Access/availability	1.8	0.8	1.9	2.6	0.0	0.0	1.3
More effective method	3.4	1.7	1.9	11.9	7.3	18.1	5.1
Inconvenient to use	4.5	1.2	1.5	10.3	2.2	16.5	4.0
Infrequent sex	3.3	2.7	4.0	24.0	9.4	9.8	7.2
Cost	0.6	0.0	0.7	0.6	0.0	0.0	0.4
Menopause	0.4	0.0	0.7	0.0	0.3	0.0	0.4
Marital dissolution	0.0	0.9	0.5	0.3	0.3	0.0	0.2
Other	4.0	2.6	4.8	6.6	2.5	0.0	3.9
Don't know/Missing	5.4	3.2	9.2	10.6	8.8	0.7	7.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	941	130	583	280	705	62	2,763

Note: Total includes 62 use segments of “other”modern methods.

The low efficacy of periodic abstinence and withdrawal is evidenced by the high failure rate of these methods during use, i.e., accidental pregnancy. Forty-two percent of discontinuations of periodic abstinence and 32 percent of withdrawal discontinuations were reported to be method failures.

Condom users cited husband disapproval as the reason for discontinuation more often than users of any other method, but infrequent sex, inconvenience of use, wanting to get pregnant, and wanting to use a more effective method were also frequently mentioned.

4.14 Intention to Use Family Planning Among Nonusers

An important indicator of the changing demand for family planning is the extent to which nonusers of contraception plan to use family planning in the future. Women who were not using contraception at the time of the survey were asked about their intention to use family planning in the future. The results are presented in Table 4.16.

Almost two-thirds (63 percent) of currently married nonusers say they intend to use family planning in the future—54 percent in the next 12 months. One-third of women said they do not intend to use, while 3 percent were unsure. The proportion intending to use, and especially the timing of intended use, varies with the number of living children. For example, the proportion who intend to use within the next 12 months is much lower among childless nonusers than among those with children, and the proportion who intend to use later decreases with increasing number of living children.

The pattern of findings is similar for men except that more men than women want to use later and fewer men intend to use in the next 12 months.

Table 4.16 Future use of contraception

Percent distribution of currently married women and men who are not using a contraceptive method by intention to use a method in the future, according to number of living children (women), Kenya 1998

Future use of contraception	Number of living children[1] 0	1	2	3	4+	Total women	Total men
Intend to use in next 12 months	32.6	53.0	62.2	56.9	52.7	53.7	41.8
Intend to use later	22.0	16.9	6.3	8.6	3.8	8.4	14.2
Unsure as to timing	1.2	1.1	1.2	2.1	1.1	1.3	1.7
Unsure as to intention	7.4	4.4	3.0	3.6	2.1	3.2	5.3
Do not intend to use	36.6	24.3	26.9	28.6	39.9	33.2	34.8
Don't know/Missing	0.2	0.2	0.3	0.2	0.4	0.3	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	208	467	512	468	1,295	2,950	675

[1] Includes current pregnancy

4.15 Reasons for Nonuse of Contraception

Table 4.17 presents the main reasons for not using contraception given by currently married nonusers who do not intend to use a contraceptive method in the future. Among women under age 30, the most frequently cited reasons for not using contraception were a desire for more children (25 percent), fear of side effects/health concerns (25 percent), and opposition to family planning either by the respondent herself (16 percent) or her husband (12 percent). While the desire for additional children and health concerns were also important reasons for not using family planning among older women, the most important reason cited among nonusers 30 years and above were related to perceived subfecundity and infecundity.

The results for men age 15-54 were similar to those for women except that men more commonly report a desire for more children and their own opposition and less commonly report their spouse's opposition and concern over health issues or side effects.

Table 4.17 Reasons for not intending to use contraception

Percent distribution of currently married women and men who are not using a contraceptive method and who do not intend to use in the future, by main reason for not intending to use, according to age (women), Kenya 1998

Reason for not intending to use contraception	Age <30	30-49	Total women	Total men
Not married	0.0	0.2	0.1	0.2
Infrequent sex	2.0	4.1	3.5	3.5
Menopausal, hysterectomy	0.1	27.5	20.0	16.3
Subfecund, infecund	4.8	8.5	7.5	4.1
Wants more children	25.1	11.5	15.2	25.9
Respondent opposed	16.2	9.4	11.3	15.6
Spouse opposed	12.0	2.9	5.4	1.1
Others opposed	0.3	0.0	0.1	0.0
Religious prohibition	4.7	6.2	5.8	7.5
Knows no method	3.2	2.0	2.3	0.2
Knows no source	0.9	0.7	0.8	2.1
Health concerns	7.9	10.0	9.5	3.5
Fear side effects	17.4	10.0	12.0	5.6
Lack of access	0.8	0.0	0.2	0.7
Costs too much	0.2	0.0	0.1	0.7
Inconvenient to use	1.1	0.9	0.9	2.0
Interferes with body processes	0.7	2.2	1.8	0.2
Up to woman to use	NA	NA	NA	5.2
Other	1.7	3.2	2.8	4.8
Don't know/Missing	1.0	0.6	0.7	0.7
Total	100.0	100.0	100.0	100.0
Number	267	711	978	235

NA = Not applicable

4.16 Preferred Method of Contraception for Future Use

Potential demand for specific methods of family planning can be assessed by asking nonusers which method they intend to use in the future. Table 4.18 presents information on method preferences for married noncontraceptors who say they intend to use in the future.

The largest percentage of prospective users reported injectables as their preferred method (42 percent), with 19 percent citing pills and 10 percent favouring female sterilisation. These figures are very similar to results from the 1993 KDHS. Women who intend to use family planning in the next 12 months have similar method preference as women who intend to use later, with the exception that they tend to be less uncertain about method choice and more likely to view injectables as their preferred method.

Table 4.18 Preferred method of contraception for future use

Percent distribution of currently married women who are not using a contraceptive method but who intend to use in the future by preferred method, according to timing of intended use, Kenya 1998

Preferred method of contraception	Timing of intended use: In next 12 months	Timing of intended use: After 12 months	All women
Pill	19.2	19.6	19.0
IUD	2.2	2.4	2.2
Injectables	42.2	37.5	41.9
Diaphragm/foam/jelly	0.2	0.0	0.2
Condom	3.6	1.9	3.4
Female sterilisation	9.9	10.5	9.9
Implants	4.3	3.8	4.1
Periodic abstinence	3.7	4.1	3.6
Withdrawal	0.2	0.4	0.2
Folk method	2.2	1.8	2.1
Don't know	12.2	18.0	13.2
Missing	0.3	0.0	0.3
Total	100.0	100.0	100.0
Number	1,583	247	1,868

Note: Total includes 38 women who were unsure of timing for intended use.

4.17 Exposure to Family Planning Messages in the Electronic Media

Radio and television are the major potential sources of information about family planning. Information on the level of public exposure to a particular type of media allows policymakers to ensure the use of the most effective media for various target groups in the population. To assess the effectiveness of such media on the dissemination of family planning information, all male and female respondents in the survey were asked if they had heard messages about family planning on radio or seen them on television during the six-month period preceding the interview.

Table 4.19 shows that a greater percentage of men than women are exposed to the major electronic media. Nearly one-half of the female respondents but only 29 percent of male respondents reported that they had not heard or seen a family planning message on radio or television, respectively, during the six-month period prior to the interview. Sixteen percent of women and 30 percent of men have heard a family planning message on the radio *and* seen a family planning message on the television in the last six months.

Sharp contrasts in access to media messages are observed between urban and rural residents. Fifty percent of rural women have not been reached through the electronic media in the last six months, compared with just 33 percent of urban women.

The proportion of respondents who had been exposed to family planning messages on radio or television varied across provinces. Forty-two percent of women in Nairobi had seen and heard FP messages on both the television and radio compared with only 8 percent of women in Nyanza Province.

A respondent's level of formal education is linked to her exposure to the electronic media. Almost two-thirds of women without an education have no exposure to radio and television, compared with only 30 percent of women with a secondary education. This suggests that other forms of communication are needed to reach these women who, as described earlier in this chapter, have the lowest levels of contraceptive use.

Table 4.19 Heard about family planning on radio and television

Percent distribution of women and of men by whether they heard a radio and/or television message about family planning in the six months prior to the interview, according to selected background characteristics (women), Kenya 1998

Background characteristic	Heard on both radio and TV	Radio only	Tele-vision only	Heard on neither	Missing	Total	Number of women/ men
Age							
15-19	11.9	28.3	1.7	58.0	0.0	100.0	1,851
20-24	19.5	37.0	2.2	41.3	0.1	100.0	1,548
25-29	19.7	41.2	2.0	37.0	0.0	100.0	1,371
30-34	18.9	36.6	2.4	41.8	0.3	100.0	986
35-39	15.3	40.5	1.6	42.6	0.1	100.0	991
40-44	12.6	34.4	2.2	50.5	0.3	100.0	637
45-49	8.2	36.8	1.2	53.8	0.0	100.0	497
Residence							
Urban	34.1	28.7	4.1	33.0	0.1	100.0	1,830
Rural	10.4	38.0	1.3	50.2	0.1	100.0	6,051
Province							
Nairobi	41.8	21.0	3.8	33.2	0.2	100.0	770
Central	11.9	44.3	3.2	40.2	0.3	100.0	834
Coast	21.0	30.6	2.7	45.7	0.0	100.0	605
Eastern	13.1	32.3	1.4	53.1	0.1	100.0	1,386
Nyanza	8.2	37.8	1.0	52.9	0.1	100.0	1,690
Rift Valley	16.5	34.8	2.0	46.7	0.0	100.0	1,696
Western	11.4	48.1	1.2	39.4	0.0	100.0	899
Education							
No education	5.5	29.4	0.9	64.2	0.0	100.0	909
Primary incomplete	8.2	33.7	1.3	56.7	0.0	100.0	2,893
Primary complete	16.9	41.1	1.2	40.8	0.1	100.0	1,777
Secondary+	28.8	37.0	3.8	30.1	0.3	100.0	2,302
Total women	15.9	35.9	1.9	46.2	0.1	100.0	7,881
Total men	30.3	37.4	2.8	28.7	0.8	100.0	3,407

4.18 Acceptability of Use of Electronic Media to Disseminate Family Planning Messages

To determine the level of acceptance of the provision of family planning messages through the media, women and men were asked whether it was acceptable or unacceptable to disseminate family planning information on radio or television.

Overall, the large majority of women and men interviewed, 85 and 91 percent, respectively, reported that it was acceptable to use radio or television to air family planning messages (Table 4.20). For both men and women, it appears that the radio is slightly more acceptable as a medium to convey these messages. Acceptability of radio and television as a source of information is highest among women in the age range 20-39 and relatively low among the youngest (15-19 years) and oldest (40+ years) women.

Urban women and women with more education were more likely than rural women and less educated women to view family planning messages in the media as acceptable. Provincial variation in the acceptability of family planning messages is not large, although women in Coast, Western, and Rift Valley provinces are more likely to report as "unacceptable" the use of the electronic media to spread family planning messages.

Table 4.20 Acceptability of media messages on family planning

Percent distribution of women and men by acceptability of messages about family planning on the radio and television, by selected background characteristics (women), Kenya 1998

Background characteristic	Acceptability of radio messages				Acceptability of TV messages				Acceptability of radio or TV messages				Total	Number of women/ men
	Not accept-able	Accept-able	Unsure	Missing	Not accept-able	Accept-able	Unsure	Missing	Both not accept-able	Either accept-able	Unsure	Missing		
Age														
15-19	15.2	79.3	5.5	0.0	17.2	74.7	8.1	0.0	13.1	80.7	6.3	0.0	100.0	1,851
20-24	12.0	86.4	1.5	0.1	14.1	81.8	3.9	0.2	10.6	87.6	1.7	0.1	100.0	1,548
25-29	11.8	86.4	1.8	0.1	14.9	80.4	4.6	0.1	10.2	87.4	2.3	0.1	100.0	1,371
30-34	12.5	85.6	1.8	0.0	16.0	79.5	4.4	0.2	11.2	86.5	2.3	0.0	100.0	986
35-39	10.4	87.7	1.8	0.1	14.0	81.8	4.1	0.1	9.0	88.9	2.0	0.1	100.0	991
40-44	14.1	82.6	3.0	0.3	15.6	77.2	6.8	0.4	12.0	84.1	3.5	0.3	100.0	637
45-49	18.0	78.4	3.6	0.0	17.0	73.9	9.1	0.0	13.7	80.1	6.2	0.0	100.0	497
Residence														
Urban	8.2	89.6	2.0	0.2	11.1	86.1	2.5	0.3	7.8	90.0	1.9	0.2	100.0	1,830
Rural	14.6	82.3	3.1	0.0	16.8	76.5	6.6	0.1	12.3	83.7	3.9	0.0	100.0	6,051
Province														
Nairobi	4.1	94.0	1.7	0.2	6.2	91.2	2.1	0.5	4.1	94.3	1.4	0.2	100.0	770
Central	5.4	92.3	2.3	0.0	18.1	78.9	2.9	0.0	5.3	92.4	2.3	0.0	100.0	834
Coast	9.0	88.2	2.6	0.1	10.7	85.5	3.6	0.3	8.9	88.4	2.6	0.1	100.0	605
Eastern	6.4	90.9	2.6	0.1	8.4	86.5	5.0	0.1	5.8	91.2	3.0	0.1	100.0	1,386
Nyanza	3.4	94.6	2.0	0.0	5.5	87.9	6.6	0.0	3.0	94.8	2.2	0.0	100.0	1,690
Rift Valley	8.4	85.6	5.8	0.1	12.8	77.7	9.2	0.2	8.0	85.9	6.0	0.1	100.0	1,696
Western	9.8	89.5	0.7	0.0	20.8	74.2	4.9	0.0	8.6	90.6	0.7	0.0	100.0	899
Education														
No education	14.9	78.0	7.1	0.0	15.6	72.5	11.8	0.0	12.2	79.7	8.1	0.0	100.0	909
Primary incomplete	13.5	83.0	3.4	0.1	16.3	76.2	7.4	0.1	11.9	84.0	4.0	0.1	100.0	2,893
Primary complete	12.4	85.4	2.2	0.0	15.1	80.0	4.8	0.1	10.3	86.8	2.8	0.0	100.0	1,777
Secondary+	12.5	86.5	0.9	0.1	14.7	83.4	1.7	0.2	11.0	87.6	1.3	0.1	100.0	2,302
Total women	13.1	84.0	2.8	0.1	15.5	78.7	5.7	0.1	11.3	85.2	3.4	0.1	100.0	7,881
Total men	6.0	90.4	2.8	0.8	15.0	78.4	5.7	0.8	5.7	90.7	2.8	0.8	100.0	3,407

4.19 Exposure to Family Planning Messages from Other Types of Media

Female respondents were asked if they had been exposed to a family planning message through other, non-electronic media including: newspapers or magazines, billboards, live drama, or other community events during the six months prior to the interview. The results are presented in Table 4.21 along with results from the questions on radio and television.

Overall, three-quarters of women reported exposure to a message about family planning from at least one source in the last 6 months. Women in the peak childbearing years (20-39) have the greatest exposure to information on family planning, and women with more education have greater exposure than their less-educated counterparts. A similar advantage is observed for urban women, except for exposure to family planning messages through community events, which is more common in rural areas.

Overall, the radio is the most commonly reported source of family planning information (52 percent), followed by billboards (45 percent), newspapers/magazines (28 percent), and community events (24 percent). Young, more educated women and those living in Western Province are disproportionately more likely to have been exposed to family planning information through live drama and community events.

The role of various media as channels for communicating family planning to the public also varies by province, but no consistent pattern emerges. For example, Eastern and Western provinces show the greatest access to family planning information through community events, Nyanza and Nairobi provinces have the greatest billboard exposure, and Rift Valley and Central provinces show high exposure through newspapers and magazines.

Table 4.21 Sources of family planning messages

Percentage of women who have received a message about family planning in the 6 months prior to the interview, by sources of messages and selected background characteristics, Kenya 1998

Background characteristic	Any source	Radio	TV	Newspaper/ Magazine	Billboard	Live drama	Com-munity event	Number of women
Age								
15-19	69.3	40.2	13.6	26.8	40.1	26.3	15.7	1,851
20-24	79.4	56.4	21.7	35.9	49.5	25.3	25.2	1,548
25-29	81.3	61.0	21.8	34.5	50.5	19.6	24.7	1,371
30-34	79.3	55.5	21.3	30.7	48.4	21.9	26.7	986
35-39	77.4	55.8	16.9	20.9	43.6	18.8	27.6	991
40-44	69.5	47.1	14.8	18.0	38.9	15.2	27.4	637
45-49	69.1	45.0	9.4	13.0	31.9	14.3	24.6	497
Residence								
Urban	82.0	62.8	38.2	46.2	51.7	24.1	19.3	1,830
Rural	73.7	48.4	11.7	22.6	42.5	21.1	24.8	6,051
Province								
Nairobi	79.7	62.8	45.6	48.4	53.9	27.4	17.7	770
Central	71.7	56.2	15.1	28.9	29.4	13.5	23.8	834
Coast	75.3	51.6	23.7	27.7	43.7	13.9	15.1	605
Eastern	72.9	45.4	14.5	26.2	41.4	21.8	36.4	1,386
Nyanza	76.9	46.0	9.2	19.3	52.9	21.7	18.5	1,690
Rift Valley	71.1	51.3	18.5	30.3	42.4	16.6	19.8	1,696
Western	86.6	59.5	12.6	25.5	45.0	40.0	30.5	899
Education								
No education	58.8	34.9	6.3	2.3	27.7	10.0	19.3	909
Primary incomplete	68.1	42.0	9.5	15.9	38.6	17.9	20.0	2,893
Primary complete	81.0	58.0	18.0	28.0	47.8	21.4	27.2	1,777
Secondary+	87.6	65.8	32.6	53.7	56.4	31.7	26.7	2,302
Total	75.6	51.7	17.8	28.1	44.6	21.8	23.5	7,881

4.20 Discussion about Family Planning between Spouses

Table 4.22 provides information on the percentage of currently married women who know about contraception, according to the number of times the woman reported having discussed family planning with her husband in the 12 months before the survey. The 1998 KDHS data indicate that 27 percent of women had not spoken with their husband over the past year about family planning. This is slightly better than was reported in the 1993 KDHS (34 percent). Interspousal communication about contraception was infrequent among by the youngest women (age 15-19) and the oldest women (age 45-49) in the sample.

Table 4.22 Discussion of family planning with husband

Percent distribution of currently married, nonsterilised women who know a contraceptive method by the number of times family planning was discussed with their husband in the past year, according to selected background characteristics, Kenya 1998

Background characteristic	Number of times family planning discussed with husband			Missing	Total	Number of women
	Never	Once or twice	More often			
Age						
15-19	42.6	31.8	25.6	0.0	100.0	276
20-24	23.3	41.5	35.1	0.0	100.0	931
25-29	20.8	41.6	37.6	0.0	100.0	1,035
30-34	22.7	37.6	39.4	0.3	100.0	766
35-39	27.6	39.8	32.5	0.1	100.0	715
40-44	38.7	38.0	22.9	0.4	100.0	418
45-49	42.9	36.8	19.6	0.7	100.0	313
Residence						
Urban	20.8	40.6	38.3	0.3	100.0	936
Rural	29.1	39.0	31.8	0.1	100.0	3,517
Provinces						
Nairobi	15.8	46.4	37.3	0.5	100.0	384
Central	16.6	40.4	43.0	0.0	100.0	476
Coast	34.4	35.7	29.5	0.4	100.0	343
Eastern	22.5	39.3	38.1	0.1	100.0	769
Nyanza	35.0	41.0	24.0	0.0	100.0	955
Rift Valley	34.6	36.2	29.0	0.2	100.0	987
Western	20.5	38.4	40.7	0.3	100.0	539
Education						
No education	50.0	31.5	18.2	0.4	100.0	595
Primary incomplete	32.6	40.6	26.8	0.0	100.0	1,525
Primary complete	20.6	43.6	35.6	0.2	100.0	1,093
Secondary +	15.9	37.8	46.1	0.2	100.0	1,240
Total	27.3	39.3	33.2	0.2	100.0	4,453

4.21 Attitudes of Male and Female Respondents Toward Family Planning

Use of effective contraceptive methods is facilitated when couples have a positive attitude toward family planning. Attitudinal data were collected by asking women whether they approved of couples using family planning and what they perceived as their husband's attitude toward family planning. This information is useful in the formulation of family planning policies, since it indicates the extent to which further education and publicity are needed to gain or increase acceptance of family planning. Widespread disapproval of contraception can act as a barrier to the adoption of family planning methods.

The results presented in Table 4.23 are confined to currently married, nonsterilised women and exclude those who had never heard of a contraceptive method. Overall, 89 percent of married women who know of a contraceptive method approve of family planning, and 65 percent believe that their husband approves.

Sixty-four percent of women reported that both they and their husband approved of family planning; only 5 percent of women reported that both they and their husband disapproved. When there is a perceived disagreement between spouses, it is more common that the wife reports her husband disapproves and she approves (16 percent) than the husband approves and she disapproves (1 percent).

Table 4.23 Wives perceptions of couple's attitude toward family planning

Percent distribution of currently married, nonsterilised women who know of a contraceptive method by wife's attitude toward family planning and wife's perception of her husband's attitude toward family planning, according to selected background characteristics, Kenya 1998

Background characteristic	Woman approves			Woman disapproves			Wife unsure	Missing	Total	Wife approves	Husband approves[1]	Number of women
	Both approve	Husband disapproves	Husband's attitude unknown	Both disapprove	Husband approves	Husband's attitude unknown						
Age												
15-19	50.5	14.0	14.8	9.9	1.1	2.4	7.3	0.0	100.0	79.3	52.2	276
20-24	63.1	17.6	9.8	4.2	0.9	1.3	3.2	0.0	100.0	90.5	64.6	931
25-29	68.3	17.8	6.8	3.5	1.1	1.0	1.5	0.0	100.0	92.8	69.7	1,035
30-34	66.9	15.3	7.6	5.0	1.0	0.8	3.3	0.1	100.0	89.9	68.6	766
35-39	65.4	14.8	8.1	5.6	1.6	1.4	3.1	0.1	100.0	88.2	67.5	715
40-44	59.1	10.5	15.1	5.5	1.1	2.9	5.2	0.4	100.0	84.8	60.9	418
45-49	53.9	12.1	12.4	9.8	1.1	4.2	5.7	0.8	100.0	78.5	55.7	313
Residence												
Urban	68.7	13.0	5.7	6.2	1.1	1.9	3.3	0.2	100.0	87.4	70.9	936
Rural	62.2	16.2	10.4	5.0	1.1	1.5	3.5	0.1	100.0	88.8	63.7	3,517
Province												
Nairobi	70.3	13.4	5.7	3.3	1.0	1.9	3.8	0.5	100.0	89.5	73.2	384
Central	82.4	6.7	3.9	4.2	0.8	0.4	1.6	0.0	100.0	93.0	83.2	476
Coast	45.6	14.4	15.5	10.4	1.4	4.6	8.0	0.1	100.0	75.6	47.7	343
Eastern	73.6	12.5	6.1	4.1	0.8	0.7	2.0	0.1	100.0	92.3	74.7	769
Nyanza	55.8	20.9	15.6	3.4	0.7	0.9	2.6	0.0	100.0	92.3	56.9	955
Rift Valley	58.8	14.8	8.3	8.1	2.0	2.6	5.4	0.1	100.0	81.9	61.3	987
Western	61.5	21.6	8.9	4.0	0.9	0.9	1.8	0.3	100.0	92.0	63.2	539
Education												
No education	40.6	17.3	16.4	9.4	0.9	4.3	10.8	0.3	100.0	74.3	42.4	595
Primary incomplete	54.4	20.6	13.9	5.6	1.0	1.3	3.1	0.1	100.0	88.9	55.6	1,525
Primary complete	69.5	14.6	5.3	4.8	2.0	1.1	2.7	0.0	100.0	89.4	72.4	1,093
Secondary+	80.6	9.3	4.2	3.2	0.6	1.0	0.9	0.2	100.0	94.1	81.6	1,240
Total	63.5	15.5	9.4	5.3	1.1	1.6	3.4	0.1	100.0	88.5	65.2	4,453

[1] Includes women who are unsure about their own attitude, but know their husband's attitude

The likelihood that a woman will report that both she and her husband approve of family planning is highest among women age 25-29 years (68 percent) and declines thereafter with age to 54 percent among women age 45-49. The level of approval varies only slightly between urban and rural areas. Approval by both husband and wife was above 80 percent in Central Province, and above 70 percent in Eastern and Nairobi provinces, but below 50 percent in Coast Province. Less-educated women are more likely to disapprove of family planning and are also more likely to say that their spouse disapproves or that they do not know their spouse's view. These results, in terms of both approval levels and patterns, are very similar to those reported in the 1993 KDHS, suggesting little change in attitudes over the last 5 years.

The KDHS made use of the fact that in some households both women and men were interviewed to link responses obtained from currently married women with responses obtained independently from their husbands. Table 4.24 shows the distribution of couples by whether one or both spouses approves of family planning, according to the age difference between the husband and wife and the difference in their education. In 78 percent of couples, both husband and wife reported that they approve of family planning. This indicates a higher level of husband approval than is suggested by the wife's *perception* of her husband's attitude (see Table 4.23). In only 1 percent of couples did both spouses disapprove. When only one spouse disapproved, it was slightly more likely to be the wife (7 percent) than the husband (5 percent).

Generally, as the age difference between husband and wife increases so does the likelihood that they will disagree about family planning, but the differences are small. A much stronger association is found regarding education. Couples tend to be much more likely to both approve of family planning when both spouses are educated.

Table 4.24 Attitudes of couples toward family planning

Percent distribution of couples by approval of family planning, according to age difference between spouses and level of education, Kenya 1998

Age/education difference between spouses	Approval of family planning					Total	Percent of couples in agreement	Number of couples
	Both approve	Both dis-approve	Wife approves, husband disapproves	Husband approves, wife dis-approves	Husband or wife unsure			
Age								
Husband younger	(78.1)	(1.3)	(1.3)	(11.5)	(8.0)	100.0	(79.3)	37
Husband 0-4 years older	78.6	1.0	5.3	7.8	7.2	100.0	79.6	433
Husband 5-9 years older	81.5	0.9	5.0	5.0	7.6	100.0	82.3	564
Husband 10-14 years older	73.4	2.1	6.9	7.6	9.9	100.0	75.5	223
Husband 15 years + older	70.0	0.0	5.7	6.4	17.9	100.0	70.0	78
Education								
Husband/wife no education	(27.8)	(10.8)	(12.2)	(7.4)	(41.8)	100.0	(38.6)	45
Wife educated, husband not	(55.4)	(0.0)	(9.9)	(7.1)	(27.5)	100.0	(55.4)	27
Husband educated, wife not	64.5	1.1	7.5	10.4	16.5	100.0	65.6	142
Husband and wife educated	82.8	0.7	4.7	6.1	5.7	100.0	83.5	1,121
Total	78.4	1.1	5.4	6.6	8.5	100.0	79.5	1,335

Note: Figures in parentheses are based on 25-49 cases.

4.22 Family Planning for Youth

In the 1998 KDHS, respondents were asked if they thought it was acceptable for young persons (under age 18) to be provided with (a) information and (b) services related to family planning. Table 4.25 gives the percentage of men and women who believe that youth should be provided with family planning information and family planning services.

Nearly 4 of 5 women (79 percent) reported that family planning information should indeed be made available to persons under 18, but only one-half (52 percent) believed that the services themselves should be available. In 1993 KDHS, the results were very similar, with 73 percent of women reporting that family planning information should be available and 52 percent reporting that services should be available.[6] Men tend to be more liberal regarding making family planning information (88 percent) and services (68 percent) available to persons under 18.

Table 4.25 Family planning and adolescents

Percentage of women and men who believe that family planning information or family planning services should be available to persons under 18 years of age, by selected background characteristics, Kenya 1998

Background characteristic	Percentage of women who believe family planning (FP) information/services should be available to persons under 18 years of age		Number of women	Percentage of men who believe family planning (FP) information/services should be available to persons under 18 years of age		Number of men
	FP information	FP services		FP information	FP services	
Age						
15-19	75.4	50.4	1,851	86.8	67.5	811
20-24	80.7	54.0	1,548	90.6	76.5	589
25-29	79.7	53.5	1,371	86.8	68.8	463
30-34	81.0	52.4	986	92.7	70.8	418
35-39	79.4	48.0	991	90.9	66.4	375
40-44	80.0	50.0	637	85.0	63.4	291
45-49	76.5	48.6	497	83.3	61.1	278
50-54	-	-	-	78.4	59.4	183
Residence						
Urban	79.9	50.1	1,830	89.3	71.4	913
Rural	78.5	51.9	6,051	87.2	67.1	2,494
Province						
Nairobi	83.3	49.2	770	91.7	70.2	431
Central	78.4	47.1	834	84.2	67.4	341
Coast	70.1	47.3	605	77.4	66.7	242
Eastern	82.3	57.7	1,386	91.0	77.9	633
Nyanza	78.7	47.3	1,690	87.3	76.5	641
Rift Valley	74.7	50.2	1,696	86.2	59.6	758
Western	84.0	61.0	899	91.9	54.0	361
Education						
No education	71.2	46.2	909	65.2	46.2	131
Primary incomplete	77.8	53.5	2,893	85.3	67.1	1,047
Primary complete	79.5	52.4	1,777	89.9	69.8	841
Secondary +	82.8	50.2	2,302	90.4	70.2	1,388
Total	78.8	51.5	7,881	87.8	68.2	3,407

[6] Unlike the 1998 KDHS where a specific age limit (i.e., 18 years) was referenced in the questions, the 1993 KDHS questions did not mention an age limit (i.e., the word "youth" was used). The 1993 questions were asked of women respondents only.

Age of the respondent is not an important factor influencing respondents' views on providing family planning information and services to youth. Education, on the other hand, is more closely linked to these attitudes. Women, and especially men without education, are less likely than those with some education to think that family planning information and services should be made available to youth. Urban-rural residence makes little difference in determining a respondent's attitude toward providing family planning to youth. Some provincial differentials are observed but are rather small. Coast men and women tend to be reluctant to provide family planning information to youth, but appear no less willing than those in other provinces to provide family planning services. Women from Western Province report high levels of support for provision of both family planning information and services to youth.

4.23 Contact of Nonusers of Family Planning with Family Planning Providers

In the KDHS, women were asked whether they had received a visit in the last 12 months from a community-based distribution (CBD agent). They were also asked whether they had attended a health facility in the last 12 months and, if so, whether a staff person at that facility spoke to them about family planning methods. This information is especially useful for determining if nonusers of family planning are being "reached" by family planning programmes in Kenya. Table 4.26 shows the results.

Table 4.26 Contact of non-users with family planning providers disseminating family planning information

Percent distribution of women who do not use contraception by whether they were visited by a CBD agent or spoke with a health facility (HF) staff member about family planning methods (FP) during the 12 months prior to interview, according to selected background characteristics, Kenya 1998

Background characteristic	Visited by CBD agent			Not visited by a CBD agent			Missing	Neither visited by CBD agent nor discussed FP at HF[2]	Total	Number of women
	Attended HF and discussed FP[1]	Attended HF but did not discuss FP[1]	Did not attend health facility	Attended HF and discussed FP[1]	Attended HF but did not discuss FP[1]	Did not attend health facility				
Age										
15-19	0.4	1.6	2.1	3.0	28.9	63.8	0.1	92.8	100.0	1,711
20-24	1.5	2.8	2.6	11.5	35.0	46.6	0.0	81.6	100.0	1,130
25-29	3.4	2.4	2.4	18.9	32.8	40.0	0.1	72.7	100.0	840
30-34	5.5	1.5	4.2	13.8	31.8	42.9	0.3	74.6	100.0	555
35-39	4.4	2.4	3.8	15.9	30.8	42.7	0.0	73.5	100.0	555
40-44	2.6	2.0	5.6	12.2	26.4	51.1	0.1	77.5	100.0	377
45-49	3.2	0.9	3.7	6.9	29.8	55.0	0.6	84.7	100.0	358
Residence										
Urban	1.8	1.1	1.4	13.2	30.7	51.6	0.2	82.4	100.0	1,135
Rural	2.5	2.3	3.4	9.7	31.2	50.8	0.1	82.0	100.0	4,391
Province										
Nairobi	1.2	0.8	0.4	15.5	24.9	57.1	0.0	82.0	100.0	450
Central	1.4	1.1	2.9	11.3	23.7	59.2	0.5	82.9	100.0	448
Coast	1.7	1.9	2.1	11.8	43.1	39.2	0.2	82.3	100.0	496
Eastern	2.4	3.5	0.6	12.6	50.1	30.6	0.2	80.7	100.0	906
Nyanza	2.2	1.7	2.7	9.0	28.1	56.0	0.2	84.2	100.0	1,327
Rift Valley	2.6	2.2	4.7	8.1	27.9	54.4	0.0	82.3	100.0	1,205
Western	3.7	1.9	5.9	9.3	17.9	61.3	0.0	79.2	100.0	694
Education										
No education	2.9	1.3	2.7	8.4	31.4	53.0	0.2	84.4	100.0	715
Primary incomplete	1.6	2.3	3.1	8.8	29.0	55.0	0.2	84.1	100.0	2,305
Primary complete	3.3	2.7	3.5	11.8	33.1	45.6	0.1	78.7	100.0	1,136
Secondary+	2.5	1.4	2.5	12.9	32.9	47.6	0.1	80.5	100.0	1,371
Total	2.3	2.0	3.0	10.4	31.1	51.0	0.1	82.1	100.0	5,526

[1] Spoke with health facility staff about family planning methods
[2] Was not visited by a CBD agent and either did not attend a health facility in preceding 12 months or attended facility but did not speak with a staff member about family planning methods

Eighty-two percent of nonusers reported that they had neither been visited by a CBD agent *nor* discussed family planning with a staff person at a health facility. About one-third of women (31 percent) were not visited by a CBD agent, but did go to a health facility and were not "contacted" about family planning while at the facility. This can be interpreted as a "missed opportunity" to inform a fairly large segment of the non-contracepting population of women about their reproductive options.

At the national level, only 7 percent of women age 15-49 had been contacted by a CBD agent in the last 12 months. Contact from a CBD agent was more commonly reported by rural women (8 percent) than urban women (4 percent), but in urban areas, women who visited a health facility were more likely to have been informed about family planning at the facility. Women in Western Province were most likely (12 percent) and women in Nairobi least likely (2 percent) to receive a visit by a CBD agent in the last 12 months. Generally, across population subgroups, as the likelihood of a CBD visit decreases, the chance of receiving family planning counseling at a health facility increases. The net effect of these patterns is that the percentage of non-contracepting women receiving any family planning "contact" by urban-rural residence, province, or level of education is fairly constant (16-21 percent).

A woman's age is important in determining whether or not she has received a family planning contact, either through a CBD agent or at a health facility. There is a U-shaped pattern for family planning contact according to age, with the youngest and oldest women least likely to have contact and women age 25-39 most likely to have contact. This pattern is especially influenced by higher levels of health facility use (and greater chance for family planning exposure) among women in the peak childbearing ages. Adolescents (women age 15-19), on the other hand, are at a disadvantage: just 4 percent were visited by a CBD agent and only 3 percent were contacted at a health facility about family planning. For these young people, the low level of family planning contact at health facilities is not just because they visit these facilities less frequently. Among women who did go to a health facility, a much smaller proportion of women age 15-19 than older women received some family planning contact. Around 1 in 10 women age 15-19 who attended a health facility received family planning contact compared with about 1 in 4 women age 20-24 and 1 in 3 women age 25-44.

CHAPTER 5

OTHER PROXIMATE DETERMINANTS OF FERTILITY

Michael Mbaya

This chapter focuses on the principal factors, other than contraception, that affect a woman's risk of becoming pregnant. These include: nuptiality and sexual intercourse, postpartum amenorrhoea and abstinence from sexual relations, and onset of menopause. Marriage signals the onset of women's exposure to the risk of childbearing; postpartum amenorrhoea and abstinence affects the interval between births, and the onset of menopause marks the end of a woman's reproductive life. These factors determine the length and pace of reproductive activity and are, therefore, important for understanding fertility.

5.1 Marital Status

The distribution of women and men by marital status is shown in Table 5.1. The data indicate that 30 percent of women of reproductive age in Kenya have never married, 59 percent are currently married, 3 percent are living with a man, and 9 percent are widowed, divorced, or no longer living with a man. The last category is jointly referred to as "formerly married." In accordance with KDHS definitions, in the following sections, individuals termed "currently married" will include both those who are currently in a formalized marital union and those living together in an informal union. There has been virtually no change in the marital patterns of women over the five-year intersurvey period between the 1993 and 1998 KDHS.

Table 5.1 Current marital status

Percent distribution of women and men by current marital status, according to age, Kenya 1998

Age	Current marital status						Total	Number of women/ men
	Never married	Married	Living together	Widowed	Divorced	Not living together		
				WOMEN				
15-19	83.3	14.5	0.9	0.1	0.4	0.7	100.0	1,851
20-24	34.9	58.4	2.9	0.4	0.9	2.5	100.0	1,548
25-29	12.7	74.3	3.6	1.9	1.9	5.5	100.0	1,371
30-34	6.1	79.9	3.5	3.7	2.6	4.2	100.0	986
35-39	2.8	81.2	2.8	5.9	3.3	4.0	100.0	991
40-44	2.8	77.8	2.5	10.1	3.2	3.5	100.0	637
45-49	1.7	70.6	2.8	19.0	2.8	3.1	100.0	497
Total	30.1	58.8	2.6	3.7	1.8	3.1	100.0	7,881
				MEN				
15-19	99.2	0.7	0.0	0.0	0.0	0.0	100.0	811
20-24	77.4	15.5	0.6	0.0	1.3	5.2	100.0	589
25-29	35.1	59.5	1.7	1.3	0.2	2.2	100.0	463
30-34	9.4	85.6	1.3	0.4	0.4	2.9	100.0	418
35-39	3.4	89.0	2.0	0.0	1.5	4.2	100.0	375
40-44	3.7	90.3	0.9	2.7	0.7	1.6	100.0	291
45-49	1.2	93.7	0.8	0.7	0.9	2.6	100.0	278
50-54	0.3	92.7	2.9	1.9	0.0	2.3	100.0	183
Total	43.7	51.5	1.0	0.6	0.6	2.5	100.0	3,407

The proportion of women age 15-49 who have never married declines sharply from 83 percent in the age group 15-19 to 3 percent or less among women age 35 and older. Marriage is thus nearly universal in Kenya. The proportion of women who are currently married increases to a peak at age group 35-39 (81 percent) and then declines slowly because of increasing levels of widowhood with age. The proportion divorced is low at all ages, especially under age 25. Compared with the 1993 KDHS data, virtually no change has occurred in the marital patterns of women over the five-year intersurvey period.

Forty-four percent of the men interviewed have never been married, 52 percent are currently married, 1 percent are living with a woman, and 4 percent are widowed, divorced, or no longer living with a woman. Compared with women, a much greater proportion of men (14 percentage points more) have never been married. This is, as we will see in later sections, due to later age at marriage among men. Widowhood is rare among men, suggesting that they are more likely than women to die before their spouse, and more likely to remarry upon the death of a spouse.

5.2 Polygyny

The extent of polygyny in Kenya was measured by asking all currently married female respondents this question: "Besides yourself, how many other wives does your husband have?" For currently married men, the question was: "How many wives do you have?" Table 5.2 and Figure 5.1 show the percentage of currently married women by the number of co-wives they have, according to selected background character-

Table 5.2 Polygyny

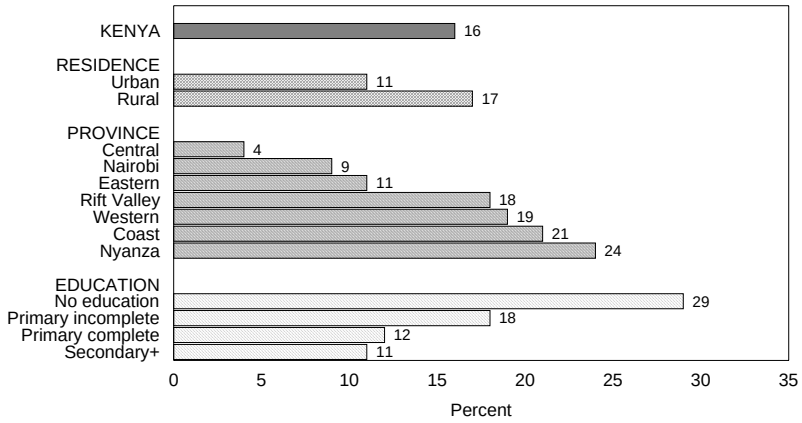
Percent distribution of currently married women by number of co-wives, and percent distribution of currently married men by number of wives, according to background characteristics, Kenya 1998

Background characteristic	Number of co-wives			Don't know/ Missing	Total	Number of women	Number of wives			Total	Number of men
	0	1	2+				1	2	3+		
Age											
15-19	89.9	6.5	3.6	0.0	100.0	285	100.0	0.0	0.0	100.0	6
20-24	90.8	6.3	2.6	0.2	100.0	948	100.0	0.0	0.0	100.0	95
25-29	85.0	10.5	4.1	0.3	100.0	1,069	97.3	2.1	0.7	100.0	283
30-34	83.3	11.7	4.7	0.2	100.0	822	92.2	7.8	0.0	100.0	364
35-39	81.1	14.1	4.1	0.6	100.0	832	91.9	7.1	1.0	100.0	341
40-44	75.2	17.3	7.0	0.5	100.0	511	86.3	12.6	1.1	100.0	265
45-49	74.5	15.9	9.4	0.2	100.0	365	83.6	15.3	1.1	100.0	263
50-54	NA	NA	NA	NA	NA	NA	81.8	10.2	7.8	100.0	175
Residence											
Urban	89.0	9.2	1.8	0.0	100.0	1,010	93.3	5.9	0.8	100.0	531
Rural	82.2	12.0	5.3	0.4	100.0	3,824	89.0	9.4	1.6	100.0	1,261
Province											
Nairobi	91.0	6.8	2.3	0.0	100.0	408	94.7	5.3	0.0	100.0	241
Central	95.5	3.2	0.3	0.9	100.0	517	96.6	3.4	0.0	100.0	162
Coast	79.2	16.1	4.6	0.0	100.0	373	91.8	7.2	0.6	100.0	127
Eastern	89.0	7.1	3.4	0.5	100.0	824	96.3	3.7	0.0	100.0	307
Nyanza	75.5	16.9	7.5	0.1	100.0	1,048	81.6	15.7	2.6	100.0	324
Rift Valley	82.0	12.1	5.6	0.4	100.0	1,089	89.4	8.3	2.3	100.0	436
Western	80.9	14.0	4.7	0.4	100.0	575	85.0	12.4	2.7	100.0	193
Education											
No education	70.3	20.3	9.0	0.4	100.0	688	79.0	15.4	5.2	100.0	98
Primary incomplete	82.1	12.7	5.2	0.1	100.0	1,630	88.7	10.5	0.8	100.0	394
Primary complete	87.3	8.4	3.6	0.7	100.0	1,182	90.4	7.7	1.9	100.0	528
Secondary+	89.3	8.0	2.5	0.3	100.0	1,333	92.4	6.8	0.8	100.0	772
Total	83.7	11.4	4.6	0.3	100.0	4,834	90.2	8.4	1.4	100.0	1,791

NA = Not applicable

ristics. Overall, 16 percent of currently married women in Kenya are in a polygynous union (i.e., one or more co-wives). Older women are more likely to be in a polygynous union than younger women. Also, polygyny is higher among rural women than their urban counterparts. There are substantial provincial variations in the practice, with Central Province having the lowest level of polygyny (4 percent) and Nyanza Province the highest (24 percent). In Nyanza, Rift Valley, Western, and Coast provinces, 5 percent or more of currently married women have two or more co-wives.

Figure 5.1
Percentage of Currently Married Women
Whose Husbands Have at Least One Other Wife



KDHS 1998

There is an inverse relationship between female education and polygyny. The proportion of currently married women in a polygynous union decreases from 29 percent among women with no education to 11 percent among women with at least some secondary education. Further, the proportion of married women with 2 or more co-wives is 9 percent among women with no education compared with just 3 percent among women with some secondary education.

Based on comparisons with survey data collected over the last two decades, polygyny is declining in Kenya. The proportion of married women in a polygynous union has fallen from 30 percent in the 1977/78 Kenya Fertility Survey (KFS) to 16 percent in the 1998 KDHS.

The data for currently married men is shown in the panel on the right in Table 5.2. Ten percent of married men are in a polygynous union, but this varies widely with the age of the man. Under age 30, around 2-3 percent of men are in a polygynous union compared with around 15 percent of men age 40 and above. Differentials in urban-rural residence, province, and level of education for men parallel those observed for women.

5.3 Age at First Marriage

For most societies, marriage marks the point in a woman's life when childbearing first becomes socially acceptable. Women who marry early will have, on average, longer exposure to the risk of pregnancy; therefore, early age at first marriage usually implies higher fertility levels for a society. Information on age at first marriage was obtained by asking all ever-married respondents the month and year they started living together with their first husband.

The median age at first marriage among women in Kenya has risen over the last two decades, from around 18 years among women age 40-49 to around 19 years for women age 30-39 to 20 years for women age 25-29, the youngest cohort for which median age at marriage can be calculated (Table 5.3). Further evidence of increasing age at marriage is observed by observing the proportion of women in various age groups married before specified ages. For example, the proportion of women married by age 20 has dropped from around two-thirds among women age 35-49 to less than half among women under 30 years of age.

Table 5.3 Age at first marriage

Percentage of women age 15-49 years and men age 25-54 who were first married by exact ages and median age at first marriage, according to current age, Kenya 1998

WOMEN

	Percentage who were first married by exact age:					Percentage who had never married	Number of women	Median age at first marriage
Current age	15	18	20	22	25			
15-19	2.1	NA	NA	NA	NA	83.3	1,851	a
20-24	5.2	24.6	46.1	NA	NA	34.9	1,548	a
25-29	10.2	30.5	48.2	65.4	82.1	12.7	1,371	20.2
30-34	10.9	37.2	55.7	69.5	82.5	6.1	986	19.2
35-39	13.4	41.6	63.3	77.3	89.8	2.8	991	18.7
40-44	18.3	48.0	66.1	79.2	90.4	2.8	637	18.2
45-49	19.3	46.6	63.3	78.5	89.7	1.7	497	18.4
Women 20-49	11.2	35.1	54.5	69.3	80.6	13.7	6,029	19.5
Women 25-49	13.2	38.7	57.4	72.3	85.9	6.4	4,482	19.2

MEN

	Percentage who were first married by exact age:					Percentage who had never married	Number of men	Median age at first marriage
Current age	20	22	25	28	30			
25-29	11.7	20.1	41.8	NA	NA	35.1	463	a
30-34	11.6	27.9	50.1	72.0	84.9	9.4	418	25.0
35-39	14.9	30.3	56.3	77.7	84.7	3.4	375	24.2
40-44	11.6	24.6	59.1	81.4	87.4	3.7	291	24.2
45-49	19.0	33.4	51.5	74.3	87.1	1.2	278	24.8
50-54	12.3	30.0	60.5	81.4	88.6	0.3	183	24.1
Men 25-54	13.3	27.0	51.8	73.0	81.3	11.4	2,007	24.8

NA = Not applicable
[a] Less than 50 percent of respondents in age group *x* to *x+4* were first married by age *x*

Comparison with data from the male survey shows that men enter into first union at a much later age than women: the median age at first marriage for men age 25-54 is 25 years, compared with 19 years for women age 25-49. Only 13 percent of the men were married by age 20 compared with 57 percent of women.

Table 5.4 examines the median age at first marriage for women age 25-49 by selected background characteristics.[1] The overall median age at first marriage observed for women age 25-49 is 19.2 years. Urban women marry, on average, nearly two years later than rural women. There are even greater variations by province. Women from Nyanza and Coast provinces have the lowest median age at marriage (around 18 years), while women in Nairobi have the highest (22 years).

There is a strong relationship between female education and median age at first marriage for women. The median age at first marriage for women with no formal education is around 17 years compared with 18 years for those with primary incomplete education, 19 years for those with a completed primary education and 22 years for women with some secondary or higher education. Within educational groups, however, age at first marriage has remained essentially constant since the 1993 KDHS. The overall median age at marriage (i.e., all women) has increased solely because the proportion of women who attend higher levels of education (and marry later) has increased since 1993.

Table 5.4 Median age at first marriage

Median age at first marriage among women age 20-49 years, by current age and selected background characteristics, Kenya 1998

Background characteristic	Current age						Women age 25-49
	20-24	25-29	30-34	35-39	40-44	45-49	
Residence							
Urban	a	21.6	21.8	19.3	20.2	20.7	21.0
Rural	a	19.7	18.7	18.5	17.9	17.9	18.8
Province							
Nairobi	a	22.8	21.8	20.0	22.5	21.7	21.9
Central	a	22.0	20.8	19.8	19.2	20.7	20.7
Coast	19.3	19.3	18.3	18.2	15.8	18.2	18.3
Eastern	a	20.9	19.5	19.2	19.1	19.4	19.8
Nyanza	19.7	18.2	17.4	17.7	16.8	16.5	17.5
Rift Valley	a	19.4	18.9	18.3	18.5	18.4	18.7
Western	20.0	19.7	19.8	18.6	17.7	17.4	18.9
Education							
No education	18.0	16.0	16.7	16.6	17.0	16.7	16.6
Primary incomplete	18.7	18.1	17.5	17.4	17.3	17.8	17.6
Primary complete	a	20.3	18.9	18.9	18.8	19.9	19.3
Secondary+	a	22.5	22.0	20.7	21.8	22.0	21.9
Total	a	20.2	19.2	18.7	18.2	18.4	19.2

[a] Less than 50 percent of respondents in age group *x* to *x+4* were first married by age *x*

[1] Although more than 50 percent of women age 20-24 are married before age 20 for the whole population, the median for the age group 25-49 is used in this table because less than 50 percent of women age 20-24 are married before age 20 in many population subgroups.

5.4 Age at First Sexual Intercourse

As mentioned above, age at first marriage is often used as a proxy for the onset of a woman's exposure to the risk of pregnancy. However, since some women are sexually active before marriage, the age at which women initiate sexual intercourse more directly marks the beginning of exposure to the risk of pregnancy.

The percentage of women and men who have ever had intercourse by specific ages is given in Table 5.5. The median age at first sexual intercourse for women has risen slowly in recent years from a median of around 16 years among women age 40-49 to around 17 years among those age 25-29. For women in the 15-19 age group, 56 percent have never had sex. This proportion drops to 11 percent for women age 20-24 and by age 25-29 almost all women have become sexually active.

The data from male respondents shows a different picture, one of decreasing age at first sex from about 18 years for the cohort currently age 50-54 to around 16 years for the cohort age 20-24. The median age at first sex for men (all ages) is 16.8 years compared with 16.7 years for women. Thus, although men enter into union on average five years later than women, they start sexual activity at about the same age.

Table 5.5 Age at first sexual intercourse

Percentage of women and men who had first sexual intercourse by exact ages 15, 18, 20, 22, and 25, and median age at first intercourse, according to current age, Kenya 1998

Current age	Percentage who had first intercourse by exact age: 15	18	20	22	25	Percentage who never had intercourse	Number of women/ men	Median age at first intercourse
				WOMEN				
15-19	15.0	NA	NA	NA	NA	56.4	1,851	a
20-24	17.4	57.3	78.4	NA	NA	11.1	1,548	17.3
25-29	21.4	61.1	78.5	87.2	91.2	1.8	1,371	16.8
30-34	22.7	64.8	81.7	88.5	92.2	0.2	986	16.7
35-39	26.6	70.7	86.9	93.2	96.1	0.0	991	16.3
40-44	32.0	73.2	86.5	92.0	94.3	0.0	637	16.2
45-49	35.0	68.8	81.3	89.8	92.8	0.0	497	16.1
Women 20-49	23.7	64.2	81.4	88.6	91.3	3.3	6,030	16.7
				MEN				
15-19	31.7	NA	NA	NA	NA	45.8	811	a
20-24	33.6	67.1	79.9	NA	NA	9.0	589	16.2
25-29	29.8	70.0	84.9	89.7	91.7	1.1	463	16.3
30-34	25.4	64.7	80.4	87.3	87.4	0.7	418	16.6
35-39	19.5	59.3	74.6	87.9	92.0	0.3	375	16.9
40-44	23.9	62.8	82.3	87.2	90.2	0.4	291	17.1
45-49	20.1	54.4	72.3	83.8	88.0	0.3	278	17.7
50-54	16.6	48.2	74.0	85.9	91.2	0.0	183	18.1
Men 20-54	25.9	62.9	79.1	86.9	89.2	2.5	2,596	16.8

NA = Not applicable
[a] Omitted because less than 50 percent in the age group *x* to *x + 4* have had intercourse by age *x*

Table 5.6 shows differentials in the median age at first sexual intercourse by background characteristics for women age 20-49 years and men age 20-54 years. With respect to place of residence, on average, rural women start sexual relations almost one year earlier than urban women. Looking at variation amongst the provinces, sexual activity begins earliest in Nyanza Province (15.6 years) and latest in Coast Province (17.8 years). Women with at least some secondary schooling initiate sexual relations, on average, three years later, than those with no formal education.

Table 5.6 Median age at first intercourse

Median age at first sexual intercourse among women age 20-49 years and men age 20-54, by current age (women) and selected background characteristics, Kenya 1998

Background characteristic	Current age of women							Women age 20-49	Men age 20-54
	20-24	25-29	30-34	35-39	40-44	45-49	50+		
Residence									
Urban	17.7	17.5	17.4	16.6	17.4	16.9	NA	17.4	17.1
Rural	17.2	16.7	16.5	16.2	16.0	16.0	NA	16.5	16.7
Province									
Nairobi	17.9	17.3	17.4	16.3	17.3	16.0	NA	17.3	17.2
Central	17.8	16.8	16.5	16.5	16.5	16.3	NA	16.8	16.3
Coast	18.4	18.3	17.5	16.9	15.7	17.8	NA	17.8	17.4
Eastern	17.4	17.2	16.7	16.3	15.7	16.4	NA	16.7	16.2
Nyanza	15.9	15.7	15.6	15.6	15.4	15.1	NA	15.6	16.6
Rift Valley	17.7	16.8	17.3	16.4	16.9	16.0	NA	17.0	16.6
Western	17.8	18.2	17.8	17.3	16.3	16.8	NA	17.5	17.5
Education									
No education	16.6	15.5	15.3	15.6	15.5	15.2	NA	15.5	17.9
Primary incomplete	16.1	15.7	15.7	15.7	15.6	16.0	NA	15.8	16.6
Primary complete	17.2	17.0	16.7	16.3	16.5	16.6	NA	16.8	16.5
Secondary+	18.8	18.5	17.9	17.7	18.4	19.5	NA	18.4	17.0
Total women	17.3	16.8	16.7	16.3	16.2	16.1	NA	16.7	NA
Total men	16.2	16.3	16.6	16.9	17.1	17.7	18.1	NA	16.8

NA = Not applicable

For men, median age at first sexual intercourse varies little by urban-rural residence. Provincial variation is also more limited among men than women, ranging from 16.2 years in Eastern Province to 17.5 years in Western Province. While age at first sex rises with increasing level of education for women, it tends to decrease for men.

5.5 Recent Sexual Activity

Although only 16 percent of women age 15-49 and 13 percent of men age 15-54 have never had sexual intercourse, not all those who have ever had sex are currently sexually active. In the absence of effective contraception, the probability of becoming pregnant is related to the frequency of intercourse. Information on recent sexual activity, therefore, can be used to refine measures of exposure to pregnancy. Men and women who had ever had sex were asked how long ago their last sexual activity occurred; this allows assessment of whether they had a recent sexual encounter (last 4 weeks). Tables 5.7 and 5.8 show the distribution of sexual activity by background characteristics for all female and male respondents.

A little over one-half (52 percent) of all women were sexually active in the four weeks preceding the survey, 7 percent were in postpartum abstinence, 25 percent were abstaining for reasons other than recent childbirth, and 16 percent had never had sex. Recent sexual activity is highest among women in the age range 25-39 and among women married for less than 15 years. Urban-rural residence is not closely associated with recent sexual activity in women, and neither is level of education, although women with no education are less likely to have never had sex than women who have attended school, and of those who have started sex, are more likely to be in long-term abstinence. Women using contraception are much more likely than those not using a family planning method to be sexually active, but this is not surprising since many women do not use a method because they are having little or no sex.

Table 5.7 Recent sexual activity: women

Percent distribution of women by sexual activity in the four weeks preceding the survey, and among those not sexually active, the length of time they have been abstaining and whether postpartum or not postpartum, according to selected background characteristics and contraceptive method currently used, Kenya 1998

Background characteristic/ contraceptive method	Sexually active in last four weeks	Not sexually active in last four weeks: Abstaining (postpartum) 0-1 years	Abstaining (postpartum) 2+ years	Abstaining (not postpartum) 0-1 years	Abstaining (not postpartum) 2+ years	Never had sex	Missing	Total	Number of women
Age									
15-19	19.4	5.9	0.3	15.2	2.3	56.4	0.6	100.0	1,851
20-24	52.3	10.4	1.0	21.5	2.4	11.1	1.2	100.0	1,548
25-29	66.5	7.6	0.8	19.5	2.9	1.8	0.9	100.0	1,371
30-34	67.4	6.7	1.1	19.4	4.0	0.2	1.2	100.0	986
35-39	65.9	4.4	1.2	21.7	5.5	0.0	1.2	100.0	991
40-44	62.4	1.9	0.5	23.7	9.4	0.0	2.1	100.0	637
45-49	54.3	0.2	0.3	24.9	19.4	0.0	0.8	100.0	497
Duration since first union (years)									
Never married	12.8	6.8	1.0	21.5	5.0	52.4	0.5	100.0	2,372
0-4	72.5	10.5	0.3	15.2	0.0	0.0	1.5	100.0	1,257
5-9	70.7	7.0	0.9	18.6	1.7	0.0	1.1	100.0	1,148
10-14	73.7	6.0	0.7	15.7	2.6	0.0	1.3	100.0	860
15-19	67.6	5.6	0.8	20.3	4.3	0.0	1.5	100.0	876
20-24	63.9	2.9	0.9	24.3	6.7	0.0	1.3	100.0	659
25-29	58.6	0.8	0.9	22.3	16.8	0.0	0.7	100.0	472
30+	48.7	0.0	0.0	29.1	20.1	0.0	2.1	100.0	237
Residence									
Urban	55.0	4.0	0.7	19.1	5.4	14.5	1.3	100.0	1,830
Rural	50.5	7.0	0.8	20.1	4.5	16.1	1.0	100.0	6,051
Education									
No education	58.0	5.2	1.0	22.0	10.0	2.4	1.4	100.0	909
Primary incomplete	47.3	6.6	0.7	19.1	3.6	21.5	1.3	100.0	2,893
Primary complete	55.4	6.9	0.8	21.0	4.8	10.5	0.7	100.0	1,777
Secondary+	51.6	6.0	0.7	18.9	4.0	18.0	0.9	100.0	2,302
Contraceptive method									
No method	40.9	8.2	0.9	20.6	5.7	22.4	1.2	100.0	5,526
Pill	82.8	1.8	0.3	13.2	1.0	0.0	0.9	100.0	510
IUD	82.7	0.7	0.0	11.8	4.2	0.0	0.7	100.0	146
Sterilization	76.7	1.0	1.1	15.7	4.8	0.0	0.7	100.0	335
Periodic abstinence	66.1	2.7	0.0	28.8	1.6	0.0	0.8	100.0	414
Other (including breastfeeding)	77.0	2.2	0.5	17.6	2.3	0.0	0.5	100.0	949
Total	51.6	6.3	0.8	19.8	4.7	15.8	1.1	100.0	7,881

The proportion of women abstaining postpartum for less than two years declines with age and with increasing marital durations. Women in rural areas and those who are not using any form of contraception are much more likely to be postpartum abstaining. Generally, abstinence unrelated to childbirth rises with increasing age and duration of marriage. This pattern is especially pronounced for long-term abstinence (2 or more years).

Fifty-six percent of the men interviewed were sexually active in the four weeks preceding the survey, 13 percent had never had sex, and the remaining 32 percent had had sex but not recently (see Table 5.8). The proportion of men who were recently sexually active increases with age up to 35-39 years, after which it slowly declines. Only 32 percent of never-married men have had sex recently compared with 76 percent of married men, and 44 percent of formerly married men. The level of a married man's current sexual activity is, on average, unrelated to the number of wives he has. Urban men are more likely to have started sexual activity, but once started, less likely to be currently active than rural men. The relationship between education and sexual activity is difficult to interpret due to the confounding association between education and age: men with primary incomplete are disproportionately comprised of men in the youngest age group, 15-19 (i.e., they have not started sex and may still continue in school).

Table 5.8 Recent sexual activity: men

Percent distribution of men by sexual activity in the four weeks preceding the survey, according to selected background characteristics, Kenya 1998

Background characteristic/ contraceptive method	Sexually active in last 4 weeks	Not sexually active in last 4 weeks	Never had sex	Total	Number of men
Age					
15-19	24.5	29.7	45.8	100.0	811
20-24	48.0	43.0	9.0	100.0	589
25-29	66.2	32.8	1.1	100.0	463
30-34	72.0	27.3	0.7	100.0	418
35-39	74.6	25.1	0.3	100.0	375
40-44	71.5	28.0	0.4	100.0	291
45-49	70.8	28.9	0.3	100.0	278
50-54	64.5	35.5	0.0	100.0	183
Marital status					
Never married	32.3	38.4	29.3	100.0	1,489
In polygynous union	76.0	24.0	0.0	100.0	174
In monogamous union	75.5	24.5	0.0	100.0	1,617
Formerly married	44.0	56.0	0.0	100.0	126
Residence					
Urban	51.9	40.5	7.6	100.0	913
Rural	56.8	28.5	14.7	100.0	2,494
Education					
No education	58.2	35.6	6.2	100.0	131
Primary incomplete	47.3	27.2	25.5	100.0	1,047
Primary complete	62.1	31.5	6.3	100.0	841
Secondary+	57.4	34.8	7.8	100.0	1,388
Total	55.5	31.7	12.8	100.0	3,407

5.6 Postpartum Amenorrhoea, Abstinence and Insusceptibility

Postpartum amenorrhoea refers to the interval between childbirth and the return of menstruation. During this period, the risk of pregnancy is much reduced. How long after childbirth this protection from conception lasts depends on the length and intensity of breastfeeding and on how long it takes the woman to resume sexual intercourse. Women who gave birth during the three years prior to the survey were asked about the duration of their periods of amenorrhoea and sexual abstinence following each birth. Women are considered *insusceptible* if they are not exposed to the risk of pregnancy either because they are amenorrhoeic or are still abstaining from sex following a birth. The results are presented in Table 5.9.

The period of postpartum amenorrhoea is considerably longer than the period of postpartum abstinence and is, therefore, the principal determinant of the length of postpartum insusceptibility to pregnancy in Kenya. The median duration of amenorrhoea is 9 months, the duration of abstinence is 3 months, and the period of insusceptibility is 11 months. The 1993 KDHS documented postpartum amenorrhoea at 11 months in length, postpartum abstinence at 3 months, and insusceptibility at 13 months. There has thus been a significant shortening of the time following a birth that a woman is insusceptible to pregnancy risk; the two-month decrease in insusceptibility appears to be the result of a two-month decrease in the length of postpartum amenorrhoea.

Virtually all women are insusceptible to pregnancy within the first two months following a birth and both amenorrhoea and abstinence are important factors in their insusceptibility. However, starting from the second month after birth, the contribution of abstinence to the insusceptible period is greatly reduced as more women resume sexual relations. At 10-11 months postpartum, about one-half of mothers are still amenorrhoeic while only 14 percent are still abstaining. From 12 to 27 months postpartum, however, the proportion of mothers who are amenorrhoeic also drops sharply so that by 28 months after a birth less than 10 percent of mothers are still insusceptible to the risk of pregnancy.

Table 5.9 Postpartum amenorrhoea, abstinence and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrhoeic, abstaining and insusceptible, by number of months since birth, and median durations, Kenya 1998

Months since birth	Amenor-rhoeic	Abstaining	Insus-ceptible	Number of births
<2	97.6	90.2	98.9	156
2-3	82.9	55.1	92.8	206
4-5	64.2	29.7	72.7	178
6-7	54.9	18.7	61.2	205
8-9	49.4	22.9	59.0	201
10-11	48.8	14.1	53.7	193
12-13	37.7	14.1	42.5	199
14-15	33.7	8.6	40.8	199
16-17	25.6	9.7	32.5	204
18-19	17.8	6.9	23.6	191
20-21	14.2	6.9	19.7	186
22-23	11.0	8.8	18.2	207
24-25	10.9	6.2	16.2	215
26-27	5.1	7.4	10.5	201
28-29	5.3	3.6	7.9	156
30-31	3.7	3.7	6.4	188
32-33	1.0	4.9	5.9	159
34-35	1.4	3.4	4.8	170
Total	31.5	17.1	37.3	3,414
Median	8.9	3.1	11.1	-

Table 5.10 shows the median durations of postpartum amenorrhoea, abstinence, and insusceptibility by various background characteristics. Younger women (<30) tend to have shorter durations of postpartum insusceptibility than older women (30+) due to their shorter period of amenorrhoea. This is associated with shorter breastfeeding durations in younger women (who are more likely to be employed in the formal sector). Urban women also have shorter periods of amenorrhoea and insusceptibility than rural women for the same reasons outlined above. Very short periods of insusceptibility are observed in Nairobi (5 months) while Nyanza Province has relatively long periods of insusceptibility (13 months).

The length of postpartum abstinence is not closely associated with mother's education. The median length of postpartum amenorrhoea, on the other hand, falls precipitously with increasing education. Insusceptibility to the risk of pregnancy lasts for 12-13 months postpartum among women with less than a completed primary education, 10 months among those with a primary completed education, and 8 months among women with at least some secondary education.

Table 5.10 Median duration of postpartum insusceptibility by background characteristics

Median number of months of postpartum amenorrhoea, postpartum abstinence, and postpartum insusceptibility, by selected background characteristics, Kenya 1998

Background characteristic	Median duration of postpartum: Amenor-rhoea	Abstinence	Insusceptibility	Number of births
Age				
<30	6.5	3.0	10.1	2,320
30+	11.9	3.3	12.2	1,094
Residence				
Urban	5.0	2.2	6.1	626
Rural	10.2	3.3	12.5	2,788
Province				
Nairobi	4.7	2.4	5.4	213
Central	7.1	2.2	11.2	305
Coast	7.6	2.9	7.8	279
Eastern	7.9	3.7	12.2	569
Nyanza	11.3	2.8	12.6	746
Rift Valley	9.7	4.1	10.5	857
Western	8.8	3.3	9.7	445
Education				
No education	11.5	3.4	12.0	367
Primary incomplete	10.6	2.9	12.9	1,330
Primary complete	7.9	3.2	9.6	855
Secondary+	5.9	3.4	8.1	863
Total	8.9	3.1	11.1	3,414

Note: Medians are based on current status

5.7 Termination of Exposure to Pregnancy

Above age 30, the risk of pregnancy declines with age as increasing proportions of women become infecund. Although the onset of infecundity is difficult to determine for an individual woman, there are ways of estimating it for a population. Table 5.11 presents data on an indicator of decreasing exposure to the risk of pregnancy for women age 30 years and over—menopause. The percent menopausal (14 percent) refers to the proportion of women age 30-49 who had not had a menstrual period in the six months preceding the survey or who reported being menopausal. The proportion of women who have reached menopause increases steadily with age (particularly after age 43) from 4 to 13 percent among women age 30-41, to 59 percent among women age 48-49.

Table 5.11 Menopause

Prevalence of menopause among women age 30-49, by age, Kenya 1998

Age	Meno-pausal[1]	Number of women
30-34	3.9	986
35-39	8.2	991
40-41	13.3	310
42-43	13.1	228
44-45	24.0	247
46-47	36.7	165
48-49	58.8	184
Total	13.5	3,111

[1] Percentage of women whose last menstrual period occurred six or more months preceding the survey or who report that they are menopausal.

CHAPTER 6

FERTILITY PREFERENCES

Dr. L.I.A. Ettyang

Women and men were asked a series of questions to ascertain their fertility preferences, that is, their desire to have another child, the length of time they would like to wait before having a child, and the number of children they consider to be ideal. These data make the quantification of fertility preferences possible and, in combination with data on contraceptive use, allow estimation of the unmet need for family planning, both to space and to limit births.

The interpretation of survey data on fertility preferences is often difficult, since it is understood that respondents' reported preferences are, in a sense, hypothetical and thus subject to change and rationalisation. Still, the utility of information on the desire for children to anticipate changes in actual fertility behaviour has been demonstrated in a wide range of contexts (Westoff, 1990).

6.1 Desire for More Children

Men and women in the KDHS were asked "Would you like to have (a/another) child or would you prefer not to have any (more) children?" Women who said they wanted to have another child were then asked how long they would like to wait before the birth of the next child.

Table 6.1 presents fertility desires among women and men by the number of living children. While 40 percent of currently married women would like to have another child, only 14 percent want one soon (within two years). One-quarter of women would prefer to *space* their children, waiting two or more years for the next one. Over one-half (53 percent) of married women say either that they want no more children or have already been sterilised and therefore wish to *limit* their family at its current size. The large majority of women (78 percent) want either to space their next birth or to end childbearing altogether (Figure 6.1). Taken at face value, this represents the proportion of women who are potentially in need of either a reversible or a permanent method of family planning. Based on comparison with the 1993 KDHS data, there has been essentially no change in the fertility preferences of women over the last five years.

Fertility preferences of male respondents are very similar to those of female respondents, although a smaller proportion report wanting no more children (39 percent).

As expected, the desire to discontinue childbearing increases sharply with increasing number of living children, from 2 percent among married women with no children to 75 percent among women with six or more children (Figure 6.2). A similar pattern is observed for male respondents.

Table 6.2 shows the desire to limit births rises rapidly with age, from 10 percent among married women age 15-19 to 67 percent among those age 45-49. Conversely, the desire to space births declines with age. In other words, the potential need for family planning services is greatest among older women for limiting childbearing and among younger women for spacing births. The net effect of these two opposing patterns is that the proportion of women falling into one of these two groups is roughly constant across age groups at between 68 and 77 percent of women.

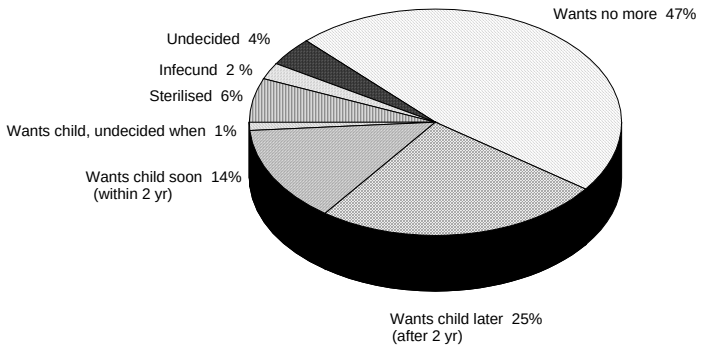
Table 6.1 Fertility preferences by number of living children

Percent distribution of currently married women and men by desire for more children, according to number of living children, Kenya 1998

Desire for children	Number of living children[1] 0	1	2	3	4	5	6+	Total
WOMEN								
Have another soon[2]	71.2	27.3	14.9	11.9	6.8	3.1	1.4	13.8
Have another later[3]	12.1	58.8	43.7	27.9	13.3	9.3	2.9	25.0
Have another, undecided when	5.2	1.4	0.9	1.3	1.4	0.4	0.2	1.1
Undecided	2.4	2.5	5.2	5.0	5.0	5.2	3.2	4.2
Want no more	1.7	7.8	32.9	48.3	64.3	66.1	74.9	47.1
Sterilised	0.0	0.3	0.9	3.5	8.0	12.3	13.8	6.2
Declared infecund	6.3	1.7	1.3	1.9	1.3	3.5	3.5	2.4
Missing	1.3	0.2	0.0	0.1	0.0	0.2	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	251	684	917	764	654	488	1,075	4,834
MEN								
Have another soon[2]	52.8	23.8	17.0	12.9	6.8	5.2	7.0	14.2
Have another later[3]	24.5	59.3	46.4	29.6	18.6	15.1	9.6	27.3
Have another, undecided when	3.6	3.1	3.2	2.8	0.5	0.5	0.4	1.8
Undecided	9.2	5.9	8.8	12.5	8.5	7.0	9.7	9.0
Want no more	6.2	5.3	22.8	36.7	55.0	63.2	54.4	38.7
Sterilised	0.0	0.0	1.3	4.5	8.1	8.4	14.9	6.8
Declared infecund	1.3	1.4	0.2	0.2	1.0	0.7	2.3	1.1
Missing	2.3	1.2	0.3	0.8	1.4	0.0	1.8	1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	115	213	316	238	205	225	479	1,791

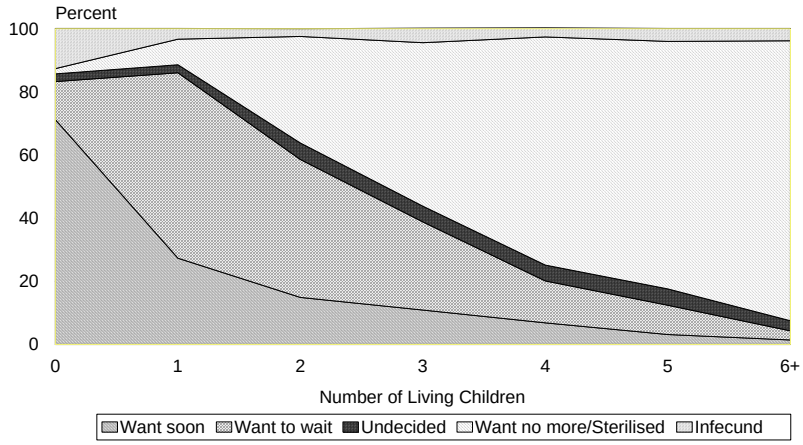
[1] Includes current pregnancy
[2] Want next birth within two years
[3] Want to delay next birth for two or more years

Figure 6.1
Fertility Preferences among
Currently Married Women Age 15-49



KDHS 1998

Figure 6.2
Fertility Preferences among Currently Married Women by Number of Living Children



KDHS 1998

Table 6.2 Fertility preferences by age

Percent distribution of currently married women by desire for more children, according to age, Kenya 1998

	Age of woman							
Desire for children	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
Have another soon[1]	25.5	20.4	14.6	15.8	9.8	4.9	2.2	13.8
Have another later[2]	57.7	51.3	35.2	17.0	4.0	1.6	0.3	25.0
Have another, undecided when	2.5	1.5	1.1	1.5	0.7	0.6	0.0	1.1
Undecided	3.7	4.1	5.2	4.0	3.8	4.9	1.7	4.2
Want no more	10.2	22.4	41.6	55.4	66.3	66.0	67.2	47.1
Sterilised	0.0	0.0	1.4	5.7	12.9	16.8	11.9	6.2
Declared infecund	0.4	0.0	0.6	0.5	2.3	4.8	16.8	2.4
Missing	0.0	0.2	0.2	0.0	0.1	0.4	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	285	948	1,069	822	832	511	365	4,834

[1] Want next birth within two years
[2] Want to delay next birth for two or more years

Table 6.3 presents data on the fertility desires of 1,133 monogamous couples by number of living children reported. More than two-thirds of couples (68 percent) agree in their desire to either have more children (31 percent) or to stop having children (38 percent). As seen with the reports of individual men and women, the desire to stop having children rises rapidly with increasing number of living children.

Table 6.3 Desire for more children among monogamous couples

Percent distribution of monogamous couples by desire for more children, according to number of living children reported, Kenya 1998

Number of living children reported	Both want more	Husband more/ wife no more	Wife more/ husband no more	Both want no more	Husband/ wife infecund	One or both undecided/ missing	Total	Number of couples
Same number								
0	82.3	0.0	0.0	4.2	2.5	11.0	100.0	62
1-3	50.0	13.6	4.6	15.6	0.9	15.3	100.0	446
4-6	6.5	11.6	3.3	65.7	1.5	11.3	100.0	309
7+	1.4	10.0	1.3	74.0	3.4	10.1	100.0	106
Different number								
Husband > wife	21.0	6.9	5.4	35.8	4.1	26.8	100.0	153
Wife > husband	31.9	11.7	2.6	35.6	4.4	13.7	100.0	58
Total	30.6	11.0	3.7	37.6	2.0	15.1	100.0	1,133

Table 6.4 shows the percentage of currently married women and men who want no more children by number of living children, according to selected background characteristics. When looking at all women and all men (i.e., all parity levels), it appears there is little difference in the fertility desires of urban versus rural respondents. This, however, is an artifact of lower fertility levels in urban Kenya; when looking at parity-specific proportions of men and women wanting no more children, a clear indication of the greater urban demand for fertility limitation is evidenced. The urban-rural difference is most pronounced when men and women already have 2-5 children.

Table 6.4 Desire to limit childbearing by background characteristics

Percentage of currently married women and men who want no more children, by number of living children and selected background characteristics, Kenya 1998

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
WOMEN								
Residence								
Urban	1.5	13.2	46.7	66.6	85.8	92.0	85.6	49.0
Rural	1.8	5.9	28.1	47.6	69.3	76.6	89.0	54.4
Education								
No education	(0.0)	13.9	27.0	38.3	68.1	65.9	80.1	59.3
Primary incomplete	2.2	8.0	26.1	40.6	61.9	75.4	93.0	50.5
Primary complete	0.0	6.2	29.6	58.7	72.5	86.2	90.6	54.5
Secondary+	3.0	8.1	44.7	62.1	86.8	85.2	92.3	52.6
Total	1.7	8.1	33.9	51.8	72.2	78.4	88.8	53.3
MEN								
Residence								
Urban	9.9	5.5	39.0	48.9	74.2	87.2	73.6	47.8
Rural	3.1	5.2	15.4	37.8	58.9	65.2	68.2	44.5
Education								
No education	*	*	*	*	*	*	*	36.1
Primary incomplete	(0.0)	3.4	16.3	35.4	53.8	64.0	69.1	42.3
Primary complete	11.2	5.0	23.1	39.0	69.1	75.2	72.3	49.0
Secondary+	5.7	6.7	28.1	48.0	64.0	75.8	73.0	45.9
Total	6.2	5.3	24.1	41.2	63.1	71.5	69.2	45.5

Note: Women and men who have been sterilised or whose spouses are sterilised are considered to want no more children. Parentheses indicate that a figure is based on 25-49 respondents. An asterisk indicates a figure was based on fewer than 25 respondents and has been suppressed.
[1] Includes current pregnancy

The desire to have no more children increases with increasing level of education; however, since education for both men and women is closely linked to the number of living children, useful interpretation of the data requires observation *within* categories of the number of living children (i.e., as above for urban-rural differentials). For example, looking at men who have three living children, the desire to limit childbearing is 36 percent higher among respondents with secondary education (48 percent) than among those with primary incomplete education (35 percent).

6.2 Need for Family Planning Services

Women who are currently married and who say either that they do not want any more children or that they want to wait two or more years before having another child, but are not using contraception, are considered to have an *unmet need* for family planning.[1] Women who are using family planning methods are said to have a *met need* for family planning. Women with unmet and met need together constitute the *total demand* for family planning.[2] Table 6.5 presents information for currently married women on unmet need, met need, and total demand for family planning, according to whether the need is for spacing or limiting births.

Twenty-four percent of married women in Kenya have an unmet need for family planning, 14 percent for spacing purposes, and 10 percent for limiting births. This represents a 33 percent decline in unmet need since it was estimated in the 1993 KDHS (36 percent). Combined with the 39 percent of married women who are currently using a contraceptive method, the total demand for family planning now comprises about two-thirds of married women in Kenya. Thus, if all married women who say they want to space or limit their children were to use family planning methods, the contraceptive prevalence rate would be increased from 39 percent to 63 percent of married women.[3]

According to the 1998 KDHS, 63 percent of the potential demand for family planning in Kenya is being satisfied (next to last column in Table 6.5); this compares with just 47 percent reported in the 1993 KDHS.

The overall unmet need for family planning is relatively stable between age groups 15-19 and 35-39 (at around one-quarter of women), then falls sharply at ages 40 and above. Unmet need for *spacing* purposes is higher among younger women, while unmet need for *limiting* is higher among older women. The level of unmet need is also much greater among rural women than urban women and tends to be higher among women with less education. Provincial differences are noteworthy, with unmet need ranging from 11-13 percent in Central and Nairobi provinces to 32 percent among women in Western Province (Figure 6.3).

Generally, where demand for family planning is highest, so is the percentage of demand that is satisfied. Use (which proxies supply) and demand interact in such a way as to encourage growth in the other. The more discouraging side of this coin is that, in Coast Province for instance, where both demand for and current use of contraception are relatively low, the percentage of demand satisfied is a meager 44 percent and thus unmet need is 30 percent.

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[1] For an exact description of the calculation, see footnote 1, Table 6.5.

[2] See footnote 3 in Table 6.5 for exception to this rule.

[3] This would increase to 65 percent if women who became pregnant while using a method (and therefore need a *better* method) were included.

Table 6.5 Need for family planning

Percentage of currently married women and women not currently married with unmet need for family planning, met need for family planning, and the total demand for family planning, by selected background characteristics, Kenya 1998

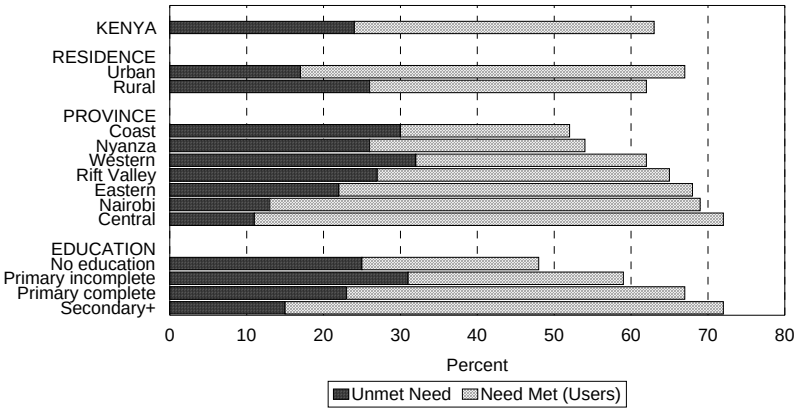
Background characteristic	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning[3]			Percentage of demand satis-fied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	24.5	2.2	26.7	16.4	1.6	18.0	44.0	3.8	47.9	44.2	285
20-24	24.0	4.4	28.5	22.6	8.6	31.2	49.3	13.0	62.3	54.3	948
25-29	19.4	7.6	27.1	21.9	18.3	40.1	43.9	26.0	69.8	61.3	1,069
30-34	12.7	11.4	24.2	13.5	32.1	45.6	27.4	45.0	72.4	66.6	822
35-39	6.2	17.9	24.1	3.9	43.3	47.2	10.3	61.9	72.3	66.6	832
40-44	2.3	16.3	18.6	1.6	42.7	44.3	4.0	59.6	63.5	70.7	511
45-49	0.4	6.1	6.5	0.5	30.6	31.1	0.9	37.0	37.9	82.8	365
Residence											
Urban	10.0	7.2	17.2	20.2	29.4	49.6	31.6	36.8	68.4	74.8	1,010
Rural	15.0	10.6	25.6	11.6	24.5	36.2	28.2	35.7	63.9	59.9	3,824
Province											
Nairobi	8.6	4.1	12.6	21.2	35.1	68.9	31.5	39.2	70.7	82.2	408
Central	5.4	5.7	11.1	19.4	41.7	61.1	26.3	47.8	74.0	85.0	517
Coast	19.6	10.2	29.7	9.4	12.8	22.1	29.3	23.7	53.0	43.9	373
Eastern	11.1	10.5	21.6	13.5	32.1	67.2	28.0	43.6	71.5	69.8	824
Nyanza	15.5	10.8	26.4	7.7	20.5	28.2	24.1	31.5	55.6	52.6	1,048
Rift Valley	15.8	11.1	27.0	15.5	22.2	37.7	32.8	33.9	66.8	59.6	1,089
Western	19.7	12.7	32.4	11.4	18.8	30.2	31.8	31.7	63.5	49.0	575
Education											
No education	9.5	15.1	24.7	4.6	18.3	22.8	14.1	34.2	48.3	48.9	688
Primary incomplete	19.8	11.4	31.2	9.4	18.5	27.9	30.7	30.4	61.1	48.9	1,630
Primary complete	13.5	9.6	23.1	14.3	29.4	43.7	29.8	39.6	69.4	66.7	1,182
Secondary+	9.6	5.6	15.1	22.1	34.5	56.7	33.6	40.3	73.9	79.5	1,333
Total	14.0	9.9	23.9	13.4	25.6	39.0	28.9	35.9	64.8	63.2	4,834
Total women not currently married	3.6	1.4	4.9	8.0	7.4	15.5	12.1	9.0	21.0	76.6	3,047

[1] Unmet need for *spacing* includes pregnant women whose pregnancy was mistimed, amenorrhoeic women whose last birth was mistimed, and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and say they want to wait two or more years for their next birth. Also included in unmet need for spacing are women who are unsure whether they want another child or who want another child but are unsure when to have the birth. Unmet need for *limiting* refers to pregnant women whose pregnancy was unwanted, amenorrhoeic women whose last child was unwanted and women who are neither pregnant nor amenorrhoeic and who are not using any method of family planning and who want no more children. Excluded from the unmet need category are pregnant and amenorrhoeic women who became pregnant while using a method (these women are in need of *better contraception*). Also excluded are menopausal or infecund women.

[2] Using for *spacing* is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Using for *limiting* is defined as women who are using and who want no more children.
Note that the specific methods used are not taken into account here.

[3] Total demand includes pregnant or amenorrhoeic women who became pregnant while using a method (method failure). They account for 2.0 percent of all currently married women and 0.7 percent of women not currently married.

Figure 6.3
Percentage of Women with Unmet Need and Met Need for Family Planning Services by Background Characteristics



KDHS 1998

Looking at unmarried women, the demand for family planning is very low, but the percentage of demand satisfied is higher (77 percent) than among married women (63 percent). As a consequence, the unmet need for contraception in this group is just 5 percent.

6.3 Ideal Family Size

Information on what women and men feel is the ideal family size was elicited through two questions. Respondents who had no children were asked, "If you could choose exactly the number of children to have in your whole life, how many would that be?" For respondents who had children, the question was rephrased as follows: "If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?" Some respondents, especially those for whom fertility control is an unfamiliar concept, would naturally have some difficulty in answering this hypothetical question.

The results in Table 6.6 indicate that the vast majority of women and men were able to give a numeric answer to this question; only 5 percent of women and 6 percent of men gave a nonnumeric answer such as "it is up to God," "any number" or "do not know." Among those women who gave numeric responses, the average ideal number of children was 3.8, which is about the same as the 3.7 children reported in the 1993 KDHS. The average ideal number of children reported by men is slightly higher (4.0) than that reported by women; the difference is mainly due to reports from polygynous men, who say they would like to have 6.1 children on average (not shown).

As expected, the ideal number of children increases with the actual number of living children. The mean ideal number of children increases from 3.3 and 3.6 among childless women and childless men, respectively, to 5.1 and 5.3 among women and men with six or more children. This correlation between actual and ideal number is driven by at least two phenomena. First, to the extent that men and women implement their preferences, those who want smaller families will tend to achieve small families. Second,

Table 6.6 Ideal and actual number of children

Percent distribution of all women and men by ideal number of children, and mean ideal number of children for all women and men and for currently married women and men, according to number of living children, Kenya 1998

Ideal number of children	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
WOMEN								
0	0.5	0.5	0.1	0.4	0.3	0.0	0.3	0.3
1	2.8	7.0	2.0	1.5	0.9	0.9	0.2	2.4
2	29.5	23.1	28.8	9.3	14.5	11.9	7.8	20.1
3	20.4	25.5	18.2	25.5	8.3	10.5	7.6	17.5
4	29.3	28.1	36.7	37.2	46.3	28.0	35.8	33.7
5	7.7	5.9	7.3	10.6	9.0	19.8	7.8	8.7
6+	5.9	6.8	4.6	10.4	15.2	21.7	31.8	12.4
Non-numeric response	3.9	3.1	2.3	5.0	5.5	7.3	8.6	4.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,133	1,169	1,136	893	761	558	1,232	7,881
Mean ideal number for:								
All women	3.3	3.3	3.4	3.9	4.2	4.5	5.1	3.8
Currently married women	3.5	3.5	3.4	3.9	4.2	4.5	5.0	4.1
MEN								
0	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.1
1	1.7	1.7	1.4	0.7	1.0	0.6	0.6	1.3
2	21.2	20.5	20.4	11.3	13.5	13.3	8.5	17.5
3	25.4	32.6	27.0	22.9	7.3	18.3	12.4	22.5
4	29.4	27.7	33.0	36.6	47.5	22.4	33.5	31.4
5	8.4	5.6	8.5	13.7	11.0	18.3	3.6	8.7
6+	8.2	8.8	6.6	10.7	14.9	23.1	30.8	12.9
Non-numeric response	5.5	3.0	3.1	4.2	4.8	4.0	10.2	5.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	1,603	280	340	254	211	232	488	3,407
Mean ideal number for:								
All men	3.6	3.6	3.5	4.0	4.1	4.8	5.3	4.0
Currently married men	3.6	3.7	3.5	4.0	4.1	4.8	5.3	4.3
Monogamous men	3.6	3.6	3.5	4.0	4.1	4.7	4.9	4.1

Note: The means exclude women who gave non-numeric responses.
[1] Includes current pregnancy

women and men may upward "adjust" their ideal number of children, as the actual number of children increases (i.e., rationalisation). Despite the likelihood that some rationalisation occurs, there are considerable numbers of women and men who do report a smaller ideal family size than their actual family size. For example, 60 percent of women and 59 percent of men who have six or more living children reported that they considered less than six children to be ideal. Also, four children is a popular ideal family size for men and women who have an actual number of children both greater and less than four.

Table 6.7 shows the mean ideal number of children for all women and men by age and (for women) background characteristics. The mean ideal family size increases with age of the respondent, from 3.5 children in women age 15-19 to 4.9 children among women age 45-49. Among men, ideal family size rises from 3.8 children among men age 15-19 to 5.0 among men 45-49. At every age, rural women have higher family size norms than urban women. Ideal family size is strongly related to education level attained; as education increases, desired family size decreases sharply. Provincial variation in the ideal number of children is rather modest, ranging from around three children in Nairobi and Central provinces to over four children in most of the other provinces.

Table 6.7 Mean ideal number of children by background characteristics

Mean ideal number of children for all women and men age 15-49 by age and selected background characteristics, Kenya 1998

Background characteristic	Age							Total women	Total men
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Residence									
Urban	3.0	2.8	3.0	3.2	4.0	3.4	4.0	3.2	3.4
Rural	3.6	3.6	3.8	4.1	4.5	5.0	5.0	4.0	4.2
Province									
Nairobi	2.8	2.6	2.9	3.0	3.4	3.0	3.6	2.9	3.2
Central	2.6	2.6	2.8	3.3	3.7	3.7	4.1	3.1	3.3
Coast	3.9	3.9	4.0	4.5	4.9	5.4	6.1	4.4	4.3
Eastern	3.4	3.3	3.4	3.2	3.8	4.2	4.2	3.5	4.1
Nyanza	3.5	3.7	4.1	4.5	4.7	5.5	5.5	4.1	4.5
Rift Valley	3.9	3.8	3.9	4.2	5.0	5.1	5.3	4.2	4.3
Western	3.8	3.5	3.7	4.4	4.6	5.7	5.0	4.1	3.6
Education									
No education	5.0	4.6	4.8	5.2	5.1	5.8	5.5	5.2	6.3
Primary incomplete	3.7	3.7	4.0	4.3	4.4	4.8	5.0	4.0	4.4
Primary complete	3.4	3.5	3.5	3.7	4.3	4.3	4.4	3.7	3.9
Secondary+	2.9	2.9	3.0	3.4	3.9	3.8	3.6	3.2	3.5
Total women	3.5	3.4	3.6	3.9	4.4	4.8	4.9	3.8	NA
Total men	3.8	3.5	3.7	4.0	4.2	4.4	5.0	NA	4.0

NA = Not applicable

6.4 Wanted and Unwanted Fertility

Women were asked a series of questions regarding children born in the last three years and any current pregnancy to determine whether each birth/pregnancy was wanted *then*, wanted *later*, or unwanted. These questions form a potentially powerful indicator of the degree to which couples successfully control their fertility. Also, the data can be used to gauge the effect of the prevention of unwanted births on (period) fertility rates.

Table 6.8 shows the percent distribution of births in the five years before the survey by whether the birth was wanted by the mother then, wanted later, or not wanted. Eleven percent of recent births were reported to be unwanted, while another 37 percent were reported as mistimed (wanted later). The percentage of births considered mistimed or unwanted increases with birth order, from 40 percent among first births to 58 percent among fourth or higher order births. Similarly, a larger proportion of births to older women are reported as unwanted than births those to younger women; while less than 10 percent of births to women under age 30 are unwanted, 45 percent of births to women age 40-44 are unwanted.

Table 6.8 Fertility planning status

Percent distribution of births in the three years preceding the survey (and current pregnancies) by fertility planning status, according to birth order and mother's age at birth, Kenya 1998

Birth order and mother's age at birth	Planning status at conception			Missing	Total	Number of births[1]
	Wanted then	Wanted later	Not wanted			
Birth order						
1	59.7	37.6	2.6	0.1	100.0	983
2	58.7	38.6	2.5	0.2	100.0	851
3	54.7	39.6	5.2	0.5	100.0	581
4+	41.6	35.4	22.7	0.4	100.0	1,635
Age at birth						
<20	52.0	45.0	2.9	0.0	100.0	678
20-24	54.7	40.3	4.6	0.4	100.0	1,284
25-29	55.9	37.4	6.5	0.2	100.0	990
30-34	49.2	30.4	19.7	0.6	100.0	633
35-39	34.2	28.7	36.6	0.5	100.0	341
40-44	37.5	17.0	45.4	0.0	100.0	103
45-49	*	*	*	*	*	19
Total	51.4	37.2	11.1	0.3	100.0	4,049

Note: An asterisk indicates a figure is based on fewer than 25 births and has been suppresssed.
[1] Includes current pregnancies

Table 6.9 presents *wanted fertility rates.* The wanted fertility rate is calculated in the same manner as the total fertility rate, but unwanted births are excluded from the numerator. For this purpose, unwanted births are defined as those which exceed the number considered ideal by the respondent. (Note: Women who did not report a numeric ideal family size were assumed to want all their births.) This rate represents the level of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been prevented. A comparison of the total wanted fertility rate and the actual total fertility rate suggests the potential demographic impact of the elimination of unwanted births.

The total wanted fertility rate is 3.5 for Kenya as a whole, more than one child lower than the actual total fertility rate (4.7). The gap between wanted and observed fertility is greater among women living in rural areas and those with less than secondary education. Rift Valley and Eastern provinces have the largest gap between ideal and actual fertility while Nairobi has the smallest.

Table 6.9 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by selected background characteristics, Kenya 1998

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	2.6	3.1
Rural	3.8	5.2
Province		
Nairobi	2.3	2.6
Central	2.6	3.7
Coast	4.4	5.0
Eastern	3.2	4.7
Nyanza	3.7	5.0
Rift Valley	3.7	5.3
Western	4.3	5.6
Education		
No education	4.4	5.8
Primary incomplete	3.7	5.2
Primary complete	3.5	4.8
Secondary+	2.8	3.5
Total	3.5	4.7

Note: Rates are based on births to women 15-49 in the period 1-36 months preceding the survey.

CHAPTER 7

EARLY CHILDHOOD MORTALITY

George Kichamu

7.1 Background and Assessment of Data Quality

This chapter presents information on mortality among children under five years of age in Kenya. Specifically, estimates are presented on levels, trends and differentials in neonatal, postneonatal, infant, child, and under-five mortality. This information is useful to both the demographic assessment of the population and the evaluation of health policies and programmes. Estimates of infant and child mortality may be used as inputs into population projections, particularly if the level of adult mortality is known from another source or can be inferred with reasonable confidence. Information on mortality of children also serves the needs of organisations which provide health services by identifying sectors of the population which are at high mortality risk.

The risk of death during childhood varies by age of the child, typically being highest immediately following birth and decreasing as the child gets older. The pace at which mortality declines with increasing age will thus ultimately determine the proportion surviving to specific ages. If mortality declines very rapidly after birth as in most industrialised countries, then infant and under-five mortality rates will be relatively low. In these settings the highest proportion of under-five deaths occur in the first few days of life and are related to genetic, maternal, and perinatal factors. If, however, as in less-developed countries, environmental and nutritional risks to survival persist through infancy and afterwards, then those risks will be reflected in an attenuated age pattern and an overall higher level of mortality under age five. In this chapter, age-specific mortality rates are defined as follows:

- **Neonatal mortality (NN)**: the probability of dying within the first month of life,
- **Postneonatal mortality (PNN)** : the arithmetic difference between infant and neonatal mortality,
- **Infant mortality ($_1q_0$)**: the probability of dying between birth and the first birthday,
- **Child mortality ($_4q_1$)**: the probability of dying between exact age one and the fifth birthday,
- **Under-five mortality ($_5q_0$)**: the probability of dying between birth and the fifth birthday.

All rates are expressed as deaths per 1,000 live births, except child mortality, which is expressed as deaths per 1,000 children surviving to the first birthday.

The mortality rates presented in this chapter are calculated from information drawn from the questions asked in the birth history section of the women's questionnaire. Preceding the birth history, probing questions are posed on the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live with the mother, the number who live elsewhere, and the number who have died). In the birth history, for each live birth, information is collected on sex, month and year of birth, survivorship status, and current age, or if the child had died, the age at death.

The quality of mortality estimates calculated from retrospective birth histories depends on the completeness with which births and deaths are reported and recorded. Potentially the most serious data quality problem is the selective omission from the birth histories of births that did not survive, which can lead to underestimation of mortality rates. Other potential problems include displacement of birth dates, which may cause a distortion of mortality trends, and misreporting of the age at death, which may distort the age pattern of mortality.

When selective omission of childhood deaths occurs, it is usually most severe for deaths in early infancy. If early neonatal deaths are selectively underreported, the result is an unusually low ratio of deaths under seven days to all neonatal deaths and an unusually low ratio of neonatal to infant deaths. Underreporting of early infant deaths is most commonly observed for births that occurred longer before the survey; hence, it is useful to examine the ratios over time.

Inspection of these ratios (shown in Appendix Tables C.5. and C.6) indicates that no significant numbers of early infant deaths were omitted in the 1998 KDHS. First, the proportion of neonatal deaths occurring in the first week of life is high, 74 percent. Further, this proportion is roughly constant over the 20 years before the survey (between 68 and 77 percent). Second, the proportion of infant deaths occurring during the first month of life is entirely plausible in level (42 percent), and is stable over the 20 years before the survey (varying between 39 and 46 percent). This inspection of the mortality data indicates there is no evidence of selective underreporting of deaths or misreporting of age at death.

It is important to recognise that any method of measuring childhood mortality that relies on mothers' reports (e.g., birth histories) rests on the assumption that adult female mortality is not very high or, if it is high, there is little or no correlation between the mortality risks of mothers and their children. In countries with high rates of adult female mortality, these assumptions will seldom hold and the resulting childhood mortality rates will be underestimated to some degree.

7.2 Levels and Trends in Early Childhood Mortality

Table 7.1 presents childhood mortality rates for the periods 0-4, 5-9, and 10-14 years before the survey. Under-five mortality for the period 0-4 years before the survey (approximately 1994-1998) is 112 deaths per 1,000 births. This means that, currently, 1 in 9 Kenyan children does not live to the fifth birthday. For every two deaths that occur in the first 12 months of life, approximately one occurs in the ensuing four years. Current infant mortality stands at 74 deaths per 1,000 births and child mortality (1-4 years) at 41 per 1,000. In the first 12 months, there is roughly one neonatal death for every two postneonatal deaths. Mortality during the neonatal and postneonatal periods is 28 and 45 deaths per 1,000, respectively.

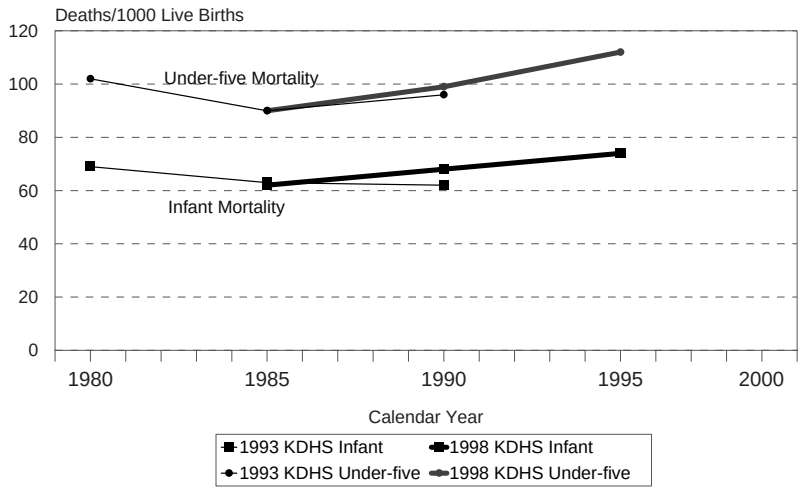
Table 7.1 Rates of early childhood mortality

Neonatal, postneonatal, infant child, and under-five mortality by five-year periods preceding the survey, Kenya 1998

Years preceding survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)	**Infant mortality ($_1q_0$)**	Child mortality ($_4q_1$)	**Under-five mortality ($_5q_0$)**
0-4	28.4	45.3	73.7	40.8	111.5
5-9	25.5	42.1	67.7	33.5	98.9
10-14	28.8	33.2	61.9	29.5	89.6

The 1998 KDHS data, in combination with similarly collected data from the 1993 KDHS, provide evidence of a worsening mortality situation in the 1990s. Figure 7.1 shows infant and under-five mortality rates calculated for each of the three five-year periods before the 1993 KDHS and 1998 KDHS. Both infant and under-five rates exhibit slow but steady improvement (decline) through the late 1980s, after which the rates plateau and then begin to rise. The increases become rather pronounced during the period between the early and mid-1990s, and have occurred at all ages. While neonatal mortality has not changed substantially, postneonatal mortality (1-11 months) and child mortality (12-59 months) have both risen by more than one-third during the period between the mid-1980s and the mid-1990s.

Figure 7.1
Trends in Infant and Under-five Mortality
1993 KDHS and 1998 KDHS



7.3 Socioeconomic Differentials in Early Childhood Mortality

Many behaviours that determine survival of young children, such as use of health services, are themselves preconditioned by social and economic factors. Differentials in infant and child mortality by urban-rural residence, province, and mother's level of education are presented in Table 7.2. The mortality estimates are calculated for a 10-year period before the survey so that the rates for each category are based on sufficient number of cases to support reliable statistical estimation.[1]

Under-five mortality is 23 percent higher in rural areas (109 per 1,000) than in urban areas (88 per 1,000) (Figure 7.2); the urban-rural difference is especially pronounced during the first year of life. The risk of children dying varies widely across provinces. Under-five mortality is highest in Nyanza Province, where 1 in 5 children dies before the fifth birthday (199 per 1,000), and lowest in Central Province where 1 in 30 children under age five dies (34 per 1,000). The provincial differentials seen here are consistent with those observed in the 1993 KDHS data.

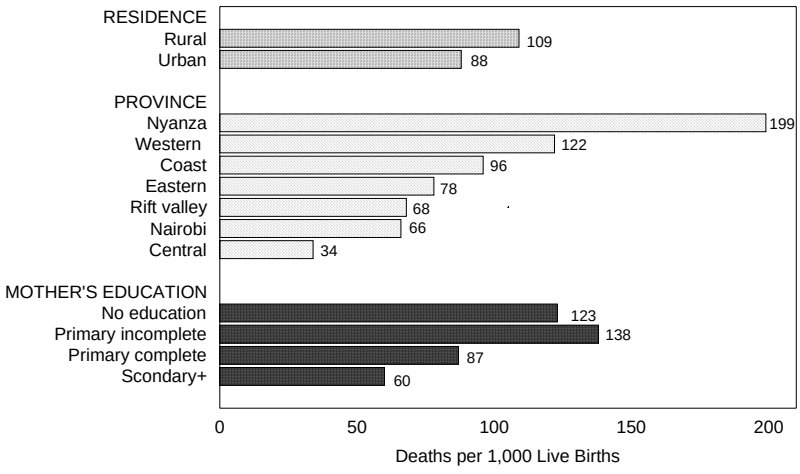
[1] Later, a three-year reference period is used for examination of mortality differentials by use of maternity services and mother's assessment of the child's size at birth. This is necessary since the relevant data are drawn from the child health section of the questionnaire, which is referenced to the period covering the 3 years before the survey.

Table 7.2 Neonatal, postneonatal, infant child, and under-five mortality by socioeconomic characteristics

Neonatal, postneonatal, infant child, and under-five mortality for the ten-year period preceding the survey, by socioeconomic characteristics, Kenya 1998

Socioeconomic characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)	**Infant mortality ($_1q_0$)**	Child mortality ($_4q_1$)	**Under-five mortality ($_5q_0$)**
Residence					
Urban	20.3	35.1	55.4	34.8	88.3
Rural	28.4	45.4	73.8	37.6	108.6
Province					
Nairobi	19.5	21.6	41.1	26.1	66.1
Central	17.7	9.7	27.3	6.3	33.5
Coast	27.7	42.1	69.8	27.9	95.8
Eastern	22.6	30.5	53.1	26.1	77.8
Nyanza	38.1	97.3	135.3	73.4	198.8
Rift Valley	28.3	22.0	50.3	18.5	67.8
Western	20.1	43.8	63.9	62.5	122.5
Education					
No education	27.5	54.7	82.2	43.9	122.5
Primary incomplete	31.7	59.7	91.4	51.5	138.1
Primary complete	29.7	31.7	61.4	27.2	86.9
Secondary+	16.7	23.4	40.0	20.7	59.9
Total	27.0	43.7	70.7	37.1	105.2

Figure 7.2
Under-five Mortality by Background Characteristics



KDHS 1998

There is, as expected, a strong link between a mother's level of education and her children's survival chances. This relationship is, however, not a simple one, because mortality does not decrease uniformly with increasing level of education. Children of women with a primary incomplete education have slightly higher mortality at each age segment (under-five mortality: 138 per 1,000) than children of women with no education (123 per 1,000). Children of women with a completed primary education and those with some secondary schooling have much lower under-five mortality risks (87 and 60 per 1,000, respectively). This inverted U-shape pattern of the education-mortality relationship was also observed in the 1993 KDHS data, and can potentially be explained by the fact that at least two parts of the country, Rift Valley and Coast provinces, exhibit mortality levels that are lower than would be expected based on their levels of maternal education. This example underscores the potential problem of interpreting bivariate associations without consideration of the more complex multifactorial reality. In this case, an in-depth analysis of provincial variation in the education-mortality relationship would provide greater insight than is offered here.

7.4 Biodemographic Differentials in Early Childhood Mortality

The relationship between early childhood mortality and various demographic variables is examined in Table 7.3. Male children experience slightly higher mortality than their female counterparts. Under-five mortality rates for males and females are 108 and 103 deaths per 1,000 births, respectively. The excess mortality among male children is largely due to higher risk during the first month of life, a universal pattern explained by sex-linked heritable factors.

The relationship between childhood mortality and mother's age at birth shows the expected U-shaped pattern, with children of the youngest and the oldest women experiencing the highest risk of death. A similar, but less pronounced, pattern occurs regarding birth order of the child. Generally, first-order births and high-order births (7+) are observed to have higher mortality levels than births of order 2-6. An exception to this pattern is seen in the neonatal period, during which first births exhibit relatively low risk. This may be due to a favourable change in the maternal age profile for first births, with a smaller proportion of first births occurring among very young women.

A marked relationship exists between the length of the preceding birth interval and the risk of death in early childhood. The KDHS data show that short birth intervals significantly reduce a child's chances of survival. The risk associated with rapidly-paced childbearing is especially grave during the neonatal period when a child born after a short interval (<24 months) carries a risk of dying (42 per 1,000) more than three times that of a child born after 4 or more years (13 per 1,000). These findings underscore the potential for mortality reduction that could result from increased birth spacing in Kenya.

Maternal care during pregnancy and delivery has a significant bearing on the health of both mother and child and thus on the risk of early childhood mortality. The KDHS data show that children born to women who obtained *both* antenatal and delivery care from medically trained persons during pregnancy have considerably lower mortality than children whose mothers received *only* antenatal or delivery care, or received neither.

A child's size at birth is an important indicator of potential risk of dying during infancy, particularly during the first months of life. In the KDHS, mothers were asked whether the referenced child was very small, small, average size, large, or very large at birth. This type of subjective assessment has been shown to correlate closely with actual birth weight. Newborns perceived by their mothers to be very small or small are much more likely to die in the first year than those perceived as average or larger in size, with most of the excess mortality occurring during the first month.

Table 7.3 Neonatal, postneonatal, infant child, and under-five mortality by biodemographic characteristics

Neonatal, postneonatal, infant child, and under-five mortality for the ten-year period preceding the survey, by selected biodemographic characteristics, Kenya 1998

Biodemographic characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)	**Infant mortality ($_1q_0$)**	Child mortality ($_4q_1$)	**Under-five mortality ($_5q_0$)**
Sex of child					
Male	29.6	44.9	74.5	35.9	107.8
Female	24.3	42.4	66.8	38.4	102.6
Age of mother at birth					
< 20	36.8	60.2	97.0	48.4	140.7
20-29	21.5	37.1	58.6	32.3	89.1
30-39	30.9	43.5	74.5	37.0	108.7
40-49	39.4	69.8	109.2	68.7	170.5
Birth order					
1	22.1	40.6	62.7	34.0	94.7
2-3	24.2	38.5	62.7	31.9	92.6
4-6	26.6	40.6	67.3	37.2	101.9
7+	41.1	65.6	106.7	53.9	154.9
Previous birth interval					
< 2 years	41.5	60.7	102.2	53.6	150.3
2-3 years	26.7	41.1	67.9	33.7	99.3
4 or more years	13.1	31.2	44.3	24.7	67.9
Medical maternity care					
Received both ANC and DS	23.9	23.2	47.1	NA	NA
Received no ANC or DS or received only ANC or DS	32.9	59.3	92.2	NA	NA
Size at birth[1]					
Small or very small	51.8	45.3	97.2	NA	NA
Average or larger	21.3	42.9	64.2	NA	NA
Total	27.0	43.7	70.7	37.1	105.2

ANC = Antenatal care
DS = Delivery services (from medical personnel)
NA = Not applicable

7.5 High-Risk Fertility Behaviour

Numerous studies have demonstrated a strong relationship between a mother's pattern of fertility and her children's survival chances (Boerma and Bicego, 1992; United Nations, 1994). The results presented in the previous section support this. Typically, infants and young children have a higher risk of dying if they are born to very young mothers or older mothers, if they are born after a short interval, or if their mothers have already had many children. In the following analysis, mothers are classified as "too young" if they are less than 18 years old at the time of birth, and "too old" if they are age 35 years or more at the time of birth. A "short" birth interval is defined as one less than 24 months, and a "high-order" birth is one occurring after three or more previous births (i.e., birth order 4 or higher). Births are also cross-classified by combinations of these characteristics. Thus, a birth may have from zero to three potentially high-risk characteristics. While first births are often considered high risk, they are not an *avoidable* risk in the same sense as the other factors and are thus treated separately in this analysis.

Column one of Table 7.4 shows the percentage of births five years before the survey that fall into various risk categories. Fifty-six percent of births are in at least one high-risk category, with about 18 percent having multiple high-risk characteristics. Risk ratios are presented in column two; the risk ratio is the ratio of the proportion of children in a particular risk category who have died to the proportion in the specified reference category who have died. Births in the reference category are those who are not in any high-risk category. The first finding of interest is the high risk associated with births to very young mothers (<20 years), both as a single high-risk factor and in combination with a short birth interval. Second, high birth order (>3) is an even more important risk factor not only because it is associated with high risk—alone and in combination with short birth interval and older age (35+ years) at birth—but because a very high proportion of all births are of order 4 and above (41 percent).[2] The latter finding points to the importance of limiting family size to enhance the health and survival prospects of children.

The third column of Table 7.4 shows the distribution of currently married, nonsterilised women by the risk category into which a currently conceived birth would fall. A comparison of this percentage with the distribution of actual births in the last five years indicates that without fertility control, the percentage of births falling into multiple high-risk categories that contain high birth order (>3) would rise significantly. Further, the percentage of births with multiple high-risk characteristics would rise from 18 to 41 percent.

[2] This includes birth order >3 with mother's age at birth 35+, birth order >3 with birth interval < 24 months, and birth order >3 with mother's age at birth 35+ and birth interval < 24 months.

Table 7.4 High-risk fertility behaviour

Percent distribution of children born in the five years preceding the survey by category of elevated risk of dying, and the percent distribution of currently married women at risk of conceiving a child with an elevated risk of dying, by category of increased risk, Kenya 1998

Risk category	Births in 5 years preceding the survey		Percentage of currently married women[a]
	Percentage of births	Risk ratio	
Not in any high-risk category	24.8	1.00	24.5[b]
Unavoidable risk category			
(First births)	19.4	0.88	5.2
Single high-risk category			
Mother's age <18	5.9	2.63	0.3
Mother's age >34	0.2	0.00	2.9
Birth interval <24 months	8.0	1.06	9.4
Birth order >3	23.2	1.41	17.0
Subtotal	37.3	1.52	29.6
Multiple high-risk category			
Age <18 & birth interval <24[c] months	0.5	2.57	0.1
Age >34 & birth interval <24 months	0.0	0.00	0.2
Age >34 & birth order >3	9.2	1.39	25.6
Age >34 & birth interval <24 months & birth order >3	1.3	3.77	4.1
Birth interval <24 months & birth order >3	7.3	2.17	10.6
Subtotal	18.4	1.90	40.7
In any high-risk category	55.7	1.65	70.3
Total	100.0	-	100.0
Number of births	5,558	-	4,834

Note: Risk ratio is the ratio of the proportion dead of births in a specific high-risk category to the proportion dead of births *not in any high-risk category.*

[a] Women were assigned to risk categories according to the status they would have at the birth of a child, if the child were conceived at the time of the survey: age less than 17 years and 3 months, age older than 34 years and 2 months, latest birth less than 15 months ago, and latest birth of order 3 or higher.

[b] Includes sterilised women

[c] Includes the combined categories *Age <18 and birth order >3.*

CHAPTER 8

MATERNAL AND CHILD HEALTH

Jennifer Liku

This chapter presents the KDHS findings in three areas of importance to maternal and child health: maternal care and characteristics of the newborn, childhood vaccinations, and common childhood illnesses and their treatment. Combined with information on childhood mortality, this information can be used to identify subgroups of women whose children are at risk because of nonuse of maternal health services, and to provide information to assist in the planning of appropriate improvements in services. The results in the following sections are based on data collected from mothers on all live births which occurred in the three years preceding the survey.

8.1 Antenatal Care

Table 8.1 shows the percent distribution of births in the three years preceding the survey by source of antenatal care received during pregnancy, according to maternal and background characteristics. Although interviewers were instructed to record all persons a woman had consulted for care, only the provider with the highest qualifications is considered (if more than one person was seen). For 92 percent of births, mothers received antenatal care from a doctor or trained nurse or midwife. This compares with 95 percent of births estimated from the 1993 KDHS. Women received antenatal care from a traditional birth attendant (TBA) for only 2 percent of births and no antenatal care at all for 6 percent of births. Thus, most women receive some antenatal care, relying largely on a nurse or trained midwife (64 percent) or a doctor (28 percent) (Figure 8.1). It should be considered, however, that the type and quality of antenatal services is not reflected in these results.

Maternal age at birth and the birth order of the child are not strongly related to use of antenatal care. Older, higher parity women do, however, tend to use doctors to a lesser extent and are more likely to have seen no one for antenatal services than younger, lower parity women.

There are small differences in the use of antenatal services between urban and rural areas, with rural women less likely to use a doctor and more likely to use a nurse or trained midwife. Provincial differences in the use of antenatal services, especially use of doctors, are considerable. For example, antenatal care was received from a doctor for 12 percent of recent births in Western Province compared with over 30 percent of births in Nairobi, Coast and Rift Valley provinces.

The use of antenatal services is strongly associated with level of education. Women with no education are six times as likely as women with some secondary education to have received no antenatal care and 28 percent less likely to have received care from a doctor.

Antenatal care can be more effective in avoiding adverse pregnancy outcome when it is sought early in the pregnancy and continues through to delivery. Obstetricians generally recommend that antenatal visits be made on a monthly basis to the 28th week (seventh month), fortnightly to the 36th week (eighth month), and then weekly until the 40th week (until birth). If the first antenatal visit is made at the third month of pregnancy, this optimum schedule translates to a total of at least 12-13 visits during the pregnancy.

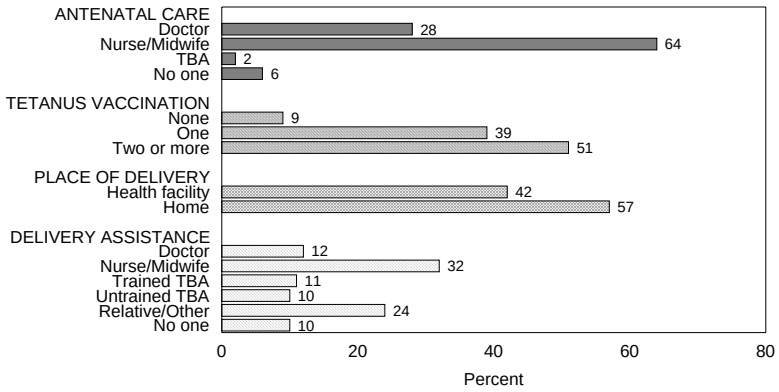
Table 8.1 Antenatal care

Percent distribution of births in the three years preceding the survey by source of antenatal care during pregnancy, according to selected background characteristics, Kenya 1998

Background characteristic	Antenatal care provider[1]						
	Doctor	Nurse/ Trained midwife	Traditional birth attendant	No one	Missing	Total	Number of births
Mother's age at birth							
< 20	27.2	63.6	3.1	6.1	0.0	100.0	597
20-34	29.2	63.8	2.1	4.7	0.2	100.0	2,481
35+	19.8	67.0	2.7	9.9	0.5	100.0	385
Birth order							
1	30.1	63.2	2.2	4.5	0.0	100.0	858
2-3	28.5	64.5	2.6	4.2	0.2	100.0	1,213
4-5	27.2	64.3	2.5	5.6	0.4	100.0	660
6+	24.7	64.4	1.9	8.7	0.3	100.0	733
Residence							
Urban	37.6	57.4	1.8	2.5	0.8	100.0	636
Rural	25.6	65.6	2.4	6.2	0.1	100.0	2,828
Province							
Nairobi	32.8	61.3	2.5	1.7	1.7	100.0	219
Central	25.8	69.5	0.3	4.4	0.0	100.0	306
Coast	42.7	50.7	0.9	5.2	0.6	100.0	284
Eastern	25.8	65.1	3.8	5.3	0.0	100.0	584
Nyanza	23.4	68.0	2.0	6.7	0.0	100.0	753
Rift Valley	35.8	55.4	1.7	6.9	0.2	100.0	867
Western	12.4	79.4	4.3	4.0	0.0	100.0	451
Mother's education							
No education	23.2	62.2	4.8	9.6	0.2	100.0	373
Primary incomplete	25.9	63.9	2.7	7.4	0.2	100.0	1,348
Primary complete	28.8	64.5	1.5	4.9	0.4	100.0	870
Secondary+	32.0	64.9	1.5	1.5	0.1	100.0	873
Total	27.8	64.1	2.3	5.5	0.2	100.0	3,464

[1] If the respondent mentioned more than one provider, only the most qualified provider is considered.

Figure 8.1
Antenatal Care, Tetanus Vaccinations,
Place of Delivery, and Delivery Assistance



Note: Based on births in the 3 years preceding the survey

KDHS 1998

Information about the number and timing of visits made by pregnant women is presented in Table 8.2. For 61 percent of births, mothers made four or more antenatal care visits, indicating that women are aware of the importance of regular attendance. Yet, for over one-third of births (37 percent), mothers made fewer than four visits; the median number of antenatal care visits was 3.7, far fewer than the recommended number of 12.

By the start of the sixth month of pregnancy, 40 percent of Kenyan women have not made a single antenatal visit. The median duration of gestation at which the first antenatal care visit was made was 5.7 months. This delayed use of services, whether because of poor access or poor knowledge by mothers, makes it difficult for the optimum benefits of antenatal care to be realised.

An important component of antenatal care in Kenya is ensuring that pregnant women and children are adequately protected against tetanus. Tetanus toxoid injections are given during pregnancy for prevention of neonatal tetanus, one of the principal causes of death among infants in many settings around the world. Typically, a pregnant woman will receive two doses of the toxoid. However, if a woman has been vaccinated during a previous pregnancy, she may require only one dose for a current pregnancy. Five doses are considered adequate to provide lifetime protection.

Table 8.2 Number of antenatal care visits and stage of pregnancy

Percent distribution of live births in the last three years by number of antenatal care (ANC) visits, and by the stage of pregnancy at the time of the first visit, Kenya 1998

Number of visits and stage of pregnancy	Total
Antenatal visits during pregnancy	
None	5.5
1	3.7
2-3 visits	27.7
4+ visits	60.8
Don't know/missing	2.3
Total	100.0
Median	3.7
Number of months pregnant at time of first visit:	
No antenatal care	5.5
Less than 6 months	53.7
6-7 months	36.1
8+ months	4.1
Don't know/missing	0.6
Total	100.0
Median	5.7
Total	3,464

Table 8.3 presents data on tetanus toxoid coverage during pregnancy for all live births in the three years preceding the survey. For 90 percent of births, at least one dose of tetanus toxoid was given to the mother during pregnancy; for 51 percent of births, two doses or more were provided. For just 9 percent of births, no tetanus toxoid was given. These estimates are virtually identical to those from the 1993 KDHS data.

As was seen with use of antenatal care, tetanus toxoid coverage is related to age of the mother and birth order. Younger women (< 20 years) and women with no previous birth are more likely to have received two doses of tetanus vaccination. These latter findings, however, may not represent genuine differences in protection against tetanus since older, higher parity women are more likely to have received tetanus toxoid in previous pregnancies. Births occurring in rural areas are slightly more likely than births in urban areas to not be protected by a tetanus vaccination, and slightly less likely to have received two doses of tetanus toxoid. Two-dose coverage ranges from a low of 37 percent of births in Nyanza Province to over 60 percent of births in Central and Eastern provinces. Women's level of education is linked to use of tetanus toxoid. For example, only 5 percent of women with some secondary education did not receive a single dose of tetanus toxoid, compared with 15 percent of women who had not attended school. Educated women may not only have greater access to medical services, but may also have a better understanding of the benefits of vaccinations, and thus be better disposed to take advantage of the available services.

Table 8.3 Tetanus toxoid vaccinations

Percent distribution of births in the three years preceding the survey by number of tetanus toxoid injections mother received during pregnancy, according to selected background characteristics, Kenya 1998

Background characteristic	Number of tetanus toxoid injections				Total	Number of births
	No injection	One dose	Two doses or more	Don't know/ Missing		
Mother's age at birth						
< 20	11.1	31.3	57.0	0.6	100.0	597
20-34	8.3	41.4	49.6	0.7	100.0	2,481
35+	13.6	36.5	49.1	0.8	100.0	385
Birth order						
1	8.9	26.9	63.9	0.3	100.0	858
2-3	8.7	41.8	48.3	1.2	100.0	1,213
4-5	8.4	44.6	46.4	0.6	100.0	660
6+	12.0	44.0	43.6	0.5	100.0	733
Residence						
Urban	7.0	37.1	54.2	1.6	100.0	636
Rural	9.9	39.5	50.0	0.5	100.0	2,828
Province						
Nairobi	8.4	36.1	52.1	3.4	100.0	219
Central	6.8	29.2	62.0	1.9	100.0	306
Coast	9.0	35.7	54.7	0.6	100.0	284
Eastern	6.9	29.4	63.5	0.2	100.0	584
Nyanza	11.8	51.3	36.7	0.2	100.0	753
Rift Valley	10.9	40.8	47.6	0.7	100.0	867
Western	8.0	38.2	53.5	0.3	100.0	451
Mother's education						
No education	15.2	39.6	44.6	0.5	100.0	373
Primary incomplete	11.6	40.9	47.1	0.4	100.0	1,348
Primary complete	7.7	36.4	55.2	0.7	100.0	870
Secondary+	5.1	38.8	54.8	1.3	100.0	873
Total	9.4	39.1	50.8	0.7	100.0	3,464

8.2 Assistance and Medical Care at Delivery

Another important component of efforts to reduce the health risks of mothers and children is increasing the proportion of babies that are delivered in medical facilities. Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause the death or serious illness of either the mother or the baby. Respondents were asked to report the place of birth of all children born in the three years before the survey (Table 8.4).

At the national level, 42 percent of births in the last three years were delivered in health facilities compared with 44 percent in the 1993 KDHS. Women age 35 years or older are much more likely than younger women to deliver at home. Similarly, high birth order of the child is associated with greater likelihood of home delivery. A child born in rural Kenya is nearly twice as likely as an urban child to have been delivered at home.

Provincial variation in the use of medical facilities for delivery is substantial, ranging from one-quarter of births in Western Province to three-quarters of births in Nairobi. Women with some secondary education are three times more likely than women with no education to deliver their children in a health facility. Women who have visited health professionals during pregnancy are much more likely to deliver at a health facility than women who have had no such contact. Only 17 percent of women who did not receive any antenatal care delivered in a health facility, compared with 48 percent of women with four or more antenatal visits.

Table 8.4 Place of delivery

Percent distribution of births in the three years preceding the survey by place of delivery, according to selected background characteristics, Kenya 1998

Background characteristic	Place of delivery				Total	Number of births
	At a health facility	At home	Other	Don't know/ Missing		
Mother's age at birth						
< 20	42.7	56.3	1.0	0.0	100.0	597
20-34	44.0	54.9	0.8	0.3	100.0	2,481
35+	29.0	68.5	2.0	0.5	100.0	385
Birth order						
1	59.6	39.5	0.9	0.0	100.0	858
2-3	44.7	54.4	0.6	0.4	100.0	1,213
4-5	33.8	64.8	0.9	0.6	100.0	660
6+	24.9	73.1	1.6	0.3	100.0	733
Residence						
Urban	68.3	31.0	0.0	0.8	100.0	636
Rural	36.2	62.4	1.2	0.2	100.0	2,828
Province						
Nairobi	75.6	22.7	0.0	1.7	100.0	219
Central	69.2	29.6	0.7	0.5	100.0	306
Coast	33.0	65.2	1.2	0.6	100.0	284
Eastern	49.0	50.0	1.0	0.0	100.0	584
Nyanza	35.6	62.4	2.0	0.0	100.0	753
Rift Valley	36.1	63.1	0.5	0.3	100.0	867
Western	26.6	72.6	0.7	0.1	100.0	451
Mother's education						
No education	24.3	74.5	1.0	0.2	100.0	373
Primary incomplete	28.0	70.4	1.4	0.2	100.0	1,348
Primary complete	42.5	56.2	0.8	0.5	100.0	870
Secondary+	71.2	28.1	0.4	0.3	100.0	873
Antenatal care visits						
None	16.9	82.1	0.9	0.0	100.0	191
1-3 visits	33.0	66.0	0.9	0.1	100.0	1,087
4 or more visits	48.4	50.6	1.0	0.0	100.0	2,106
Total	42.1	56.6	1.0	0.3	100.0	3,464

Note: Total includes 80 births for which data on antenatal visits are missing.

The type of assistance a woman receives during the birth of her child also has important health consequences for both mother and child. Births that are delivered at home are more likely to be delivered without assistance from anyone, whereas, births delivered at a health facility are more likely to be delivered by trained medical personnel. Table 8.5 shows that 56 percent of births were delivered under the supervision of personnel with medical training—mostly nurses or trained midwives. Untrained traditional birth attendants assisted in 10 percent of births, while relatives and friends provided the primary assistance in 24 percent of births. Ten percent of births were delivered without any assistance. The 1993 KDHS and 1998 KDHS results at the national level are essentially the same, indicating no improvement in use of delivery services in Kenya over the last five years.[1]

[1] There was a shift from use of untrained to trained traditional birth attendants at delivery, but the change was rather small.

Table 8.5 Assistance during delivery

Percent distribution of births in the three years preceding the survey by type of assistance during delivery, according to selected background characteristics, Kenya 1998

Background characteristic	Attendant assisting during delivery							Total	Number of births
	Doctor	Nurse/ Trained midwife	Trained TBA[1]	Un-trained TBA[1]	Relative/ Other	No one	Don't know/ Missing		
Mother's age at birth									
< 20	10.9	34.9	12.1	11.3	26.4	4.4	0.0	100.0	597
20-34	13.4	32.7	11.4	9.8	22.8	9.5	0.3	100.0	2,481
35+	7.6	23.1	9.4	8.5	27.5	23.4	0.5	100.0	385
Birth order									
1	18.4	43.8	10.1	8.3	15.9	3.4	0.0	100.0	858
2-3	12.1	34.6	10.0	9.5	26.2	7.4	0.2	100.0	1,213
4-5	10.5	26.9	12.7	10.9	26.7	11.7	0.5	100.0	660
6+	7.2	18.7	13.6	11.6	27.2	21.3	0.5	100.0	733
Residence									
Urban	23.6	47.2	7.2	3.9	13.1	4.2	0.8	100.0	636
Rural	9.8	28.6	12.2	11.3	26.4	11.5	0.2	100.0	2,828
Province									
Nairobi	31.9	44.5	1.7	4.2	11.8	4.2	1.7	100.0	219
Central	15.3	53.3	1.7	1.2	17.6	10.7	0.2	100.0	306
Coast	14.3	22.0	11.1	10.5	38.8	2.8	0.6	100.0	284
Eastern	13.5	34.6	15.6	15.0	16.3	5.0	0.0	100.0	584
Nyanza	7.8	30.4	14.3	10.2	21.0	16.1	0.2	100.0	753
Rift Valley	11.5	27.6	5.0	13.1	34.2	8.3	0.3	100.0	867
Western	7.3	25.7	24.3	5.2	19.8	17.7	0.0	100.0	451
Mother's education									
No education	8.3	19.0	7.8	14.6	35.2	14.9	0.2	100.0	373
Primary incomplete	7.7	22.9	13.3	12.9	29.5	13.5	0.2	100.0	1,348
Primary complete	11.2	33.9	11.8	9.4	24.1	9.1	0.5	100.0	870
Secondary+	22.4	49.9	9.3	3.8	10.4	4.1	0.2	100.0	873
Antenatal care visits									
None	8.2	10.9	7.7	16.1	34.7	22.4	0.0	100.0	191
1-3 visits	8.8	28.3	11.3	12.5	26.4	12.7	0.0	100.0	1,087
4 or more visits	14.8	35.0	12.0	8.0	22.1	8.0	0.1	100.0	2,106
Total	12.3	32.0	11.3	9.9	23.9	10.2	0.3	100.0	3,464

Note: Total includes 80 births for which data on antenatal visits are missing.
[1] TBA = Traditional birth attendant.

Age of the woman and birth order of the child is associated with type of assistance at delivery. Older women and women who have already had many births are more likely to have received no assistance at delivery, whereas, first births and births to younger women tend to receive better care during delivery, including more frequent supervision by a physician.

Urban women are much more likely than rural women to receive the benefit of medical supervision during delivery; thus, Nairobi Province shows a higher proportion of deliveries under medical supervision (78 percent) than other provinces (44 to 70 percent). More than 15 percent of births in Nyanza and Western provinces are delivered without any assistance.

Maternal education is closely tied to better supervision at delivery. Women with some secondary education are more than twice as likely to receive assistance from a trained professional than women with no education.

If a woman received antenatal care during pregnancy, she is more likely to deliver with medical assistance. Strikingly, only 27 percent of women not receiving antenatal care delivered their babies under supervision by a trained professional, compared with 62 percent of women with at least four antenatal visits. The combination of poor antenatal care and inadequate medical supervision at delivery places these births at high risk of serious illness and death.

8.3 Caesarean Section and Small Size at Birth

According to mothers' reports, 7 percent of babies born in Kenya are delivered by caesarean section (Table 8.6). Caesarean sections (C-sections) are less common amongst rural women, older women, women with a large number of children, and those with little or no education. Provincial estimates of C-section prevalence vary from 2 percent of deliveries in Nyanza to 11 percent in Central Province and 13 percent in Nairobi. Generally, a C-section rate below 5 percent is thought to be a reflection of limited access to maternal health services (FCI, 1998).

Respondents were also asked if their baby had been weighed at birth, and if so, how much the baby weighed. In addition, the mother was asked for her own subjective assessment of whether the child was very large, larger than average, average size, smaller than average, or very small at birth. For less than one-half of births, a birth weight was reported. Among births for which a birth weight was reported, 8 percent

Table 8.6 Delivery characteristics: caesarean section, birth weight and size

Among births in the three years preceding the survey, the percentage of deliveries by caesarean section, and the percent distribution by birth weight and by the mother's estimate of baby's size at birth, according to selected background characteristics, Kenya 1998

		Birth weight			Size of child at birth				
Background characteristic	Delivery by C-section	Less than 2.5 kg	2.5 kg or more	Birth weight not provided	Very small	Smaller than average	Average or larger	Don't know	Number of births
Mother's age at birth									
<20	5.8	4.1	39.4	56.5	4.7	14.0	80.9	0.4	597
20-34	7.6	3.7	43.5	52.9	4.2	10.3	84.7	0.8	2,481
35+	3.0	3.8	30.2	65.9	7.2	12.4	79.3	1.2	385
Birth order									
1	9.5	5.9	53.4	40.7	5.3	13.6	80.4	0.6	858
2-3	6.9	2.8	45.1	52.0	4.1	10.6	84.4	1.0	1,213
4-5	5.6	3.2	35.7	61.1	3.7	11.2	84.5	0.7	660
6+	4.5	3.3	25.8	70.9	5.6	9.2	84.5	0.7	733
Residence									
Urban	10.5	6.4	64.1	29.5	4.7	10.7	83.8	0.8	636
Rural	6.0	3.2	36.2	60.7	4.6	11.3	83.3	0.7	2,828
Province									
Nairobi	12.6	5.9	73.1	21.0	3.4	11.8	83.2	1.7	219
Central	10.9	8.6	71.0	20.4	4.9	8.6	85.2	1.2	306
Coast	6.9	6.1	34.1	59.9	5.8	12.0	81.5	0.7	284
Eastern	8.0	4.1	45.1	50.8	5.5	14.3	79.7	0.5	584
Nyanza	1.9	1.7	34.8	63.5	2.9	9.6	86.9	0.6	753
Rift Valley	8.8	3.4	37.4	59.2	3.8	13.4	82.0	0.7	867
Western	3.9	1.6	23.7	74.7	7.7	6.3	85.2	0.8	451
Mother's education									
No education	3.6	3.2	24.0	72.8	8.3	9.5	81.9	0.4	373
Primary incomplete	4.4	3.5	26.6	69.9	4.7	13.6	80.9	0.9	1,348
Primary complete	7.4	2.8	45.8	51.4	3.8	9.9	85.1	1.2	870
Secondary+	11.2	5.3	66.9	27.8	3.9	9.5	86.4	0.3	873
Total	6.8	3.8	41.3	54.9	4.6	11.2	83.4	0.8	3,464

(around 4 percent of all births) were less than 2.5 kilograms, which is the cutoff point below which a baby is considered to be low birth weight. Sixteen percent of all births were reported by their mothers to be either small (11 percent) or very small (5 percent) at birth.

8.4 Vaccinations

In order to assist in the evaluation of the Kenya Expanded Programme of Immunisation (KEPI), the KDHS collected information on vaccination coverage for all children born in the three years preceding the survey, although the data presented here are restricted to children who were alive at the time of the survey. The KEPI largely follows the World Health Organisation (WHO) guidelines for vaccinating children. In order to be considered fully vaccinated, a child should receive the following vaccinations: one dose of BCG, three doses each of DPT and polio, and one dose of measles vaccine. BCG should be given at birth or first clinic contact and protects against tuberculosis. DPT protects against diphtheria, pertussis, and tetanus. DPT and polio require three vaccinations at approximately 6, 10, and 14 weeks of age; measles should be given at or soon after reaching nine months of age. WHO recommends that children receive the complete schedule of vaccinations before 12 months of age.

Information on vaccination coverage was collected in two ways: from child health cards seen by the interviewer and from mothers' verbal reports. Health centres and clinics in Kenya typically provide cards on which vaccinations are recorded. If a mother was able to present such a card to the interviewer, this was used as the source of information, with the interviewer recording vaccination dates directly from the card. In addition to collecting vaccination information from cards, there were two ways of collecting the information from the mother herself. If a vaccination card had been presented, but a vaccine had not been recorded on the card as being given, the mother was asked to recall whether or not that particular vaccine had been given. If the mother was not able to provide a card for the child at all, she was asked through a series of probing questions whether or not the child had received BCG, polio, and DPT (including the number of doses for each), and measles vaccinations.

Information on vaccination coverage is presented in Table 8.7, according to the source of information used to determine coverage, i.e., the child health card or mother's report. Data are presented for children age 12-23 months, thereby including only children who should be fully vaccinated. By way of illustration, 55 percent of all children had a BCG vaccination recorded on their health card. However, not all children who are vaccinated have health cards available; 41 percent of children did not have a card but

Table 8.7 Vaccinations by source of information

Percentage of children 12-23 months who had received specific vaccines at any time before the survey, by source of information about vaccination, and the percentage vaccinated by 12 months of age, Kenya 1998

Source of information	Percentage of children who received:										Number of children
		DPT			Polio						
	BCG	DPT1	DPT2	DPT3	Polio1	Polio2	Polio3	Measles	All[1]	None	
Vaccinated at any time before the survey											
Vaccination card	54.7	54.8	53.9	50.9	54.9	53.8	51.0	46.0	44.2	0.0	608
Mother's report	41.2	41.0	36.1	28.2	40.5	36.6	29.7	33.3	21.2	2.7	489
Either source	95.9	95.8	90.0	79.2	95.4	90.4	80.8	79.2	65.4	2.7	1,097
Vaccinated by 12 months of age[2]	94.0	94.5	88.2	76.3	94.2	89.0	77.7	70.7	58.0	4.4	1,097

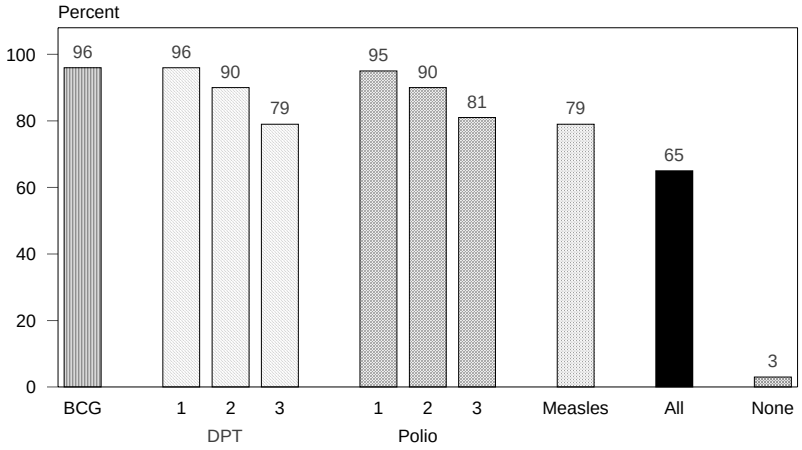
[1] Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio (excluding polio 0)).
[2] For children whose information was based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

were reported by their mothers to have received the BCG vaccine. Thus, overall, 96 percent of children age 12-23 months are estimated to have been vaccinated against tuberculosis. Vaccinations are most effective when given at the proper age; according to the card information, 94 percent of children receive the BCG vaccine by 12 months of age. Figure 8.2 summarises vaccination coverage in Kenya.

Coverage for the first doses of polio and DPT is nearly universal (95 to 96 percent). Polio vaccine coverage declines after the first dose, with 90 and 81 percent of children receiving the second and third doses, respectively. This yields a dropout rate [2] of about 15 percent for polio vaccine. The dropout rate between DPT1 and DPT3 is 17 percent. Seventy-nine percent of children age 12-23 months were vaccinated against measles; 71 percent before their first birthday. Around 3 percent of children age 12-23 months had received no vaccinations.

Overall, 65 percent of children age 12-23 months had all the recommended vaccinations—58 percent before their first birthday.

Figure 8.2
Percentage of Children Age 12-23 Months with Specific Vaccinations according to Health Cards and Mother's Reports



The 1998 KDHS sample design and methods of data collection, data processing, and analysis were identical to those used in the 1993 KDHS, facilitating comparisons. The results of these comparisons indicate a worsening picture in the fight against vaccine-preventable diseases in Kenya. The first indication of the problem comes from a drop in the percentage of children with a vaccination card from 69 to 55 percent. This in itself may indicate decreased access to services. Full coverage (all vaccines, ages 12-23 months) has fallen from 79 to 65 percent. While BCG coverage has remained constant since 1993 at 96 percent, measles coverage has fallen from 84 to 79 percent. The significant level of failure to complete the polio series and the DPT series described above has resulted in a decline in third-dose polio coverage from 87 to 81 percent and third-dose DPT coverage from 85 to 79 percent since 1993.

[2] The dropout rate is defined as the percentage of children receiving the first dose who do not subsequently receive the third dose of polio or DPT vaccine. Polio 0 (at birth) is not counted in this analysis.

Table 8.8 presents vaccination coverage (according to card information and mothers' reports) among children age 12-23 months by selected background characteristics. The differentials in coverage are similar irrespective of vaccine type; therefore, the focus is on differentials in complete coverage (i.e., all vaccines received). There is virtually no difference in coverage between boys and girls. Children of high birth order (6+) tend to have lower coverage than children of lower birth order. Full vaccination coverage among urban children (71 percent) is slightly higher than among rural children (64 percent).

Provincial variation in vaccination coverage needs to be interpreted with caution since the numbers of observations on which the estimates are based are, in some cases, small. Still, some important differences are apparent. Nyanza Province has full vaccination coverage for only 47 percent of children age 12-23 months; Western Province has 56 percent coverage; and the remaining provinces range from 69 percent (Rift Valley) to 85 percent (Central Province) coverage. Education level of the mother is linked to the likelihood that children have been fully vaccinated. Fifty-three percent of children whose mother had no schooling were fully covered, versus 79 percent of children of mothers with at least some secondary education.

Table 8.8 Vaccinations by background characteristics

Percentage of children 12-23 months who had received specific vaccines by the time of the survey (according to the vaccination card or the mother's report), and the percentage with a vaccination card, according to selected background characteristics, Kenya 1998

Background characteristic	Percentage of children who received:										Percentage with vaccination card	Number of children
		DPT			Polio							
	BCG	DPT1	DPT2	DPT3	Polio1	Polio2	Polio3	Measles	All[1]	None		
Child's sex												
Male	95.0	95.5	90.6	80.5	95.4	91.4	81.8	79.4	66.0	2.4	55.9	549
Female	96.7	96.0	89.3	77.8	95.3	89.5	79.7	79.1	64.8	2.9	55.0	548
Birth order												
1	98.7	98.0	91.7	81.7	97.9	93.4	87.2	87.4	70.0	0.9	58.9	261
2-3	97.2	97.3	92.3	83.3	97.2	91.8	83.0	85.0	72.3	1.7	57.1	396
4-5	95.0	94.5	89.3	81.2	94.9	90.2	79.6	77.5	65.8	3.0	51.7	224
6+	90.8	91.7	84.5	66.4	89.5	84.6	70.0	60.7	46.8	6.2	52.1	217
Residence												
Urban	98.0	97.1	90.5	79.0	96.8	91.5	84.2	92.8	70.5	1.6	42.5	210
Rural	95.3	95.4	89.9	79.2	95.0	90.2	79.9	76.1	64.2	2.9	58.5	888
Province												
Nairobi	97.7	95.5	90.9	75.0	97.7	88.6	86.4	93.2	72.7	2.3	40.9	81
Central	100.0	100.0	98.6	97.2	97.8	95.6	94.9	91.3	84.8	0.0	54.8	81
Coast	94.8	97.9	89.5	81.3	98.4	94.2	85.3	91.6	71.9	0.8	65.8	100
Eastern	97.9	97.4	93.6	86.2	96.3	93.7	88.9	86.6	74.9	2.1	69.3	173
Nyanza	92.9	92.1	81.6	66.2	91.2	79.8	66.4	61.9	46.5	5.2	47.1	224
Rift Valley	96.3	96.5	92.2	83.9	96.2	95.1	84.4	83.7	69.3	2.4	51.2	290
Western	94.4	94.4	89.2	72.2	94.4	89.2	72.0	65.8	56.2	2.8	61.4	148
Mother's education												
No education	88.1	89.9	78.7	68.1	88.8	81.2	68.2	70.1	53.4	7.4	51.4	117
Primary incomplete	95.3	94.0	87.8	75.2	94.1	87.4	76.3	72.2	58.2	3.5	55.7	413
Primary complete	97.0	98.4	92.8	82.2	97.5	93.0	83.1	82.9	67.3	1.4	58.2	291
Secondary+	98.7	98.2	95.1	86.5	97.7	96.1	90.2	89.7	79.2	0.6	53.9	276
Total	95.9	95.8	90.0	79.2	95.4	90.4	80.8	79.2	65.4	2.7	55.4	1,097

[1] Children who are fully vaccinated (i.e., those who have received BCG, measles and three doses of DPT and polio (excluding polio 0)).

8.5 Acute Respiratory Infection

Pneumonia is a leading cause of death of young children in Kenya. The programme to control acute respiratory infections (ARI) aims at treating cases of ARI early before complications develop. Early diagnosis and treatment with antibiotics can prevent a large proportion of deaths due to pneumonia. There is, therefore, emphasis placed on recognition of signs of impending severity, both by mothers and primary health care workers so that help can be sought.

The prevalence of ARI was estimated by asking mothers if their children under age three had been ill with cough accompanied by short, rapid breathing in the two weeks preceding the survey. These symptoms are compatible with pneumonia. It should be borne in mind that morbidity data collected in surveys are subjective—i.e., mother's perception of illness—and not validated by medical examination.

Table 8.9 shows that 20 percent of children under three years of age were ill with a cough and short, rapid breathing at some time in the two weeks preceding the survey. Prevalence of respiratory illness varies by age of the child, with the highest prevalence occurring at 6-23 months. Sex of the child is not associated significantly with ARI, but prevalence increases at higher birth orders.

ARI prevalence is slightly higher in rural (21 percent) than urban (18 percent) areas. Provincial differences are substantial. Prevalence in the Coast Province is 15 percent compared with 27 percent in Eastern Province. Whether this wide range in ARI prevalence reflects genuine differences in morbidity or rather differences in the perception of disease or disease severity cannot be ascertained from these data. The data indicate that education level of the mother is not an important indicator of ARI prevalence.

Fifty-seven percent of children with respiratory illness were taken to a health facility of some kind. Age, sex, and birth order of the child are not strongly related to use of health facilities for ARI. Urban children with ARI are more likely to have been taken to a health facility than their rural counterparts. Among the rural-based provinces (i.e., except Nairobi), use of a health facility for ARI ranges from a low of 40 percent in Western Province to a high of 69 percent in Rift Valley Province.

Table 8.9 Prevalence and treatment of acute respiratory infection

Percentage of children under three years who were ill with a cough accompanied by short, rapid breathing during the two weeks preceding the survey, by selected background characteristics, Kenya 1998

Background characteristic	Percentage of children with cough and rapid breathing	Number of children	Percentage of children taken to a health facility or provider[1]	Number of ill children
Child's age				
< 6 months	15.5	523	53.9	81
6-11 months	21.3	564	58.1	120
12-23 months	22.0	1,097	54.7	242
24-35 months	19.7	1,021	61.2	201
Child's sex				
Male	20.3	1,632	56.0	331
Female	19.9	1,573	58.6	313
Birth order				
1	18.4	791	53.2	146
2-3	18.8	1,150	61.1	216
4-5	24.7	613	57.4	152
6+	20.1	652	55.3	131
Residence				
Urban	17.6	600	73.9	105
Rural	20.7	2,606	54.0	539
Province				
Nairobi	18.1	213	(76.2)	39
Central	16.0	296	(55.0)	47
Coast	14.9	263	(67.3)	39
Eastern	26.5	546	52.6	144
Nyanza	21.9	641	49.6	140
Rift Valley	20.2	824	68.7	166
Western	16.1	423	40.0	68
Mother's education				
No education	19.2	339	60.4	65
Primary incomplete	23.2	1,221	50.1	283
Primary complete	18.1	811	54.8	146
Secondary+	17.9	835	71.9	149
Total	20.1	3,205	57.3	644

Note: Figures in parentheses are based on 25 to 49 ill children.
[1] Includes health centre, hospital, clinic, and private doctor

8.6 Fever

Malaria is endemic in most parts of Kenya and is a common cause of hospital admission for all age groups. Since the major manifestation of malaria is fever, mothers were asked whether their children under age three had a fever in the two weeks preceding the survey. If a fever was reported, the mother was asked whether treatment was sought at a health facility, and whether the child was given any medicine to take. The reported medicines were categorised (in the field, by KDHS interviewers) into precoded drug categories. In this analysis, the following drug groups are classified together as "antimalarials:" chloroquines, sulfa combinations, halofantrines, amodiaquine, and artimisinin.

Table 8.10 shows that 42 percent of children under three years of age were reported to have had fever in the two weeks prior to the survey. As with respiratory illness, prevalence of fever peaks among children age 6-23 months (46-47 percent). Fevers in girls and boys are reported at the same rate. Fever prevalence rises slightly with increasing birth order of the child. Urban-rural residence and education of the mother are not important correlates of fever. Fever prevalence varies from 32 percent in Central Province to 49 percent in Nyanza and Western provinces.

Table 8.10 Prevalence and treatment of fever

Percentage of children under three years who were ill with fever during the two weeks preceding the survey, by selected background characteristics, Kenya 1998

Background characteristic	Percentage of children with fever	Number of children	Percentage of children with fever taken to a health facility or provider[1]	Percentage of children with fever treated with antimalarials	Number of ill children
Child's age					
< 6 months	31.6	523	47.5	30.0	166
6-11 months	46.4	564	68.2	43.4	262
12-23 months	46.7	1,097	58.7	42.1	513
24-35 months	40.8	1,021	58.4	40.4	416
Child's sex					
Male	42.4	1,632	60.4	39.9	693
Female	42.2	1,573	57.7	40.8	663
Birth order					
1	41.5	791	58.6	39.5	328
2-3	37.5	1,150	62.0	40.1	431
4-5	44.7	613	64.0	40.6	274
6+	49.5	652	51.4	41.5	323
Residence					
Urban	41.7	600	72.9	35.2	250
Rural	42.4	2,606	55.9	41.5	1,106
Province					
Nairobi	38.8	213	68.9	22.2	83
Central	31.8	296	57.9	19.6	94
Coast	40.1	263	72.3	66.5	105
Eastern	39.8	546	60.4	39.7	217
Nyanza	48.9	641	55.3	49.5	313
Rift Valley	40.6	824	60.3	23.0	335
Western	49.3	423	51.2	58.5	209
Mother's education					
No education	44.2	339	53.1	45.6	150
Primary incomplete	43.8	1,221	55.9	38.1	534
Primary complete	44.0	811	58.5	40.2	357
Secondary+	37.7	835	67.8	42.0	315
Total	42.3	3,205	59.1	40.4	1,356

[1] Includes health centre, hospital, clinic, and private doctor

Fifty-nine percent of children with fever were taken to a health facility for treatment; this compares with 47 percent in the 1993 KDHS. Of those with fever (whether or not they went to a health facility), 40 percent of children were given an antimalarial drug to take. [3] Use of antimalarials to treat fever in young children is highest in Coast, Western, and Nyanza provinces and lowest in Central and Nairobi provinces.

8.7 Diarrhoea

Dehydration caused by severe diarrhoea is a major cause of morbidity and mortality among young children in Kenya. A simple and effective response to a child's dehydration is a prompt increase in intake of appropriate fluids, i.e., oral rehydration therapy (ORT). In Kenya, families are encouraged to rehydrate children either with a solution prepared from commercially packaged oral rehydration salts (ORS), also called Oralite), or with other fluids prepared at home with locally obtained ingredients (e.g., soup, fruit juice).

In the KDHS, women who had a birth in the last three years were asked questions regarding their knowledge of ORS packets. For all children experiencing a bout of diarrhoea in the last two weeks, mothers were asked whether there was blood in the diarrhoea, whether fluid intake was increased or decreased, whether the child was given a solution prepared from ORS packets, and what else was given to the child in response to the diarrhoea.

Table 8.11 presents the prevalence of diarrhoea in children under three years of age. Seventeen percent of children had experienced diarrhoea at some time in the two weeks preceding the survey; 3 percent of children had experienced bloody diarrhoea. Diarrhoeal prevalence increases with age to a peak at 6-23 months (22 percent) then falls again at older ages. Bloody diarrhoea rises with age to peak at 4 percent during ages 24-35 months.

Sex of the child is not an important factor related to diarrhoea. Children who are first births or are birth order 6+ have the highest rate of diarrhoea. Residential differentials are small; children in urban areas experience roughly the same rate of diarrhoea as rural children. Central Province has considerably lower prevalence of diarrhoea than other provinces. Higher levels of maternal education are associated with lower risk of diarrhoea, especially bloody diarrhoea.

Table 8.11 Prevalence of diarrhoea

Percentage of children under three years of age with diarrhoea and diarrhoea with blood during the two weeks preceding the survey, by selected background characteristics, Kenya 1998

Background characteristic	Diarrhoea in the preceding 2 weeks: All diarrhoea	Diarrhoea in the preceding 2 weeks: Diarrhoea with blood	Number of children
Child's age			
< 6 months	11.9	1.7	523
6-11 months	22.4	2.3	564
12-23 months	21.6	3.4	1,097
24-35 months	12.1	3.6	1,021
Child's sex			
Male	17.8	3.3	1,632
Female	16.4	2.6	1,573
Birth order			
1	18.0	3.2	791
2-3	15.8	1.8	1,150
4-5	14.4	3.0	613
6+	20.9	4.8	652
Residence			
Urban	17.1	2.3	600
Rural	17.1	3.1	2,606
Province			
Nairobi	12.9	3.4	213
Central	9.2	0.9	296
Coast	15.2	4.3	263
Eastern	19.7	2.4	546
Nyanza	17.7	3.3	641
Rift Valley	18.2	3.1	824
Western	19.7	3.5	423
Mother's education			
No education	19.9	6.1	339
Primary incomplete	20.5	3.1	1,221
Primary complete	16.9	3.1	811
Secondary+	11.3	1.4	835
Total	17.1	3.0	3,205

[3] If treatment with the broad-spectrum antibiotics Bactrim and Septrin are included, the estimated rate of treatment increases to 50 percent.

When asked about "ORS or Oralite," 72 percent of mothers responded that they knew of it (Table 8.12). Mothers were also asked whether fluid intake should be increased, be decreased, or remain the same during a bout of diarrhoea. A similar question was asked about food intake during diarrhoea. Seventy-three percent of mothers correctly responded that children should take fluids at an increased rate, but 11 percent said that it is better to reduce fluids during diarrheoa. About one-quarter of mothers reported that children should be fed less during a diarrhoeal episode.

Table 8.12 Knowledge of diarrhoea care

Percentage of women who had a birth in the three years preceding the survey who know about ORS packets (Oralite) for treatment of diarrhoea and the percent distribution by opinion on appropriate feeding practices during diarrhoea, according to selected background characteristics, Kenya 1998

Background characteristic	Know about ORS packets for treatment of diarrhoea	Compared with usual feeding practices, appropriate feeding during diarrhoea: Liquids				Solid foods				Number of women
		Less	Same	More	Don't know/ Missing	Less	Same	More	Don't know/ Missing	
Age										
15-19	61.1	16.8	16.9	62.8	3.4	26.1	36.1	30.5	7.3	313
20-24	71.6	12.5	15.7	70.3	1.4	26.9	33.5	37.5	2.1	888
25-29	77.1	9.4	12.7	77.5	0.5	25.3	36.1	36.0	2.6	824
30-34	74.6	9.0	12.8	76.3	1.9	25.4	39.0	34.1	1.4	496
35+	69.8	10.5	12.9	74.2	2.4	24.0	35.4	38.2	2.4	486
Residence										
Urban	77.0	8.4	9.9	80.6	1.2	25.3	35.4	35.2	4.1	551
Rural	71.1	11.8	15.0	71.4	1.7	25.8	35.8	36.1	2.4	2,457
Province										
Nairobi	72.4	8.6	7.6	82.9	1.0	21.9	35.2	35.2	7.6	193
Central	62.5	3.8	19.0	76.7	0.6	19.0	30.8	48.6	1.6	280
Coast	78.3	4.9	14.7	77.4	3.0	17.1	51.1	29.6	2.2	244
Eastern	72.5	4.9	14.7	78.9	1.6	16.0	29.6	52.2	2.2	510
Nyanza	77.9	15.2	13.6	70.1	1.1	28.8	34.1	36.0	1.1	659
Rift Valley	68.5	16.5	15.9	65.0	2.6	33.6	37.8	24.8	3.7	751
Western	72.5	13.3	9.7	76.2	0.8	30.1	36.5	30.7	2.7	369
Education										
No education	53.4	14.8	18.2	62.4	4.6	26.4	42.9	27.2	3.5	328
Primary incomplete	69.2	13.2	17.0	68.3	1.6	24.9	34.7	37.4	3.0	1,150
Primary complete	76.5	11.4	13.5	74.0	1.1	29.3	33.2	35.6	1.9	762
Secondary+	80.6	6.5	8.6	84.1	0.9	23.0	36.6	37.8	2.6	768
Total	72.2	11.2	14.1	73.1	1.6	25.7	35.7	35.9	2.7	3,007

ORS = Oral rehydration salts

Table 8.13 shows treatment of recent episodes of diarrhoea among children under three years of age, as reported by the mother. The KDHS results indicate that 44 percent of children with diarrhoea in the last two weeks were taken to a health facility for treatment, slightly better than the 40 percent of cases found in the 1993 KDHS. Older children, urban children, and children in Coast and Nairobi provinces were most likely to be taken for treatment.

Table 8.13 Treatment of diarrhoea

Among children under three years who had diarrhoea in the two weeks preceding the survey, the percentage taken for treatment to a health facility or provider, the percentage who received oral rehydration therapy (ORT) (either solution prepared from ORS packets, recommended home fluid (RHF), or increased fluids), the percentage who received no ORT and the percentage given other treatments, according to selected background characteristics, Kenya 1998

Background characteristic	Percentage taken to a health facility or provider[1]	Oral rehydration therapy				Did not received ORT	Other treatments		No treat-ment	Missing	Number of children
		ORS packet	RHF at home	Either ORS or RHF	In-creased fluids		Injec-tion	Home remedy/ Other			
Child's age											
< 6 months	21.4	11.5	52.5	56.3	48.1	30.9	4.6	46.1	10.5	0.0	62
6-11 months	41.0	29.0	54.0	63.2	49.9	24.7	7.0	46.2	14.7	0.0	126
12-23 months	47.9	40.3	60.0	71.8	55.5	14.9	13.2	49.9	7.5	0.0	237
24-35 months	52.1	51.5	54.5	74.8	60.0	10.4	15.4	50.9	7.7	0.7	123
Child's sex											
Male	47.9	35.5	57.1	69.4	55.8	16.3	14.8	52.9	7.9	0.3	290
Female	40.2	38.5	55.9	68.0	52.9	19.9	7.4	44.2	11.4	0.0	258
Birth order											
1	42.2	39.7	51.3	65.9	52.3	19.9	7.3	51.9	8.6	0.0	143
2-3	47.8	33.6	56.6	65.9	56.6	18.8	11.3	48.2	11.0	0.0	182
4-5	41.0	38.0	59.3	74.2	49.9	16.4	19.8	51.7	7.8	0.0	88
6+	43.8	37.8	60.1	71.9	56.5	15.8	10.0	44.5	9.8	0.6	136
Residence											
Urban	54.3	51.3	55.7	81.9	65.7	6.6	15.6	52.0	3.3	0.0	103
Rural	41.9	33.6	56.7	65.7	51.8	20.6	10.3	48.1	11.0	0.2	446
Province											
Nairobi	(60.0)	(53.3)	(60.0)	(86.7)	(60.0)	(0.0)	(13.3)	(66.7)	(0.0)	(0.0)	28
Central	(44.9)	(42.4)	(46.3)	(70.2)	(64.2)	(13.1)	(0.0)	(35.4)	(13.1)	(0.0)	27
Coast	(63.3)	(54.6)	(52.3)	(78.5)	(82.5)	(6.2)	(33.4)	(54.2)	(4.1)	(0.0)	40
Eastern	37.2	30.7	57.3	65.3	58.4	19.6	3.2	33.5	13.8	0.0	108
Nyanza	37.1	34.1	49.4	62.6	44.7	24.1	10.2	57.6	11.4	0.0	113
Rift Valley	52.9	38.2	59.2	70.4	47.2	18.1	17.3	45.5	7.4	0.5	150
Western	33.0	30.9	64.7	67.5	56.9	20.3	4.9	58.7	10.0	0.0	83
Mother's education											
No education	47.0	27.6	58.5	65.1	52.2	17.7	6.2	50.0	10.7	0.0	67
Primary incomplete	43.0	36.0	54.6	66.2	53.2	18.4	12.1	48.0	10.4	0.0	250
Primary complete	43.6	42.0	64.2	77.4	55.8	15.2	11.2	46.4	10.1	0.0	137
Secondary+	46.5	38.6	49.1	65.5	57.2	21.2	13.0	53.9	5.5	0.9	94
Total	44.3	36.9	56.5	68.7	54.4	18.0	11.3	48.8	9.5	0.1	549

Note: Figures in parentheses are based on 25 to 49 children who had diarrhoea.
ORS = Oral rehydration salts
[1] Includes health centre, hospital, clinic, and private doctor

ORS packets were used to treat 37 percent of children with diarrhoea, while 57 percent were treated with various types of recommended homemade fluids (RHF). However, for only 54 percent of children with diarrhoea did the mother report that she gave the child more to drink than before the diarrhoea. Overall, 18 percent of children were given neither ORS nor RHF nor increased fluids, placing this group at higher risk of mortality. Eleven percent of children with diarrhoea were given "an injection," and 49 percent were provided some sort of home-based traditional remedy, including herbal medicines. Ten percent of children were not given any treatment for their diarrhoea.

Generally, treatment intervention increases with increasing age of the child. For instance, the percentage of children who received no increase in fluid intake of any kind declines from 31 percent of children under six months of age to 10 percent of children 24-35 months old. Urban children are more likely than rural children to be treated at a health facility or with some form of oral rehydration therapy.

Table 8.14 shows that nearly one-half of children sick with diarrhoea were given less food during the recent illness, and that 17 percent were given less to drink. These patterns reflect a gap in practical knowledge among some women regarding the nutritional requirements of children during episodes of diarrhoeal illness.

Table 8.14 Feeding practices during diarrhoea

Percent distribution of children under three years who had diarrhoea in the past two weeks by amount of fluids and solid foods given compared with normal practice, Kenya 1998

Feeding practice	Total
Amount of fluids given	
Same	27.9
Increased	54.4
Decreased	16.8
Don't know/missing	0.9
Amount of solid foods given	
Same	35.2
Increased	17.1
Decreased	46.4
Don't know/missing	1.3
Total	100.0
Number	549

CHAPTER 9

MATERNAL AND CHILD NUTRITION

Maria Mosomi and John Owuor

Malnutrition is one of the most important health and welfare problems facing Kenyans today, especially with regard to the most vulnerable of populations: young children and their mothers. The KDHS collected data from mothers regarding the feeding patterns of their children under three years of age. In this chapter, these data are used to evaluate infant feeding practices, including breastfeeding durations, introduction of complementary weaning foods, and use of feeding bottles. Height and weight of all children under five and their mothers was also measured, allowing cross-sectional assessment of maternal and child nutritional status.

9.1 Breastfeeding and Supplementation

The pattern of infant feeding has an important influence on both the child and the mother. Feeding practices are the principal determinants of a child's nutritional status. Poor nutritional status in young children exposes them to greater risk of illness and death. Breastfeeding also affects mothers through biological suppression of return to fertile status, thereby influencing the length of the birth interval and pregnancy outcome. These effects are influenced by both the duration and frequency of breastfeeding, and by the age at which the child receives foods and liquids to supplement breast milk.

9.1.1 Initiation of Breastfeeding

Colostrum, which is contained in the very first breast milk after delivery, has been shown to be highly nutritious and to contain a high concentration of antibodies which protect babies from infection before the child's immune system has matured. To facilitate early initiation of breastfeeding, women delivering at home and in health facilities in Kenya are increasingly encouraged to ensure that their newborn babies are breastfed soon after birth and thereafter on demand. Bottle feeding is discouraged and mothers are educated to breastfeed exclusively until the child is 4-6 months old.

Table 9.1 shows that breastfeeding is nearly universal in Kenya, with 98 percent of children born in the last five years having been breastfed for some period of time. [1] Overall, 58 percent of children were breastfed within an hour and 86 percent in the first 24 hours after delivery, but this varies substantially by province. Initiation to the breast within one hour of delivery is very high in Central Province (80 percent), but considerably lower in Coast Province (44 percent) and Western Province (41 percent). It is often feared that delivery in a modern health facility may discourage early initiation to the breast. These data do not support this concern. If anything, health facility delivery and delivery by medically trained personnel are associated with higher rates of breastfeeding within an hour of delivery.

[1] The remaining 2 percent are comprised, in large part, of children who died during the neonatal period and were probably unable to start breastfeeding.

Table 9.1 Initial breastfeeding

Percentage of children born in the three years preceding the survey who were ever breastfed, and the percentage who started breastfeeding within one hour of birth and within one day of birth, by selected background characteristics, Kenya 1998

Background characteristic	Percentage ever breastfed	Percentage who started breastfeeding: Within one hour of birth	Within one day of birth[1]	Number of children
Child's sex				
Male	97.8	58.9	86.3	1,769
Female	97.3	57.6	86.1	1,695
Residence				
Urban	97.1	62.1	86.1	636
Rural	97.6	57.4	86.3	2,828
Province				
Nairobi	100.0	63.0	84.9	219
Central	97.7	80.1	95.0	306
Coast	95.3	43.6	76.7	284
Eastern	97.3	63.2	92.5	584
Nyanza	97.6	49.7	88.1	753
Rift Valley	97.2	67.5	85.9	867
Western	98.7	40.6	76.4	451
Mother's education				
No education	97.9	56.8	84.4	373
Primary incomplete	96.8	56.8	86.3	1,348
Primary complete	97.7	58.5	86.4	870
Secondary+	98.4	60.9	86.7	873
Assistance at delivery				
Health professional	97.2	63.6	87.9	1,538
Traditional midwife	98.4	55.1	87.3	735
Other or none	97.5	53.7	84.1	1,182
Place of delivery				
Health facility	97.2	64.3	88.2	1,459
At home	97.9	54.2	85.2	1,962
Other	94.0	38.3	69.1	43
Total	97.6	58.3	86.2	3,464

Note: Total includes 9 children for whom data on assistance at delivery are missing.
[1] Includes children who started breastfeeding within one hour of birth

9.1.2 Age Pattern of Breastfeeding

Breast milk is uncontaminated, and contains all the nutrients needed by children in the first four to six months of life. Supplementing breast milk before four months of age is unnecessary and is discouraged, since the likelihood of contamination and resulting risk of diarrhoeal disease are high. Early supplementation also reduces breast milk output since the production and release of milk are modulated by the frequency and intensity of suckling.

Table 9.2 shows breastfeeding practises from birth up to the third birthday. By 10-11 months of age, 95 percent of children are still breastfed; even by 20 months of age, two-thirds of children are being breastfed. By 24-25 months of age, only one-third are still receiving some breast milk, and by the end of the third year virtually all children have been completely weaned.

Table 9.2 Breastfeeding status

Percent distribution of children under three years of age by current breastfeeding status, according to child's age in months, Kenya 1998

Age in months	Not breastfeeding	Exclusively breastfed	Breastfeeding and: Plain water only	Breastfeeding and: Complementary foods	Total	Number of children
< 2	0.0	28.2	18.3	53.4	100.0	153
2-3	0.0	8.0	9.6	82.4	100.0	201
4-5	1.8	3.5	1.0	93.7	100.0	169
6-7	3.2	0.6	1.5	94.8	100.0	195
8-9	4.9	1.2	0.9	93.0	100.0	189
10-11	4.9	0.4	0.0	94.6	100.0	180
12-13	8.5	0.0	0.1	91.4	100.0	180
14-15	14.6	0.0	0.0	85.4	100.0	191
16-17	19.9	0.0	0.0	80.1	100.0	193
18-19	32.2	0.0	0.0	67.8	100.0	172
20-21	37.9	0.0	0.0	62.1	100.0	169
22-23	53.8	0.0	0.0	46.2	100.0	192
24-25	66.0	0.0	0.0	34.0	100.0	204
26-27	77.0	0.0	0.5	22.5	100.0	188
28-29	82.0	0.3	0.0	17.8	100.0	148
30-31	92.5	0.0	0.0	7.5	100.0	176
32-33	93.5	0.0	0.0	6.5	100.0	147
34-35	95.2	0.0	0.0	4.8	100.0	159
0-3 months	0.0	16.8	13.4	69.9	100.0	354
4-6 months	1.9	2.6	1.7	93.8	100.0	270
7-9 months	4.8	0.8	0.6	93.8	100.0	283

Note: Breastfeeding status refers to 24 hours preceding the survey. Children classified as *breastfeeding and plain water only* receive no other complementary foods or liquids.

Supplementation of breast milk starts too early in Kenya. Exclusive breastfeeding[2] is not common; only 28 percent of children under two months, and 17 percent of children under four months of age are fed only breast milk. Most children are given just plain water (18 percent) or other foods and liquids (53 percent) in addition to breast milk in the first two months. By 2-3 months, 82 percent of children are given some form of food or liquid supplementation; by 4-5 months, 94 percent of children have received supplements in addition to breast milk. The levels and patterns of breastfeeding shown in this survey are very similar to those documented from the 1993 KDHS data.

[2] Exclusive breastfeeding is the practise of feeding only with breast milk as recommended by the World Health Organisation for the first 4-6 months of life.

Table 9.3 shows that, at the national level, the median duration of any breastfeeding is 21 months, the same as that estimated from the 1993 KDHS data. The median durations of exclusive breastfeeding and full breastfeeding (breastfeeding plus plain water only) are both less than one month. The duration and frequency of breastfeeding vary across background characteristics of the mother. Median length of breastfeeding tends to be longer in rural areas (22 months) than in urban areas (19) and amongst uneducated women (25 months) compared with women who have primary education (20-22 months) or secondary education (19 months). Breastfeeding duration is longest in Eastern Province (23 months) and shortest in Central and Nairobi provinces (less than 20 months).

The daily frequency of breastfeeding in Kenya tends to be high. Ninety percent of children under six months of age were breastfed six or more times in the 24 hours preceding the survey.

Table 9.3 Median duration and frequency of breastfeeding by background variables

Median duration of any breastfeeding, exclusive breastfeeding, and full breastfeeding among children under three years of age, and the percentage of children under six months of age who were breastfed six or more times in the 24 hours preceding the interview, according to background characteristics, Kenya 1998

Background characteristic	Children under 3 years of age				Children under six months	
	Median breastfeeding duration[1]					
	Any breast-feeding	Exclusive breast-feeding	Full breast-feeding[2]	Number of children	Breastfed 6 or more times in preceding 24 hours	Number of children
Child's sex						
Male	21.0	0.5	0.7	1,769	90.5	280
Female	20.9	0.5	0.7	1,695	88.7	244
Residence						
Urban	18.9	0.5	0.6	636	91.1	104
Rural	21.5	0.5	0.7	2,828	89.3	420
Province						
Nairobi	19.8	0.4	0.6	219	(87.0)	42
Central	19.7	0.6	1.0	306	86.2	58
Coast	20.5	0.4	0.5	284	(87.8)	42
Eastern	23.0	0.7	1.6	584	93.6	88
Nyanza	20.3	0.5	0.7	753	91.6	104
Rift Valley	20.8	0.5	0.6	867	89.7	118
Western	22.0	0.6	0.8	451	87.6	72
Mother's education						
No education	25.2	0.5	0.5	373	(90.5)	38
Primary incomplete	20.4	0.6	1.0	1,348	88.9	203
Primary complete	22.3	0.5	0.5	870	92.6	126
Secondary+	19.1	0.5	0.7	873	88.2	156
Assistance at delivery						
Health professional	19.9	0.5	0.7	1,538	89.2	213
Traditional midwife	21.5	0.5	0.7	735	92.6	131
Other or none	22.4	0.5	0.6	1,182	88.1	179
Total	20.9	0.5	0.7	3,464	89.7	523
Mean	20.9	1.5	2.1	-	-	-
Prevalence/Incidence mean	20.7	0.7	1.3	-	-	-

Note: Total includes 9 children for whom data on assistance at delivery are missing. Figures in parentheses are based on 25 to 49 children.
[1] Medians and means are based on current status and durations are in months.
[2] Either exclusive breastfeeding or breastfeeding and plain water only

9.1.3 Types of Weaning Foods

Table 9.4 presents information on the types of foods received by children in the first three years of life, according to whether or not the child is still being breastfed. As shown previously, exclusive breastfeeding is not commonly practised; even among the youngest children (under 4 months) only 17 percent of children are fed just breast milk and this drops below 1 percent by the sixth month.

Infant formula is not commonly used; use of formula peaks during ages 2-5 months at only 4-6 percent of children. After this age, infant formula use drops off sharply. Use of other types of milk (e.g., cow's milk) is, however, very common. At ages above 4 months, about two-thirds of children are receiving some type of other milk. "Other" liquids, which include all liquids other than plain water and milk, e.g., juices and sugar water, are introduced very early. Forty-four percent of children under two months are receiving other liquids, and this rises to over three-quarters of children by age 14-15 months.

Table 9.4 Types of food received by children in preceding 24 hours

Percentage of children under three years of age who received specific types of food in the 24 hours before the interview, and the percentage using a bottle with a teat, by breastfeeding status and child's age in months, Kenya 1998

Age (in months)	Liquids				Solid/mushy food					Use of bottle with a teat	Number of children
	Breast milk only	Infant formula	Other milk	Other liquids	Meat/ poultry/ fish/ eggs	Grain/ flour/ cereal	Tubers/ plan-tain	Fruits/ vege-tables	Other		
BREASTFEEDING CHILDREN											
<2	28.2	1.9	14.5	44.1	0.2	5.3	1.7	5.0	1.0	12.7	153
2-3	8.0	4.3	50.2	51.1	4.9	23.8	2.9	14.3	10.5	28.0	201
4-5	3.6	6.1	68.3	61.8	10.3	40.3	14.9	37.5	32.0	31.9	166
6-7	0.6	4.4	71.3	63.1	25.2	56.6	30.8	54.9	47.5	20.4	189
8-9	1.2	4.0	72.0	67.2	32.6	68.2	22.7	61.8	55.1	28.8	180
10-11	0.5	3.8	70.0	70.1	39.2	70.2	28.1	66.8	57.8	24.8	171
12-13	0.0	6.0	70.7	71.1	42.0	72.9	32.3	79.5	58.0	17.7	164
14-15	0.0	0.1	73.2	76.8	54.4	73.3	35.5	75.6	54.9	22.7	163
16-17	0.0	0.3	74.3	73.9	55.9	77.4	33.1	77.9	59.0	15.3	155
18-23	0.0	2.5	70.8	75.7	50.3	82.5	36.6	80.3	59.5	14.5	310
24-29	0.3	1.3	65.9	72.1	43.6	83.7	37.4	79.4	54.4	10.6	139
30-35	0.0	0.0	62.1	60.9	62.1	73.7	31.9	79.7	63.8	10.4	30
0-3months	16.8	3.3	34.8	48.1	2.8	15.8	2.4	10.3	6.4	21.4	354
4-6months	2.7	4.8	69.2	61.1	14.7	45.3	19.1	42.9	35.2	24.0	265
7-9months	0.8	4.7	72.0	67.1	31.3	65.4	27.1	60.6	55.1	29.6	270
Total	3.5	3.2	64.3	66.4	33.7	60.7	25.6	58.7	45.5	20.5	2,022
NON-BREASTFEEDING CHILDREN											
12-17	0.0	7.4	79.3	79.1	63.3	74.3	27.9	77.7	50.9	28.0	81
18-23	0.0	1.6	76.3	77.9	52.3	72.1	35.5	74.5	58.3	18.0	223
24-29	0.0	2.3	66.3	75.5	56.2	78.4	37.6	79.5	55.1	13.6	400
30-35	0.0	1.1	69.1	74.8	52.1	80.0	39.9	80.0	53.5	11.8	452
Total	0.0	2.3	70.5	75.9	54.0	77.4	37.2	78.1	54.4	15.5	1,183[a]

[a] Includes 27 children under 12 months of age

Meats, poultry, fish and eggs contain protein and other nutrients important for growth, recovery from illness, and mental development. The percentage of children receiving these foods rises from 5 percent at 2-3 months, to 10 percent at age 4-5 months, to 31 percent at age 7-9 months, to over 50 percent at age 14 months and above.

Porridge is a frequently used weaning food in Kenya. By 2-3 months of age, about one-quarter of all children are receiving some grain-based mixture (usually porridge) and by age 12 months, almost three-quarters are getting porridge daily.

Starchy tubers, which include sweet potatoes and cassava, and plantain are introduced more slowly into the diet, and are given to about 15 percent of children by age 4-5 months and to one-third of children by the first birthday. Other fruits and vegetables, which provide valuable micronutrients, are also introduced during the first year. By age 4-5 months, 38 percent of children eat some fruit and vegetables on a daily basis. This figure jumps to 80 percent by the first birthday.

Bottle feeding is all too prevalent in Kenya. Twenty-one percent of breastfeeding children and 16 percent of non-breastfeeding children are using a bottle with a teat. The prevalence of bottle feeding peaks during ages 4-5 months at 32 percent, more than twice as high (15 percent) as was observed in the 1993 KDHS. Bottle feeding, if combined with an unsafe or unreliable water supply, is associated with increased risk of health- and life-threatening diarrhoeal diseases.

9.2 Nutritional Status of Children under Age Five

The nutritional well-being of young children reflects household, community, and national investments in family health and contributes in both direct and indirect ways to the country's development. In collecting anthropometric data (height and weight), the KDHS permits objective measurement and evaluation of the nutritional status of young children in Kenya. This evaluation allows identification of subgroups of the child population that are at increased risk of growth faltering, disease, impaired mental development, and death. Also, by comparing the 1998 KDHS results against those obtained from the 1993 KDHS using similar methods, trends in child malnutrition can be assessed.

9.2.1 Measures of Nutritional Status in Childhood

Evaluation of nutritional status is based on the rationale that in a well-nourished population, there is a statistically predictable distribution of children of a given age with respect to height and weight. Use of a standard reference population facilitates analysis of any given population over time or comparisons among subgroups of a population. One of the most commonly used reference populations, and the one used in this report, is the NCHS (U.S. National Center for Health Statistics) standard, which is recommended for use by the World Health Organisation (WHO).

Three standard indices of physical growth that describe the nutritional status of children are presented:

- height-for-age
- weight-for-height
- weight-for-age

Each of these indices gives different information about growth and body composition used to assess nutritional status. Height-for-age is a measure of linear growth. A child who is below minus two standard deviations (-2 SD) from the median of the NCHS reference population in terms of height-for-age is

considered short for his/her age, or *stunted,* a condition that reflects the cumulative effect of chronic malnutrition. If the child is below minus three standard deviations (-3 SD) from the median of the reference population, then the child is considered severely stunted. A child between -2 SD and -3 SD is considered moderately stunted.

Weight-for-height describes current nutritional status. A child who is below minus two standard deviations (-2 SD) from the median of the reference population in terms of weight-for-height is considered too thin for his/her height, or *wasted,* a condition reflecting acute or recent nutritional deficit. As with stunting, wasting is considered severe if the child is more than minus three standard deviations below the median of the reference population. Severe wasting is closely linked to mortality risk.

Weight-for-age is a composite index of weight-for-height and height-for-age and, thus, does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). A child can be underweight for his age because he is stunted, because he is wasted, or because he is wasted and stunted. Weight-for-age is a good overall indicator of a population's nutritional status.

In the survey, all surviving children born since January 1993 were eligible for height and weight measurement. Of the 5,073 children (under 60 months of age at the survey date) eligible for measurement, 4,708 (or 93 percent) were weighed and measured. The most commonly reported reason for not being measured was that the child was not home at the time of the survey. Of the children who were both weighed and measured, 295 (6 percent) were considered to have values that were implausibly low or high. The following analysis focuses on the 4,413 children under 60 months of age for whom complete and plausible anthropometric data were collected.

9.2.2 Levels of Child Malnutrition in Kenya

Table 9.5 shows the percentage of children under 60 months classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age indices, by selected demographic characteristics. The 1998 KDHS estimate of the prevalence of chronic malnutrition or stunting is 33 percent; about one-third of these children are severely stunted (Figure 9.1). These estimates of stunting closely parallel those from the 1993 KDHS data, suggesting no improvement in the nutritional status of young children over the last five years.

Figure 9.2 shows the distribution of children by age, according to the extent to which they deviate from the reference population in terms of the three indicators discussed above, including low height-for-age. It is apparent that there is a deterioration in nutritional status that begins shortly after birth. A rapid worsening of the height-for-age profile of Kenyan children occurs during the first year and continues through the second year when stunting peaks at 42 percent (see Table 9.5).

Boys are slightly more likely to be stunted than girls, as are children of high birth order compared with those of low birth order. Children born after a long birth interval (48 months or more) are less likely to be stunted than children born after shorter birth intervals.

The weight-for-height index (wasting) gives information about children's recent experience regarding food intake. Wasting represents failure to receive adequate nutrition in the period immediately preceding the survey and may be the result of recent illness, or of seasonal variations in the food supply. About 6 percent of children under five in Kenya are wasted; 1 percent are severely wasted. Wasting is most common during ages 6-23 months, indicating that food supplementation during the weaning period is inadequate. Children born after a short birth interval are at especially high risk of wasting. The level of wasting in Kenya has not changed since the 1993 KDHS.

Table 9.5 Nutritional status of children by background characteristics

Percentage of children under five years of age who are classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by selected background characteristics, Kenya 1998

Background characteristic	Height-for-age		Weight-for-height		Weight-for-age		Number of children
	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below -2 SD[1]	Percentage below -3 SD	Percentage below - 2 SD[1]	
Child's age							
<6 months	0.8	7.1	1.3	5.2	0.4	2.3	427
6-11 months	4.8	17.5	2.5	7.8	4.6	14.8	506
12-23 months	17.5	41.8	1.6	9.1	7.2	26.9	979
24-35 months	13.4	37.8	0.9	4.9	6.3	28.3	909
36-47 months	15.3	35.6	1.8	4.9	3.3	23.8	811
48-59 months	14.7	38.0	0.8	4.0	4.0	22.7	781
Child's sex							
Male	13.2	35.2	1.5	5.9	4.6	22.2	2,246
Female	12.1	30.8	1.4	6.2	5.0	22.0	2,167
Birth order							
1	10.8	30.0	0.9	4.6	3.2	17.7	1,076
2-3	11.9	31.6	2.2	6.9	3.8	21.7	1,527
4-5	14.5	34.9	1.1	6.5	6.8	22.7	888
6+	14.4	37.1	1.2	6.0	6.2	27.2	922
Previous birth interval							
< 24 months	14.6	36.3	1.7	8.1	5.3	29.0	742
24-47 months	14.2	35.9	1.6	6.4	5.7	23.1	1,762
48+ months	9.9	27.7	1.3	5.3	4.3	19.4	823
Residence							
Urban	7.4	24.7	2.0	5.1	2.3	13.3	751
Rural	13.8	34.7	1.3	6.2	5.3	23.9	3,662
Province							
Nairobi	7.1	25.7	3.6	7.1	2.1	11.4	257
Central	9.8	27.5	1.7	5.6	2.0	14.3	414
Coast	18.3	39.1	1.0	4.3	7.1	27.4	346
Eastern	13.2	36.8	0.9	4.7	6.6	25.7	753
Nyanza	11.2	30.8	1.2	7.0	5.8	22.2	906
Rift Valley	13.3	33.1	1.8	7.4	4.2	24.9	1,134
Western	14.3	35.0	0.9	4.6	3.6	19.1	604
Education							
No education	21.4	46.4	1.2	8.8	8.8	36.8	487
Primary incomplete	16.4	39.7	1.6	6.5	6.1	26.9	1,657
Primary complete	11.3	31.5	1.7	6.4	4.2	19.9	1,118
Secondary+	5.0	19.2	1.0	3.9	1.7	11.0	1,152
Total	12.7	33.0	1.4	6.1	4.8	22.1	4,413

Note: Figures are for children born in the period 0-59 months preceding the survey. Each index is expressed in terms of the number of standard deviation (SD) units from the median of the NCHS/CDC/WHO international reference population. Children are classified as malnourished if their z-scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of the reference population.

[1] Includes children who are below -3 SD

Figure 9.1
Prevalence of Stunting by Age of Child and Length of Birth Interval

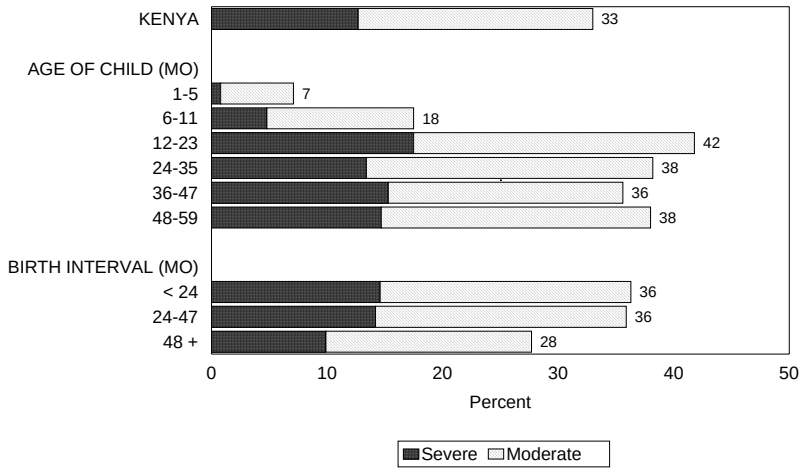
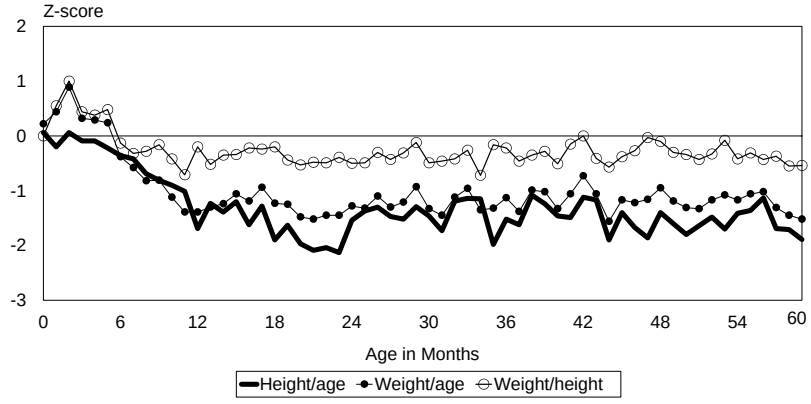


Figure 9.2
Nutritional Status of Children Under Five Years, Mean Z-scores by Age in Months



Note: Compared to the median of the International Reference Population

KDHS 1998

Over one-fifth (22 percent) of children under five in Kenya are underweight—which reflects stunting, wasting, or both. Peak levels of low weight-for-age occur during the second and third years (age 12-35 months). Again, boys and girls are at equal risk of being underweight. Low weight-for-age increases sharply with decreasing length of the birth interval—from 19 percent among children with intervals of 48 months or more to 29 percent among children with intervals of less than 24 months. Again, there has been no improvement in this broad index of nutritional status since the 1993 KDHS.

A child's nutritional status is in part determined by the socioeconomic level of the household, which is in turn affected by where the household is located and whether or not the mother has been exposed to formal education. For instance, children living in rural areas are 40 percent more likely to have low height-for-age (stunting) and 22 percent are more likely to have low weight-for-height (wasting) than their urban counterparts. Provincial variation in nutritional status of children is substantial. In Coast, Eastern, and Western provinces, stunting is high (35 percent or more) and wasting is relatively low (less than 5 percent). In Nairobi, Nyanza and Rift Valley provinces, wasting levels are high (7 percent) but stunting is low or intermediate in prevalence. The provincial differences are similar to those observed in the 1993 survey, with the exception that the nutritional status of Nairobi's children appears to have worsened. This may reflect the growth of pockets of poverty in the nation's capital city.

Education of the mother is closely linked to nutritional status of children. For example, children of women with no education are more than three times as likely to be underweight as children of women with at least some secondary education.

9.3 Nutritional Status of Mothers

In the KDHS, data were collected on the height and weight of women who had at least one birth since January 1993. The sample is thus not representative of all women 15-49, and will overrepresent high fertility age groups—for example, women 25-34 years.

Several measures have been used to assess the nutritional status of women (Krasovec and Anderson, 1991). In this report, two indices are presented for women: height and the body mass index (BMI). The latter is an indicator combining height and weight data. Of 3,761 women eligible for height assessment, 3,656 (97 percent) were measured. Of 3,205 women eligible for assessment of BMI (i.e., excluded are pregnant women and women less than 3 months postpartum), 3,106 women (97 percent) were measured and form the basis for the following analysis.

Table 9.6 presents the mean values for the maternal anthropometric indicators and the proportion of women falling into high-risk categories, according to background characteristics. Women's height is associated with past socioeconomic status and nutrition during childhood and adolescence. Maternal height is used to predict the risk of difficult delivery, since small stature is often associated with small pelvis size. Short stature is also associated with increased risk of low birth weight. The cutoff point below which a woman is identified as "at risk," is in the range of 140-150 centimetres. The mean height of mothers measured in the KDHS was 160 cm. About 1 percent of mothers were less than 145 cm in height[3]. Women who have not attended school are more likely than their educated counterparts to be "at risk" due to shortness. Also, women of Coast and Eastern provinces are much more likely than women in other provinces to be short in stature.

[3] If, instead, 150 cm were used as the cutoff, 4 percent of women would be considered "at risk."

Table 9.6 Maternal nutritional status by background characteristics

Among women who had a birth in the five years preceding the survey, percentage under 145 centimeters in height, mean body mass index (BMI), and percentage of women whose BMI is less than 18.5 (kg/m^2), by selected background characteristics, Kenya 1998

Background characteristic	Height			BMI (kg/m^2)		
	Mean	Percentage <145 cm	Number of women	Mean	Percentage <18.5	Number of women
Age						
15-19	158.8	2.0	307	21.1	17.4	244
20-24	159.9	0.7	1,001	21.5	10.5	820
25-29	160.4	1.4	1,004	22.0	11.7	854
30-34	160.8	0.6	633	22.4	12.1	547
35-49	159.5	1.3	710	22.2	11.6	641
Residence						
Urban	160.3	0.9	699	23.3	7.5	627
Rural	159.9	1.1	2,957	21.6	13.0	2,479
Province						
Nairobi	160.2	1.4	257	23.5	4.7	233
Central	159.2	0.9	372	22.6	8.6	326
Coast	157.6	2.4	289	21.8	14.9	249
Eastern	158.0	2.1	617	21.3	15.4	527
Nyanza	161.4	1.1	790	21.5	11.3	666
Rift Valley	160.7	0.3	879	21.9	15.5	740
Western	161.1	0.4	451	22.1	5.8	365
Education						
No education	158.2	2.2	397	21.2	18.9	352
Primary incomplete	159.5	1.0	1,347	21.4	13.6	1,108
Primary complete	160.4	1.5	932	21.7	12.1	789
Secondary+	161.0	0.4	980	23.1	6.4	858
Total	160.0	1.1	3,656	21.9	11.9	3,106

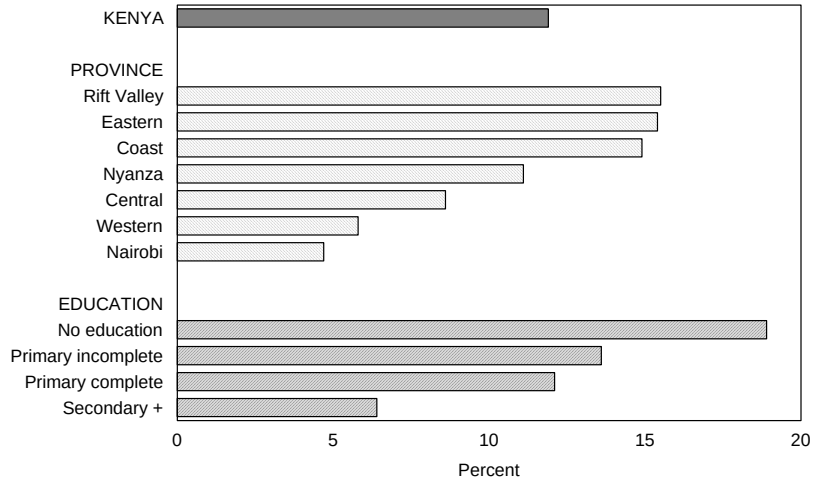
Note: The BMI index excludes pregnant women and those who are less than three months postpartum.

Various indices of body mass are used to assess thinness and obesity. The most commonly used index—body mass index (BMI)—is defined as weight in kilograms divided by squared height in metres. A cutoff point of 18.5 has been recommended for defining energy deficiency among nonpregnant women. The mean BMI among the weighed and measured mothers[4] was 21.9, with 12 percent having a BMI below 18.5, reflecting a nutritional deficit.

There are large differentials across background characteristics in the percentage of mothers assessed as malnourished (low BMI). Rural women are more likely to be too thin (have a low BMI) than urban women and women with some secondary education are significantly less likely to have a low BMI than their less-educated counterparts. Variations in low BMI among the provinces are also substantial, ranging from 5 percent among women in Nairobi to 15-16 percent among women in Coast, Eastern, and Rift Valley provinces (Figure 9.3).

[4] Pregnant women and women less than three months postpartum are excluded from BMI analysis.

Figure 9.3
Percentage of Mothers with a Low Body Mass Index (<18.5)
by Province and Education



Note: Non-pregnant women age 15-49
BMI = Kg/m^2

KDHS 1998

CHAPTER 10

AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES

Michael Muindi and George Bicego

Acquired Immune Deficiency Syndrome (AIDS), is a serious public health problem in much of the world, with the most affected countries found in sub-Saharan Africa, especially those located in the east, central, and southern part of the continent. In Kenya, one in 11 adults is infected with HIV, the virus that causes AIDS. It is estimated that over 240,000 people in Kenya have already developed AIDS since 1984 when the first AIDS case was reported; although, officially only about 80,000 cases of AIDS had been reported to the Ministry of Health as of June 1997. Currently, it is estimated that about 1,325,000 adults and 90,000 children are HIV infected (Okeyo et al., 1998).

Although the HIV prevalence rate is lower in rural areas of Kenya (8-9 percent) than in urban areas (12-13 percent), over 80 percent of Kenyans live in rural areas. Thus, of the estimated 1.3 million infected adults, three-quarters or 1 million live outside major cities and towns (Okeyo et al., 1998). About 75 percent of all AIDS cases occur among people in the most economically productive age group, 20-45 years. The deaths of these individuals constitute a serious economic and social tragedy in the lives of surviving family, friends, and employers.

The principal mode of HIV transmission is through heterosexual contact. This accounts for 75 percent of all HIV infections in Kenya. This is followed in importance by perinatal transmission, whereby the mother passes the HIV virus to the child during pregnancy or around the time of birth. Approximately 30 percent of babies born to HIV-positive mothers are infected with the HIV virus in Kenya. The remainder (70 percent) may not become infected with HIV but are at risk of becoming orphans once one or both parents die from AIDS.

The future course of what is now a worldwide pandemic depends to a large extent on the level of AIDS awareness among the general public. The data obtained from the KDHS provide a unique opportunity to assess the level of knowledge and practices regarding transmission of the AIDS virus and other sexually transmitted diseases (STDs). A primary objective of this chapter is to establish the prevalence of relevant knowledge, perceptions, and behaviours at the national level and also within geographic and socioeconomic subgroups of the population. In this way, AIDS control programmes can target those individuals and groups of individuals most in need of information and most at risk of infection.

10.1 Number of Sexual Partners

Given the evidence that the vast majority of HIV infections in Kenya are contracted through heterosexual contact, information on sexual behaviour is important in designing and monitoring intervention programmes to control the spread of the disease. The KDHS included questions on sexual activity in the 12 months preceding the survey—with the respondent's spouse and (in separate questions) with other partners. Regarding sexual activity with the spouse or other partners, questions were asked on condom use during the last sexual encounter in the previous 12 months.

Tables 10.1.1 and 10.1.2 show the percentage distribution of men and women by number of persons with whom they had sex in the last 12 months, by background characteristics, according to marital status. These data show that men report having more sexual partners than women. Only 2 percent of currently

10.1.1 Number of sexual partners: women

Percent distribution of women by number of persons with whom they had sexual intercourse in the last 12 months and whether or not partner was a spouse, according to background characteristics, Kenya 1998

Background characteristic	Currently married														Not currently married							
	Partners including spouse							Partners excluding spouse							Number of partners							
	0	1	2-3	4+	Don't know/ Missing	Total	Mean	0	1	2-3	4+	Total	Mean	Number	0	1	2-3	4+	Don't know/ Missing	Total	Mean	Number
Age																						
15-19	1.4	93.3	4.6	0.3	0.3	100.0	1.0	95.0	4.5	0.5	0.0	100.0	0.1	285	74.6	21.4	2.6	0.5	0.9	100.0	0.3	1,566
20-24	1.3	97.5	1.1	0.0	0.2	100.0	1.0	98.9	0.5	0.6	0.0	100.0	0.0	948	47.1	41.3	6.1	0.9	4.6	100.0	0.6	599
25-29	1.3	96.9	1.4	0.1	0.2	100.0	1.0	98.5	0.9	0.5	0.1	100.0	0.0	1,069	33.8	50.9	7.2	2.0	6.1	100.0	0.9	302
30-39	2.4	96.0	1.1	0.2	0.3	100.0	1.0	98.5	0.9	0.4	0.2	100.0	0.0	1,655	41.1	45.4	8.5	1.3	3.6	100.0	0.7	322
40-49	5.9	92.3	1.1	0.0	0.7	100.0	1.0	98.7	1.0	0.4	0.0	100.0	0.0	876	59.6	31.8	3.5	0.7	4.4	100.0	0.6	258
Years since first marriage																						
Never married	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.1	28.1	4.1	0.8	2.0	100.0	0.4	2,372
0-4	0.9	97.0	1.8	0.1	0.2	100.0	1.0	98.1	1.4	0.5	0.0	100.0	0.0	1,181	19.8	61.4	10.0	1.6	7.2	100.0	1.0	76
5-9	1.7	97.1	0.8	0.0	0.5	100.0	1.0	99.2	0.2	0.5	0.0	100.0	0.0	1,030	27.4	58.3	3.8	0.0	10.5	100.0	0.7	118
10-14	1.5	96.5	2.0	0.0	0.0	100.0	1.0	98.0	1.4	0.6	0.0	100.0	0.0	764	39.8	40.6	10.0	4.9	4.7	100.0	1.2	96
15+	4.4	93.7	1.2	0.3	0.5	100.0	1.0	98.3	1.1	0.3	0.2	100.0	0.0	1,858	54.2	37.6	4.4	0.3	3.5	100.0	0.5	386
Residence																						
Urban	2.1	95.0	1.7	0.3	1.0	100.0	1.0	98.0	1.1	0.6	0.3	100.0	0.0	1,010	52.3	38.6	6.0	1.3	1.8	100.0	0.6	820
Rural	2.6	95.8	1.3	0.1	0.2	100.0	1.0	98.5	1.0	0.4	0.0	100.0	0.0	3,824	63.3	29.1	3.9	0.6	3.1	100.0	0.5	2,227
Education																						
No education	5.6	91.6	2.3	0.2	0.3	100.0	1.0	97.3	1.6	0.9	0.1	100.0	0.0	688	55.7	35.3	4.2	0.0	4.9	100.0	0.5	221
Primary incomplete	2.7	95.3	1.8	0.1	0.1	100.0	1.0	98.0	1.5	0.4	0.1	100.0	0.0	1,630	63.0	28.9	4.7	1.0	2.4	100.0	0.5	1,263
Primary complete	1.6	97.1	1.0	0.1	0.2	100.0	1.0	98.9	0.7	0.4	0.0	100.0	0.0	1,182	54.6	34.6	6.3	1.4	3.1	100.0	0.6	595
Secondary +	1.4	96.9	0.7	0.1	0.8	100.0	1.0	99.1	0.5	0.3	0.1	100.0	0.0	1,333	61.4	32.7	3.1	0.4	2.4	100.0	0.4	969
Total	2.5	95.7	1.4	0.1	0.3	100.0	1.0	98.4	1.1	0.4	0.1	100.0	0.0	4,834	60.3	31.7	4.4	0.8	2.7	100.0	0.5	3,047

NA = Not applicable

10.1.2 Number of sexual partners: men

Percent distribution of men by number of persons with whom they had sexual intercourse in the last 12 months and whether or not partner was a spouse, according to background characteristics, Kenya 1998

Background characteristic	Currently married														Not currently married							
	Partners including spouse							Partners excluding spouse							Number of partners							
	0	1	2-3	4+	Don't know/ Missing	Total	Mean	0	1	2-3	4+	Total	Mean	Number	0	1	2-3	4+	Don't know/ Missing	Total	Mean	Number
Age																						
15-19	0.0	92.5	7.5	0.0	0.0	100.0	1.1	*	*	*	*	*	*	6	54.6	21.9	17.7	5.2	0.6	100.0	1.1	805
20-24	0.0	64.5	18.3	10.5	6.7	100.0	1.9	71.2	16.4	5.2	7.2	100.0	0.8	95	23.4	34.8	25.6	13.3	2.9	100.0	1.8	494
25-29	0.9	74.3	20.4	3.4	1.1	100.0	1.4	76.2	14.5	8.0	1.3	100.0	0.4	283	17.1	43.3	25.5	10.7	3.4	100.0	1.8	179
30-39	0.9	80.8	14.3	3.9	0.1	100.0	1.3	81.5	11.0	5.8	1.7	100.0	0.4	704	22.1	32.9	26.9	12.2	6.0	100.0	2.0	89
40-49	2.2	87.0	8.7	1.4	0.7	100.0	1.1	89.9	6.6	2.9	0.6	100.0	0.2	528	(33.5)	(39.7)	(15.3)	(8.4)	(3.0)	100.0	(2.3)	40
50-54	6.2	84.9	6.2	2.6	0.2	100.0	1.1	91.1	4.6	4.1	0.2	100.0	0.2	175	*	*	*	*	*	100.0	*	8
Years since first marriage																						
Never married	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.6	29.1	21.3	8.1	1.0	100.0	1.3	1,489
0-4	0.5	71.4	20.4	5.0	2.8	100.0	1.6	74.6	14.8	7.6	3.0	100.0	0.5	375	(7.8)	(31.6)	(22.8)	(20.8)	(17.0)	100.0	(2.6)	49
5-9	1.7	80.6	14.4	3.2	0.2	100.0	1.3	82.0	10.9	5.9	1.1	100.0	0.3	325	(13.0)	(19.8)	(40.5)	(7.3)	(19.2)	100.0	(3.2)	21
10-14	0.2	84.7	12.5	2.6	0.0	100.0	1.3	84.9	10.4	3.6	1.1	100.0	0.3	324	(4.6)	(42.9)	(18.1)	(20.7)	(13.7)	100.0	(2.6)	16
15+	3.1	84.7	9.0	2.8	0.4	100.0	1.2	88.0	6.9	4.1	0.9	100.0	0.2	767	(23.8)	(41.9)	(14.5)	(13.0)	(6.9)	100.0	(2.7)	39
Residence																						
Urban	1.3	78.8	15.1	3.1	1.7	100.0	1.3	81.8	10.8	6.7	0.6	100.0	0.3	531	36.9	29.9	20.4	9.0	3.7	100.0	1.5	383
Rural	1.9	82.2	12.1	3.4	0.4	100.0	1.3	84.3	9.5	4.4	1.8	100.0	0.3	1,261	39.0	29.3	21.7	8.6	1.4	100.0	1.4	1,233
Education																						
No education	4.6	86.0	2.7	5.2	1.5	100.0	1.3	92.1	2.5	3.3	2.1	100.0	0.3	98	(31.3)	(34.3)	(17.1)	(17.3)	(0.0)	100.0	(2.0)	33
Primary incomplete	1.8	76.7	16.3	4.9	0.3	100.0	1.4	78.6	11.2	9.0	1.2	100.0	0.4	394	49.9	22.0	17.9	9.1	1.1	100.0	1.2	653
Primary complete	2.6	78.2	14.2	3.8	1.2	100.0	1.3	81.8	10.8	5.3	2.2	100.0	0.4	528	28.0	30.3	27.8	11.3	2.6	100.0	1.7	313
Secondary +	0.8	84.8	11.9	1.9	0.6	100.0	1.2	86.2	9.6	3.2	1.0	100.0	0.2	772	32.1	36.7	22.0	6.5	2.6	100.0	1.5	617
Total	1.7	81.2	13.0	3.3	0.8	100.0	1.3	83.6	9.9	5.1	1.4	100.0	0.3	1,791	38.5	29.5	21.4	8.7	2.0	100.0	1.4	1,616

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates a figure is based on fewer than 25 cases and has been suppressed.
NA = Not applicable

married women report extramarital sexual activity in the last 12 months as compared with 16 percent of married men. About 7 percent of married men reported 2 or more extramarital partners in the last year while less than 1 percent of married women reported the same.

Amongst the unmarried respondents, 60 percent of men had some sexual activity in the previous 12 months—about half of these (30 percent) reporting two or more partners and 9 percent reporting four or more different partners. Unmarried women reported much less sexual activity than unmarried men. Just 40 percent of the unmarried women reported having any sex at all in the last year. Of those women who did report having had sex, a much smaller percentage reported sex with more than one partner than did men (14 percent versus 50 percent).

Among male respondents, reports of having multiple partners decline with age for the married and increase with age for the unmarried. In line with this, number of partners reported by men goes down with increasing length of marriage. For women, the pattern is less clear, but reports of having more than one partner is least commonly observed in the youngest and oldest age groups for the unmarried.

The relationship between education of a respondent and reported number of sexual partners is not a strong one, although there is a tendency for more educated men and women to report fewer partners. Urban-rural differentials in sexual activity are small, although a smaller proportion of unmarried women in urban areas (52 percent) than rural areas (63 percent) reported having had no sex in the last year.

10.2 Payment for Sexual Relations

In the 1998 KDHS, respondents were asked whether they had ever given (men) or received (women) any money, gifts, or favours in exchange for sex. Table 10.2 shows that amongst married respondents, men were much more likely to have "paid for" sex with a woman than women were to have received "favours" for providing sex to a man. A much larger percentage of unmarried men and women reported sex involving "payment" than their married counterparts.

About 26 percent of unmarried, urban women reported that they had received money, gifts, or favours for providing sex to a man, compared with 14 percent of unmarried women in rural areas. Amongst men, it is the unmarried living in the rural setting that predispose toward involvement in sex for "payment." For women and men, increasing educational level is related to a reduced likelihood of "paying for" (men) or "getting paid for" (women) sex, but the association is inconsistent and weak.

Table 10.2 Payment for sexual relations

Among women and men who have ever had sexual intercourse, the percentage who gave or received money, gifts, or favours in return for sex in the last 12 months, by marital status and background characteristics, Kenya 1998

Background characteristic	Women						Men					
	Currently married		Not currently married		Total		Currently married		Not currently married		Total	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Age												
15-19	4.2	285	20.9	523	15.0	808	*	6	17.0	433	16.8	440
20-24	4.1	948	18.1	427	8.5	1,376	16.1	95	18.3	441	17.9	536
25-29	2.6	1,069	16.5	277	5.5	1,347	12.8	283	23.0	174	16.7	458
30-39	2.8	1,655	18.1	320	5.3	1,975	10.7	704	26.7	84	12.4	789
40-49	2.0	876	8.8	258	3.6	1,134	6.6	528	(8.1)	39	6.7	566
50-54	NA	NA	NA	NA	NA	NA	7.1	175	*	8	7.0	183
Residence												
Urban	5.7	1,010	25.5	555	12.7	1,565	16.1	531	17.2	313	16.5	844
Rural	2.3	3,824	13.7	1,250	5.1	5,074	7.0	1,261	19.2	866	12.0	2,127
Education												
No education	3.6	688	13.0	198	5.7	887	11.6	98	(26.1)	25	14.5	123
Primary incomplete	2.7	1,630	20.6	642	7.7	2,272	11.6	394	23.4	386	17.4	780
Primary complete	3.0	1,182	18.7	409	7.0	1,591	9.2	528	20.6	260	12.9	788
Secondary+	3.0	1,333	14.1	555	6.3	1,889	8.9	772	13.8	509	10.8	1,281
Total	3.0	4,834	17.3	1,805	6.9	6,639	9.7	1,791	18.7	1,180	13.3	2,971

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that a figure is based on fewer than 25 cases and has been suppressed.
NA = Not applicable

10.3 Awareness of Sexual Transmitted Diseases

Tables 10.3.1 and 10.3.2 show the percent distribution of all interviewed women and men by their knowledge of specific STDs, according to various background characteristics. Among both women and men, HIV/AIDS is by far the most widely known STD. Without prompting, 92 percent of both women and men cited HIV or AIDS. The next most commonly reported STD was gonorrhoea, but men were more likely (83 percent) than women (70 percent) to spontaneously report the disease. This gender-related pattern is also observed regarding the other commonly reported STD—syphilis. Five percent of women and 3 percent of men could not cite a single STD.

Both men and women are less likely to be informed about STDs if they lack formal education and if they are younger (15-19 years) or older (40+ years). Urban men and women tend to be better informed than rural men and women about STDs, but this pattern is not very pronounced. Regarding nearly every category of STD, the most knowledgeable group of persons are the sexually active, never-married (both men and women) and the least knowledgeable are the sexually inactive, never married.

It is difficult to generalise regarding provincial variation in STD knowledge. Such variation appears to depend on the particular disease, and whether men or women are considered. For example, there is a tendency for Coast women (but not men) to lack knowledge of the more common STDs: 10 percent could not cite a single STD. In Nyanza, just 2 percent of women and 1 percent of men were not able to name an STD.

Table 10.3.1 Knowledge of sexually transmitted diseases: women

Percentage of women who know of specific sexually transmitted diseases, by background characteristics, Kenya 1998

Background characteristic	Syphilis	Gonor-rhoea	HIV/ AIDS[1]	Genital warts	Chan-croid	Other	Doesn't know STD	Number of women
Age								
15-19	53.3	60.9	90.4	2.1	2.4	6.1	7.6	1,851
20-24	64.7	76.0	92.8	2.8	2.8	5.3	3.7	1,548
25-29	62.4	76.7	93.7	3.5	4.2	5.1	3.4	1,371
30-39	60.6	71.5	92.8	3.0	4.4	6.3	3.5	1,977
40-49	51.3	67.6	92.2	1.6	3.5	9.0	5.2	1,134
Marital status								
Currently married	58.0	71.5	92.2	2.4	3.7	6.5	4.3	4,834
Formerly married	53.0	68.3	92.4	2.2	4.4	8.9	3.9	676
Never married	61.7	68.1	92.6	3.2	2.7	4.9	5.7	2,372
Sexually active	68.0	76.0	95.0	4.1	3.6	6.8	2.3	1,129
Ssexually inactive	56.0	61.0	90.3	2.3	1.8	3.2	8.8	1,242
Residence								
Urban	66.0	74.1	93.7	4.6	6.2	5.4	3.7	1,830
Rural	56.4	69.1	91.9	2.0	2.6	6.5	5.0	6,051
Province								
Nairobi	71.4	75.7	92.1	5.5	5.7	5.0	4.3	770
Central	78.9	83.0	93.5	3.4	1.3	3.2	3.6	834
Coast	27.3	60.3	88.6	4.2	8.6	2.7	10.0	605
Eastern	49.9	76.3	92.9	2.0	1.5	7.2	4.2	1,386
Nyanza	61.2	69.1	94.8	1.3	1.1	14.9	1.7	1,690
Rift Valley	63.8	61.6	89.8	2.7	3.3	2.2	8.0	1,696
Western	49.3	69.5	93.2	1.6	7.8	2.2	2.8	899
Education								
No education	34.3	51.5	82.6	1.2	4.3	7.3	13.8	909
Primary incomplete	45.0	58.9	91.1	1.4	3.0	8.0	6.3	2,893
Primary complete	61.8	74.3	94.3	1.7	3.6	4.6	2.6	1,777
Secondary+	83.1	88.8	96.2	5.5	3.6	4.8	0.8	2,302
Total	58.7	70.2	92.3	2.6	3.5	6.2	4.7	7,881

Note: Figures are based on *spontaneous* knowledge of sexually transmitted diseases (i.e., without probing).
[1] See Table 10.6.1 for level of knowledge of HIV/AIDS *after probing.*

Table 10.3.2 Knowledge of sexually transmitted diseases: men

Percentage of men who know of specific sexually transmitted diseases, by background characteristics, Kenya 1998

Background characteristic	Syphilis	Gonor-rhoea	HIV/ AIDS[1]	Genital warts	Chan-croid	Other	Doesn't know STD	Number of men
Age								
15-19	58.1	71.0	87.5	1.1	1.6	6.4	7.1	811
20-24	79.6	87.6	93.0	2.9	2.4	7.1	1.8	589
25-29	83.1	88.1	95.7	4.2	1.2	6.7	0.7	463
30-39	78.9	89.1	93.5	2.8	2.1	5.0	0.8	793
40-49	71.0	80.9	90.8	4.2	3.9	4.0	2.3	568
50-54	74.0	86.8	89.1	4.8	2.2	2.2	1.1	183
Marital status								
Currently married	76.9	85.8	92.3	3.5	2.6	4.6	1.2	1,791
Formerly married	73.2	91.8	92.4	2.3	0.6	6.9	1.4	126
Never married	68.4	78.7	90.6	2.3	1.9	6.6	4.7	1,489
Ssexually active	75.9	84.5	93.5	2.5	2.4	7.4	1.8	1,053
Sexually inactive	50.2	64.5	83.5	1.7	0.7	4.8	11.5	436
Residence								
Urban	82.2	89.2	94.6	2.0	2.7	6.7	1.1	913
Rural	69.7	80.6	90.5	3.3	2.0	5.2	3.3	2,494
Province								
Nairobi	83.9	90.5	95.2	0.0	3.6	6.5	0.6	431
Central	70.5	66.4	92.0	3.3	2.4	4.0	5.2	341
Coast	60.2	81.8	92.3	2.2	4.8	4.8	2.3	242
Eastern	61.4	87.4	90.5	1.3	0.3	5.0	1.7	633
Nyanza	80.5	89.0	91.9	3.5	1.9	8.3	0.9	641
Rift Valley	75.5	76.2	93.5	2.6	3.4	4.5	3.2	758
Western	73.0	85.3	83.6	9.1	0.0	5.3	7.3	361
Education								
No education	42.8	63.6	77.7	1.6	1.9	3.9	11.2	131
Primary incomplete	53.3	71.6	86.0	1.8	3.1	3.9	5.7	1,047
Primary complete	72.8	83.4	93.1	1.8	2.6	2.0	1.9	841
Secondary+	90.9	92.9	96.2	4.6	1.4	9.2	0.2	1,388
Total	73.0	82.9	91.6	2.9	2.2	5.6	2.7	3,407

Note: Figures are based on *spontaneous* knowledge of sexually transmitted diseases (i.e., without probing).
[1] See Table 10.6.1 for level of knowledge of HIV/AIDS *after probing.*

10.4 Self-reporting of Recent Sexual Transmitted Diseases

The KDHS asked respondents whether they had any sexually transmitted disease in the last 12 months. If so, the respondent was asked to name the particular STD and what was done in response to the most recent episode. Tables 10.4.1 and 10.4.2 show that about 2 percent of women and 5 percent of men reported any STD in the last year. This is likely to be an underestimate of the true frequency of STDs for at least three reasons. First, many cases of STD will be undiagnosed because: (a) no obvious, prolonged symptoms had been experienced,[1] (b) no health care was sought, or because the problem was misdiagnosed or misunderstood by the respondent when diagnosed. Perhaps more significantly, many men and women will fail to report (in a survey context) a recent STD because of the inherent social stigma.

Table 10.4.1 Self-reporting of sexually transmitted diseases in the last year: women

Percentage of women who reported having a sexually transmitted disease (STD) during the 12 months preceding the survey, by specific STD and background characteristics, Kenya 1998

Background characteristic	Any STD	Syphilis	Gonor-rhoea	Genital warts	Other	Number of women
Age						
15-19	0.7	0.2	0.4	0.0	0.0	1,851
20-24	2.0	0.3	1.4	0.2	0.2	1,548
25-29	2.2	0.9	1.0	0.2	0.1	1,371
30-39	1.9	0.4	0.9	0.1	0.4	1,977
40-49	1.6	0.5	1.0	0.2	0.4	1,134
Marital status						
Currently married	1.8	0.5	0.9	0.1	0.2	4,834
Formerly married	3.3	0.7	2.4	0.3	0.7	676
Never married	0.8	0.2	0.5	0.1	0.1	2,372
Residence						
Urban	2.4	0.7	1.1	0.3	0.5	1,830
Rural	1.4	0.4	0.9	0.1	0.2	6,051
Province						
Nairobi	2.6	1.2	1.2	0.5	0.2	770
Central	0.6	0.3	0.1	0.2	0.0	834
Coast	1.3	0.1	0.8	0.5	0.0	605
Eastern	2.3	0.5	1.5	0.0	0.5	1,386
Nyanza	1.6	0.2	1.1	0.0	0.4	1,690
Rift Valley	1.2	0.5	0.6	0.1	0.0	1,696
Western	1.9	0.5	1.0	0.0	0.3	899
Education						
No education	1.5	0.3	0.9	0.1	0.4	909
Primary incomplete	1.8	0.5	0.8	0.2	0.2	2,893
Primary complete	1.7	0.4	1.1	0.0	0.2	1,777
Secondary+	1.5	0.4	0.9	0.2	0.2	2,302
Total	1.7	0.4	0.9	0.1	0.2	7,881

Note: Total includes 1 woman who reported having AIDS

[1] This is the case for most current HIV infections in Kenya, but will also apply regarding a significant number of other recent STD infections, especially among women. The higher reported prevalence among males is due in part to the fact that males experience more easily recognisable symptoms than women. Indeed, the male questionnaire exploits this by asking specific questions on urethral discharge, sores, and ulcers that have been shown to be useful in men but not women in picking up (through survey) STD cases.

Table 10.4.2 Self-reporting of sexually transmitted diseases in the last year: men

Percentage of men who reported having a sexually transmitted disease (STD) during the 12 months preceding the survey, by specific STD and background characteristics, Kenya 1998

Background characteristic	Any STD	Syphilis	Gonor-rhoea	Genital warts	Discharge from penis	Ulcer on penis	Other	Number of men
Age								
15-19	3.1	0.1	1.2	0.1	1.9	1.8	0.1	811
20-24	9.0	1.9	4.1	0.3	5.3	4.3	0.7	589
25-29	7.0	1.3	4.8	0.0	5.1	2.6	0.2	463
30-39	5.3	0.8	4.1	0.0	4.2	1.8	0.0	793
40-49	3.6	0.2	2.4	0.2	2.1	1.9	0.0	568
50-54	0.8	0.0	0.8	0.0	0.0	0.0	0.0	183
Marital status								
Currently married	4.5	0.6	3.2	0.1	3.2	2.0	0.1	1,791
Formerly married	10.5	1.7	6.3	0.0	7.1	4.0	0.0	126
Never married	5.4	0.8	2.6	0.2	3.4	2.4	0.2	1,489
Residence								
Urban	4.4	0.5	3.0	0.0	3.0	1.6	0.2	913
Rural	5.4	0.8	3.1	0.2	3.5	2.5	0.2	2,494
Province								
Nairobi	3.0	0.6	2.4	0.0	1.8	1.2	0.0	431
Central	9.0	1.1	4.4	0.0	5.5	1.7	0.7	341
Coast	5.5	0.4	3.3	0.0	4.7	1.6	0.6	242
Eastern	5.7	0.6	3.7	0.2	3.4	2.4	0.2	633
Nyanza	3.7	1.2	1.5	0.2	2.5	2.0	0.2	641
Rift Valley	4.3	0.6	2.1	0.2	2.5	1.6	0.0	758
Western	6.9	0.6	5.9	0.0	5.9	5.9	0.0	361
Education								
No education	2.3	0.7	1.6	0.0	1.5	0.2	0.0	131
Primary incomplete	6.5	0.7	3.3	0.4	4.4	3.1	0.5	1,047
Primary complete	6.6	0.9	4.5	0.0	4.3	3.1	0.0	841
Secondary+	3.4	0.7	2.1	0.0	2.2	1.2	0.0	1,388
Total	5.1	0.7	3.0	0.1	3.4	2.2	0.2	3,407

Differentials in STD self-reports across background characteristics of the respondent are difficult to assess in broad terms, but a few patterns are clear. First, men and women who have been through a breakdown of their marriage (i.e., formerly married) have the highest rates of STD self-reports. Risky behaviour-induced STDs may be both a cause and consequence of marital dissolution (Mgalla, 1998). Second, while for women, the urban setting is associated with higher STD reports than in the rural areas, for men, the opposite is true. Lastly, and related to the previous point, there is little or no correlation between the provincial pattern of STD reports in women and the pattern in men. The highest female reports are from Nairobi and Eastern Province; the highest male reports are from Central and Western provinces.

Table 10.5 presents information on the 130 women and 174 men who reported an STD in the last 12 months. Ninety-six percent of women and 87 percent of men sought treatment for their reported STD, and a larger percentage of women (86 percent) than men (66 percent) informed their partner(s) about the infection. The higher levels of treatment among women should not be taken at face value, since the sample of self-reports on which the treatment estimate is based may be affected by attendance bias. That is, women (more so than men) may only know they have an STD when they finally reach a facility to be diagnosed. This interpretation is consistent with the lower levels of STD self-reports in women.

Table 10.5 Action taken by respondents who reported a sexually transmitted disease in the last year

Among respondents who reported a sexually transmitted disease (STD) during the 12 months prior to the survey, the percentage who sought advice or treatment, the percentage who informed their partner(s) and the percentage who took measures to avoid infecting their partner(s), according to sex of the respondent, Kenya 1998

	Percentage who sought treatment	Percentage infected who informed partner(s)	Percentage who did something to avoid infecting partner(s)				Partner infected, no measures taken	No measures taken	Number of women/ men
			Avoided sex	Used condoms	Took medicine	Other			
Women	95.6	86.2	10.6	5.1	29.6	1.4	47.6	11.0	130
Men	87.4	65.7	45.9	10.2	37.6	0.0	8.8	14.7	174

When asked what, if anything, was done to prevent infecting the respondent's partner, 48 percent of the women reported that they took no measures because their partner(s) were already infected (i.e., presumably the source of the infection). In men, only 9 percent of the those reporting an STD mentioned that their partner was already infected.

Among women, the most commonly reported measure to avoid STD transmission was taking medicine (30 percent) followed by sex avoidance (11 percent) and condom use (5 percent). In contrast, the males' most common response was to avoid sex (46 percent), followed by taking medicine (38 percent), and condom use (10 percent).

10.5 AIDS Knowledge and Awareness

If women and men reported that they had heard of AIDS (with prompting), a series of questions were asked about their understanding and attitudes related to AIDS and the HIV virus. Tables 10.6.1 and 10.6.2 show that virtually all men and women (99 percent) know of AIDS. In the 1993 KDHS, 99 percent of men and 98 percent of women knew of AIDS.

The most common single source of knowledge about AIDS is the radio: 73 percent of women and 87 percent of men said they had heard a message about AIDS on the radio. The next most commonly cited source of AIDS information for men was the newspaper (42 percent), but was friends and relatives (56 percent) for women. Generally, men obtain their AIDS-related information through the mass media and the workplace; women, on the other hand, are more likely than men to receive the information through their community-level networks (e.g., church, health facility, schools, friends, etc.).

Table 10.6.1 Knowledge of AIDS and sources of AIDS information: women

Percentage of women who have ever heard of AIDS, percentage who received information about AIDS from specific sources, and mean number of sources of information about AIDS, by background characteristics, Kenya 1998

Background characteristic	Ever heard of AIDS	Source of AIDS information												Number of women	Mean number of sources
		Radio	TV	News-paper	Pamph-let	Health worker	Mosque/ church	School	Com-munity meeting	Friend/ Rela-tive	Work place	Drama	Other source		
Age															
15-19	98.7	59.2	19.6	24.1	18.9	13.3	12.5	42.7	6.0	52.1	0.5	4.9	1.3	1,851	2.6
20-24	99.3	78.1	25.1	28.9	20.0	27.4	9.2	18.4	9.9	52.6	1.9	5.0	1.9	1,548	2.8
25-29	98.9	82.8	22.8	28.0	19.3	32.0	11.2	10.6	12.5	55.5	4.5	3.3	2.0	1,371	2.9
30-39	99.2	76.6	17.8	18.7	16.8	30.7	13.4	4.8	15.5	59.0	4.2	3.6	3.5	1,977	2.7
40-49	98.9	67.2	12.9	11.8	11.2	27.7	14.0	3.5	21.2	63.2	3.0	3.0	4.8	1,134	2.5
Marital status															
Currently married	99.0	75.6	17.5	20.2	16.5	30.5	11.8	7.1	14.7	58.1	2.6	3.4	3.3	4,834	2.6
Formerly married	98.9	70.7	15.6	13.4	12.6	28.1	11.2	6.4	15.6	59.4	4.8	1.9	3.4	676	2.5
Never married	99.1	66.7	25.8	30.1	21.1	15.3	12.8	40.8	7.1	51.0	2.5	5.9	1.0	2,372	2.8
Residence															
Urban	99.5	81.1	45.4	38.5	25.3	28.7	10.4	16.8	8.4	52.6	7.2	4.5	1.5	1,830	3.2
Rural	98.9	69.9	12.1	17.8	15.2	24.9	12.5	17.3	13.7	57.2	1.4	3.9	2.9	6,051	2.5
Province															
Nairobi	99.8	85.7	56.8	47.5	29.4	32.5	15.5	19.8	8.4	59.2	8.8	4.1	1.0	770	3.7
Central	99.5	78.5	15.8	23.5	17.8	27.4	14.4	12.1	8.7	60.6	3.0	2.1	2.0	834	2.7
Coast	98.6	67.2	26.6	21.1	13.0	28.4	5.2	10.7	12.3	63.9	3.4	3.4	0.6	605	2.6
Eastern	99.4	63.7	13.8	20.3	12.8	22.4	16.4	19.4	18.1	58.6	1.2	2.3	6.0	1,386	2.6
Nyanza	99.8	66.7	10.5	16.0	22.1	31.8	16.6	21.3	16.5	66.2	2.5	3.7	1.0	1,690	2.8
Rift Valley	97.2	74.8	18.6	22.9	15.4	19.0	7.8	13.2	8.3	42.8	2.2	1.8	3.3	1,696	2.4
Western	99.6	79.6	16.4	16.7	13.4	23.2	4.3	20.5	11.2	46.3	1.1	13.8	2.3	899	2.5
Education															
No education	94.6	54.2	5.0	1.4	5.3	22.9	10.5	1.2	19.3	67.1	1.5	2.0	3.4	909	2.0
Primary incomplete	99.3	64.5	9.3	10.7	13.4	23.0	11.4	16.2	11.5	61.3	1.1	3.0	2.9	2,893	2.3
Primary complete	99.8	79.1	17.6	22.2	17.4	28.1	12.9	15.9	12.6	55.1	1.9	3.5	2.4	1,777	2.7
Secondary+	99.9	84.7	40.6	46.2	27.8	28.6	12.9	25.7	10.9	46.0	6.0	6.6	2.0	2,302	3.4
Total	99.0	72.5	19.8	22.6	17.6	25.7	12.0	17.2	12.5	56.1	2.8	4.0	2.6	7,881	2.7

Note: Mean number of sources is based on respondents who have heard of AIDS.

Table 10.6.2 Knowledge of AIDS and sources of AIDS information: men

Percentage of men who have ever heard of AIDS, percentage who received information about AIDS from specific sources, and mean number of sources of information about AIDS, by background characteristics, Kenya 1998

Background characteristic	Ever heard of AIDS	Source of AIDS information												Number of men	Mean number of sources
		Radio	TV	News-paper	Pamph-let	Health worker	Mosque/ church	Com-munity School	Rela-meeting	Friend/ Work tive	place	Other Drama	of source		
Age															
15-19	99.2	77.6	26.5	32.6	21.7	10.8	5.3	35.3	5.5	35.3	0.9	2.8	1.9	811	2.6
20-24	98.7	92.4	38.9	47.7	25.6	12.4	6.9	15.2	8.7	31.9	2.3	3.9	1.5	589	2.9
25-29	99.9	89.8	39.1	50.3	37.3	17.9	7.6	8.0	10.2	34.0	4.8	4.9	4.2	463	3.1
30-39	99.6	91.7	31.1	44.6	27.3	17.9	7.5	4.1	16.0	33.3	6.2	2.3	3.9	793	2.9
40-49	99.4	87.0	32.4	40.5	20.3	22.4	8.3	2.6	17.7	34.0	7.5	1.9	5.7	568	2.8
50-54	100.0	88.6	22.9	28.9	20.8	23.5	13.8	3.7	24.4	32.5	5.5	1.7	7.4	183	2.7
Marital status															
Currently married	99.6	90.6	32.0	42.3	26.9	20.2	8.2	4.7	16.9	32.2	6.3	2.6	5.1	1,791	2.9
Formerly married	100.0	87.5	25.3	46.2	18.9	16.0	7.6	6.4	12.8	44.4	3.3	0.4	1.3	126	2.7
Never married	99.1	83.2	33.1	40.2	24.3	11.8	6.4	25.1	6.5	34.6	1.9	3.6	1.9	1,489	2.7
Residence															
Urban	99.5	89.1	55.6	57.8	31.2	12.4	3.2	10.8	8.4	26.4	7.0	6.6	1.9	913	3.1
Rural	99.3	86.6	23.6	35.5	23.4	17.8	8.9	14.8	13.6	36.4	3.3	1.6	4.2	2,494	2.7
Province															
Nairobi	99.4	89.9	67.9	60.7	29.8	10.1	2.4	10.1	7.1	21.4	4.8	7.1	1.2	431	3.1
Central	99.0	81.9	19.8	25.0	20.4	17.4	17.2	18.8	10.7	48.2	7.6	1.9	0.0	341	2.7
Coast	99.1	82.8	32.0	47.4	29.2	5.4	2.0	13.0	3.5	26.3	10.1	2.5	0.2	242	2.6
Eastern	100.0	83.2	22.6	37.9	17.2	16.9	12.3	14.1	15.0	41.5	2.4	0.9	0.6	633	2.6
Nyanza	99.8	94.6	40.0	48.5	32.7	22.0	10.1	15.1	16.4	27.4	2.6	5.1	8.5	641	3.2
Rift Valley	99.3	85.0	29.6	41.1	28.8	17.7	4.2	11.4	13.9	32.5	3.9	2.4	6.6	758	2.8
Western	98.1	90.9	9.8	25.0	17.7	16.3	0.6	15.5	9.6	39.7	3.7	0.2	2.0	361	2.4
Education															
No education	97.8	69.1	11.9	4.9	2.4	20.6	5.4	0.0	16.9	44.7	3.9	0.0	3.8	131	1.9
Primary incomplete	99.1	81.8	18.7	20.8	15.5	14.9	7.6	16.0	10.7	41.0	2.2	0.9	3.5	1,047	2.4
Primary complete	99.0	90.8	26.9	37.4	25.3	18.2	7.2	8.2	11.9	35.5	5.2	1.5	4.6	841	2.8
Secondary+	100.0	90.9	47.5	63.1	35.4	15.9	7.5	16.6	13.0	26.1	5.3	5.7	2.9	1,388	3.3
Total	99.4	87.2	32.2	41.5	25.5	16.3	7.4	13.7	12.2	33.7	4.3	2.9	3.6	3,407	2.8

Note: Mean number of sources is based on respondents who have heard of AIDS.

The data show that 20 percent of women and 32 percent of men received a message about AIDS from watching television, a significant rise since the 1993 KDHS when only 6 percent of women and 11 percent of men reported the same. Urban men and women obtain their AIDS-related information from more varied sources than rural men and women, and tend to get information from the media as opposed to the community-level sources favoured in rural areas. Level of education of both men and women is associated with knowledge of more sources of AIDS-related information, especially mass media sources.

10.6 Reported Ways to Avoid AIDS

Tables 10.7.1 and 10.7.2 present the percent distribution of men and women by knowledge of ways to avoid getting AIDS. About 9 percent of women and 8 percent of men reported that there was no way to "avoid getting AIDS or the virus that causes AIDS." Of those who claimed that AIDS could be avoided, 18 percent of women and 11 percent of men did not cite a single way to prevent AIDS.

The most frequently cited means to prevent getting AIDS was through condom use—49 percent of men and 38 percent of women. This represents an increase since the 1993 KDHS when 36 and 21 percent of men and women, respectively, cited condom use to avoid AIDS. Also since the 1993 KDHS, the percentage of respondents reporting abstinence/having no sex as a means to avoid AIDS has risen from 10 to 30 percent in men and 19 percent to 28 percent in women. The data on knowledge of avoidance of multiple partners (as a means to prevent HIV transmission) in the 1993 KDHS and 1998 KDHS are not sufficiently comparable to allow evaluation of change.

AIDS-prevention programmes focus efforts on three important aspects of behaviour: use of condoms, limiting the number of sexual partners, and delaying sexual debut in young persons (i.e., abstinence). In the second-to-last column of Tables 10.7.1 and 10.7.2 is shown the percentage of men and women who cited at least two of the following programmatically important means to prevent the transmission of the AIDS virus: use condoms, avoid multiple partners, stay faithful to one partner, and sexual abstinence. The data indicate that 39 percent of both men and women were able to demonstrate this level of knowledge. It should be emphasised that these data were collected without prompting, which may have led to an underestimate of knowledge.

Eight percent of both men and women reported a means that reflects misinformation, such as avoiding mosquito bites or kissing, seeking care from a traditional healer, or spiritual intervention not associated with changes in sexual behaviour.

Knowledge of condoms as a means of prevention is closely associated with educational level and residence, especially amongst women. For example, only 18 percent of women without education cited condom use compared with 50 percent of women with a secondary education. Around one-half of urban women reported that condoms can prevent AIDS compared with one-third of rural counterparts.

Table 10.7.1 Knowledge of ways to avoid AIDS: women

Percentage of women who know of specific ways to avoid AIDS, percentage with misinformation about AIDS and percentage who know at least 2 of 4 programmatically important ways to avoid AIDS, by background characteristics, Kenya 1998

Background characteristic	Ways to avoid AIDS														Percentage with any misinformation[1]	Percentage knowing at least 2 of 4 programmatically important ways[2]	Number of women
	No way to avoid AIDS	Abstain from sex	Use condoms	Avoid multiple partners	Be faithful to partner	Avoid sex with prostitutes	Avoid sex with homosexuals	Avoid transfusions	Avoid injections	Avoid kissing	Avoid mosquito bite	Traditional healer	Other ways	Doesn't know any way			
Age																	
15-19	10.4	33.4	33.2	24.9	18.2	5.0	0.7	8.4	13.0	2.8	0.2	0.8	6.8	24.9	10.2	38.3	1,827
20-24	7.7	26.4	44.2	31.7	33.1	5.9	1.2	9.4	13.5	2.4	0.2	0.9	5.7	14.8	9.1	41.2	1,537
25-29	7.0	24.9	45.0	37.3	35.7	6.2	0.9	9.6	14.5	1.6	0.1	1.2	4.6	14.1	7.3	38.1	1,356
30-39	8.4	26.8	36.4	37.0	33.1	7.9	1.2	7.7	13.9	1.1	0.2	0.4	4.5	16.5	6.0	36.9	1,962
40-49	8.8	26.8	28.5	37.0	32.4	6.2	1.3	8.1	12.8	1.3	0.2	0.5	5.7	19.5	7.6	39.7	1,122
Marital status																	
Currently married	8.0	23.5	37.4	36.5	34.9	6.9	1.0	7.9	13.6	1.4	0.1	0.7	5.0	16.5	7.1	38.4	4,785
Formerly married	10.3	28.0	42.1	32.7	24.8	7.1	0.7	7.3	11.1	1.5	0.5	0.8	3.8	19.1	6.4	41.2	668
Never married	9.2	36.8	36.5	26.5	21.4	4.9	1.1	10.4	14.2	3.0	0.2	0.9	6.8	21.2	10.4	38.4	2,351
Residence																	
Urban	6.2	31.9	52.3	34.5	36.5	8.0	1.4	14.0	17.7	3.5	0.4	2.0	5.0	12.2	10.3	46.3	1,821
Rural	9.3	26.7	33.1	32.8	28.0	5.8	0.9	6.9	12.3	1.4	0.1	0.4	5.6	19.9	7.3	36.3	5,983
Province																	
Nairobi	5.5	35.9	56.9	33.3	41.6	10.3	1.9	17.0	21.8	6.0	0.7	3.8	4.5	12.4	14.1	41.1	768
Central	12.4	17.5	31.4	33.4	32.3	7.0	1.2	7.9	8.8	0.7	0.0	0.0	2.4	19.0	3.1	33.6	830
Coast	9.2	14.3	38.1	36.4	36.7	6.3	0.6	14.2	12.2	1.4	0.1	0.4	1.3	23.9	3.1	32.9	597
Eastern	8.0	43.4	32.5	20.2	23.3	2.3	0.5	6.9	17.4	1.2	0.1	0.2	9.0	17.4	10.4	23.7	1,378
Nyanza	6.6	33.1	38.0	44.7	42.9	8.9	1.6	9.1	14.7	3.1	0.2	0.9	5.7	12.9	9.6	56.6	1,687
Rift Valley	9.4	22.6	35.2	29.8	20.7	7.3	1.1	5.7	10.8	0.9	0.0	0.3	5.3	20.8	6.5	40.8	1,648
Western	10.0	16.0	37.4	35.3	16.4	1.6	0.0	5.2	8.9	0.3	0.0	0.5	6.3	24.4	7.1	30.1	896
Education																	
No education	11.7	20.1	17.9	39.2	26.6	5.8	0.7	4.5	7.9	0.5	0.0	0.7	3.4	30.9	4.6	36.0	860
Primary incomplete	11.5	26.5	31.8	29.1	24.8	6.1	0.4	4.7	7.9	1.8	0.1	0.6	3.9	24.7	6.1	38.8	2,871
Primary complete	8.5	27.3	40.8	30.7	28.5	6.0	1.0	6.8	14.0	1.6	0.0	0.6	5.5	16.3	7.7	36.5	1,773
Secondary+	3.7	33.2	49.5	37.9	38.9	7.0	2.0	16.3	22.4	2.7	0.4	1.1	8.2	6.6	12.0	41.2	2,300
Total	8.5	27.9	37.5	33.2	30.0	6.3	1.0	8.6	13.6	1.9	0.2	0.7	5.5	18.1	8.0	38.6	7,804

[1] Includes mosquito bites, kissing, or care from a traditional healer or spiritual aid.
[2] Includes at least two of the following: use condoms, avoid multiple partners, be faithful to one partner, and abstain from sex

Table 10.7.2 Knowledge of ways to avoid AIDS: men

Percentage of men who know of specific ways to avoid AIDS, percentage with misinformation about AIDS, and percentage who know at least 2 of 4 programmatically important ways to avoid AIDS, by background characteristics, Kenya 1998

Background characteristic	Ways to avoid AIDS														Percentage with any misinformation[1]	Percentage knowing at least 2 of 4 programmatically important ways[2]	Number of men
	No way to avoid AIDS	Abstain from sex	Use condoms	Avoid multiple partners	Be faithful to partner	Avoid sex with prostitutes	Avoid sex with homosexuals	Avoid transfusions	Avoid injections	Avoid kissing	Avoid mosquito bite	Traditional healer	Other ways	Doesn't know any way			
Age																	
15-19	9.6	35.6	52.5	12.8	15.7	3.6	0.2	5.7	11.8	0.4	0.2	0.5	8.6	15.8	9.7	29.6	805
20-24	6.6	27.1	62.5	18.8	34.4	4.0	1.0	10.3	15.2	1.1	0.2	0.0	6.7	9.0	7.9	44.2	581
25-29	6.8	26.6	53.9	18.1	44.1	7.2	0.5	9.3	14.5	0.3	0.0	0.4	8.3	8.0	8.9	42.4	462
30-39	6.8	27.5	44.3	23.4	44.4	6.4	1.3	9.2	17.2	1.2	0.2	0.3	7.8	9.6	9.2	42.8	789
40-49	7.9	29.9	37.7	25.3	38.9	8.8	0.7	10.6	9.9	0.8	0.2	0.2	4.5	11.9	5.6	39.3	565
50-54	12.5	27.5	33.1	20.0	35.9	8.3	0.7	9.6	11.1	0.0	0.9	0.3	6.5	14.3	7.7	32.0	183
Marital status																	
Currently married	7.9	26.3	42.5	24.0	42.9	7.2	0.8	9.7	14.6	0.7	0.3	0.3	6.6	10.3	7.7	40.8	1,784
Formerly married	10.2	28.3	54.3	17.5	33.7	6.8	1.3	8.9	8.9	1.9	0.0	0.0	4.1	16.7	5.7	41.9	126
Never married	7.8	33.8	56.3	14.2	24.3	4.3	0.6	7.7	12.9	0.6	0.2	0.3	8.3	12.3	9.4	35.8	1,476
Residence																	
Urban	4.2	33.0	56.8	17.5	38.8	3.9	0.2	11.7	14.9	0.5	0.0	0.0	7.8	6.5	8.3	45.3	909
Rural	9.3	28.4	46.1	20.3	32.8	6.7	1.0	7.8	13.2	0.8	0.3	0.4	7.0	13.2	8.4	36.3	2,477
Province																	
Nairobi	0.6	36.5	60.5	12.0	38.3	1.2	0.0	13.2	15.6	0.0	0.0	0.0	7.2	3.0	7.2	44.3	429
Central	12.3	29.9	38.8	15.3	29.1	22.1	4.5	10.0	10.3	1.7	1.0	0.5	4.1	16.3	7.4	29.1	338
Coast	4.6	25.3	63.9	20.9	25.5	9.8	0.0	4.9	7.4	0.6	0.1	0.2	3.0	9.1	3.6	39.1	240
Eastern	2.1	26.9	46.5	9.0	38.9	4.5	0.0	7.9	14.1	0.4	0.2	0.8	2.4	7.1	3.8	29.5	633
Nyanza	0.3	37.9	60.1	38.2	28.3	7.0	0.3	10.0	19.8	2.2	0.2	0.0	14.1	2.6	16.3	52.7	640
Rift Valley	5.0	27.9	48.4	18.8	39.7	2.9	0.7	8.9	13.6	0.1	0.2	0.0	10.6	8.5	10.8	39.8	753
Western	45.4	17.7	20.4	18.3	32.5	0.6	0.8	4.4	6.9	0.0	0.0	0.6	2.1	48.1	2.7	29.2	354
Education																	
No education	16.1	22.5	24.5	14.5	24.2	9.6	0.9	1.7	4.4	0.0	0.0	0.0	3.9	27.7	3.9	18.4	128
Primary incomplete	10.7	25.9	46.6	14.7	21.5	5.2	0.4	2.2	6.1	0.7	0.3	0.2	5.7	17.4	6.6	25.9	1,037
Primary complete	8.3	25.2	51.2	19.7	34.3	7.2	0.4	7.9	12.7	0.3	0.3	0.3	6.3	11.4	7.2	38.5	833
Secondary+	4.9	35.7	51.7	23.5	45.1	5.4	1.2	15.0	20.7	1.1	0.2	0.4	9.2	5.4	10.8	50.2	1,388
Total	7.9	29.6	49.0	19.5	34.4	5.9	0.7	8.8	13.7	0.7	0.2	0.3	7.2	11.4	8.4	38.7	3,386

[1] Includes mosquito bites, kissing, or care from a traditional healer or spiritual aid.
[2] Includes at least two of the following: use condoms, avoid multiple partners, be faithful to one partner, and abstain from sex

Tables 10.8.1 and 10.8.2 show the distribution of women and men by their responses to questions intended to evaluate important aspects of a person's knowledge base regarding AIDS and HIV. When asked whether a “healthy-looking person can have the AIDS virus,” 79 percent of women and 85 percent of men correctly responded “yes.” Women and men least likely to respond correctly to this question tended to be young, unmarried, rural-based, and of lower educational level. Women in Western Province and men in Eastern Province were most likely to lack understanding on this issue.

Respondents’ understanding about survival prospects for individuals who have AIDS was assessed with two questions: (1) “Can AIDS be cured?” and (2) “Do you think that persons with AIDS almost never die from the disease, sometimes die, or almost always die from the disease?” Most women (93 percent) and men (90 percent) know that there is no cure at this time for AIDS. Fewer women (85 percent) and men (79 percent) felt that AIDS cases “almost always die from the disease.” Knowledge of the bleak survival picture for individuals with AIDS generally increases with education level of the respondent, although this association is weak.

The data show that most women (86 percent) and men (85 percent) know that "the AIDS virus can be transmitted from mother to child." The level of this general knowledge about mother-to-child transmission has not changed since the 1993 KDHS.

The 1998 KDHS asked the following question, “Do you personally know someone who has AIDS or who has died from AIDS?” The same question was asked in the 1993 KDHS, allowing assessment of changes in “personalisation” of the epidemic. In 1993, 42 percent of women and 40 percent of men responded that they knew someone with AIDS or who died from AIDS; these figures increased to 72 percent and 70 percent in the 1998 KDHS, reflecting the spread of the AIDS tragedy across Kenya’s social landscape.

Table 10.8.1 AIDS-related knowledge: women

Percent distribution of women by responses to questions on various AIDS-related issues, according to background characteristics, Kenya 1998

Background characteristic	Can a healthy-looking person have the AIDS virus?			Is AIDS a fatal disease?				Can AIDS be cured?			Can the AIDS virus be transmitted from mother to child?			Do you know someone with AIDS or who died of AIDS?			Total
	No	Yes	Don't know	Almost never	Some-times	Almost always	Don't know	No	Yes	Don't know	No	Yes	Don't know	No	Yes	Don't know	
Age																	
15-19	24.1	68.1	7.7	0.8	12.2	83.4	3.7	92.6	4.1	2.8	11.2	79.6	8.7	36.0	61.8	1.7	1,827
20-24	11.9	82.9	5.3	0.7	10.1	87.4	1.6	92.8	3.4	3.1	4.6	91.0	4.3	28.2	70.6	0.7	1,537
25-29	12.6	82.9	4.5	1.0	11.3	85.6	2.0	94.1	3.6	2.1	5.1	89.5	5.2	23.1	75.7	0.9	1,356
30-39	10.6	83.1	6.3	0.4	12.1	85.7	1.7	93.3	4.0	2.3	5.9	87.8	5.2	22.3	76.2	1.3	1,962
40-49	12.1	80.0	8.0	0.5	12.4	84.3	2.8	92.2	2.8	4.5	8.7	82.1	8.6	21.4	76.7	1.6	1,122
Marital status																	
Currently married	12.9	80.6	6.5	0.6	11.4	86.0	2.0	93.4	3.4	2.8	5.9	87.4	6.1	24.1	74.3	1.2	4,785
Formerly married	12.0	81.8	6.2	0.5	11.8	85.4	2.4	92.7	3.2	3.5	6.9	85.9	6.2	23.4	75.2	1.5	668
Never married	18.8	75.1	6.1	0.9	12.2	83.7	3.1	92.4	4.2	2.9	9.8	83.0	6.9	32.9	65.4	1.3	2,351
Residence																	
Urban	7.5	89.4	3.1	0.5	10.5	87.3	1.5	93.9	3.7	1.9	4.7	90.8	4.0	21.6	76.6	1.0	1,821
Rural	16.7	75.9	7.3	0.7	12.0	84.7	2.6	92.7	3.6	3.1	7.9	84.5	7.1	28.2	70.2	1.3	5,983
Province																	
Nairobi	6.5	91.1	2.4	0.2	6.2	92.6	1.0	93.5	4.1	2.2	4.5	92.1	3.3	21.5	77.5	1.0	768
Central	5.7	90.1	4.2	1.4	13.8	82.4	2.3	94.6	3.9	0.9	7.7	83.9	7.7	18.8	79.7	1.3	830
Coast	10.3	81.1	8.6	0.5	8.0	90.3	1.0	95.5	2.0	1.2	7.6	78.7	12.8	33.2	64.8	1.2	597
Eastern	21.0	72.3	6.7	0.8	22.2	72.4	4.6	90.4	5.5	3.8	5.7	88.0	5.9	34.4	64.4	1.2	1,378
Nyanza	10.8	83.9	5.3	0.2	7.9	91.3	0.7	92.9	4.0	3.0	5.2	89.9	4.6	20.7	77.7	1.3	1,687
Rift Valley	14.3	74.7	11.0	1.2	10.6	84.0	4.1	92.1	2.8	4.1	7.1	84.3	7.5	34.9	62.9	1.6	1,648
Western	30.3	66.6	3.1	0.2	9.5	89.3	1.1	95.4	2.2	2.4	14.5	80.0	5.2	18.5	80.1	1.0	896
Education																	
No education	17.1	67.6	15.3	0.4	9.7	84.8	4.8	90.9	2.3	5.9	11.7	72.4	14.9	33.0	65.1	1.8	860
Primary incomplete	19.9	71.6	8.5	0.6	11.2	85.4	2.7	92.4	4.0	3.2	9.7	81.2	8.6	30.7	67.5	1.5	2,871
Primary complete	14.2	82.2	3.6	0.7	12.6	85.1	1.5	93.2	3.9	2.4	5.5	90.4	3.6	23.3	75.5	0.9	1,773
Secondary+	7.4	90.2	2.4	0.8	12.1	85.4	1.6	94.5	3.5	1.7	3.5	93.6	2.4	22.0	76.5	1.0	2,300
Total	14.6	79.1	6.4	0.7	11.6	85.3	2.3	93.0	3.7	2.9	7.1	86.0	6.4	26.7	71.7	1.2	7,804

Table 10.8.2 AIDS-related knowledge: men

Percent distribution of men by responses to questions on various AIDS-related issues, according to background characteristics, Kenya 1998

Background characteristic	Can a healthy-looking person have the AIDS virus?			Is AIDS a fatal disease?				Can AIDS be cured?			Can the AIDS virus be transmitted from mother to child?			Do you know someone with AIDS or who died of AIDS?			Total
	No	Yes	Don't know	Almost never	Some-times	Almost always	Don't know	No	Yes	Don't know	No	Yes	Don't know	No	Yes	Don't know	
Age																	
15-19	15.5	75.0	9.5	1.0	19.5	76.7	2.8	89.2	5.6	4.9	9.0	78.6	12.0	42.7	54.9	1.6	805
20-24	7.3	89.4	3.2	0.8	17.1	80.8	1.3	90.2	4.7	4.6	6.2	87.3	5.4	32.8	65.2	1.6	581
25-29	6.8	89.2	3.6	1.0	17.7	80.1	1.3	89.1	6.0	4.4	4.7	87.5	7.2	25.5	73.7	0.8	462
30-39	5.4	89.7	5.0	0.9	18.3	78.6	2.3	92.5	3.1	4.0	3.7	88.6	7.1	19.7	78.8	1.4	789
40-49	6.4	86.4	7.1	0.8	16.6	79.6	2.8	91.4	3.3	4.7	4.8	86.6	8.3	19.7	78.2	1.9	565
50-54	3.8	84.4	11.8	0.0	14.3	82.9	2.8	87.6	6.2	6.2	5.7	79.5	13.7	16.6	79.8	3.2	183
Marital status																	
Currently married	5.5	88.4	6.0	0.6	16.3	81.2	1.9	91.5	3.3	4.8	4.5	87.1	7.7	19.7	78.2	1.8	1,784
Formerly married	11.5	80.8	7.7	0.0	24.7	72.3	3.0	82.1	10.4	6.6	4.7	86.6	8.7	35.1	64.0	1.0	126
Never married	11.6	81.9	6.5	1.2	19.0	77.3	2.6	89.8	5.6	4.1	7.5	82.5	9.5	37.5	60.7	1.3	1,476
Residence																	
Urban	5.4	91.9	2.7	0.7	17.7	79.7	1.9	94.4	3.0	2.2	3.9	91.5	4.4	22.9	75.6	1.5	909
Rural	9.5	82.8	7.6	0.9	17.8	78.9	2.3	88.9	5.2	5.5	6.5	82.7	10.1	29.9	68.0	1.6	2,477
Province																	
Nairobi	6.0	92.2	1.8	0.6	21.0	75.4	3.0	95.8	1.2	3.0	6.0	90.4	3.6	24.6	74.9	0.6	429
Central	9.4	83.2	7.4	3.7	29.7	62.8	3.8	79.3	16.0	4.2	12.8	69.0	18.2	20.2	76.7	2.9	338
Coast	8.5	87.1	4.2	0.7	9.0	89.2	0.9	88.2	5.7	4.5	5.7	84.4	8.7	26.4	70.7	1.0	240
Eastern	13.6	74.9	11.5	1.0	20.2	75.4	3.4	89.1	4.5	6.5	4.2	82.6	13.2	41.5	57.7	0.8	633
Nyanza	10.8	84.7	4.5	0.0	16.8	82.3	0.9	90.3	4.3	5.1	6.5	89.7	3.6	22.7	74.2	3.0	640
Rift Valley	5.5	87.0	7.4	0.7	19.8	76.8	2.7	90.5	2.8	5.8	3.0	86.4	8.8	30.7	67.1	1.4	753
Western	2.9	93.5	3.7	0.0	1.6	98.4	0.0	98.4	1.4	0.2	6.7	87.2	5.2	20.7	78.2	1.1	354
Education																	
No education	11.4	60.1	28.2	0.2	14.5	74.8	10.2	82.0	2.6	14.8	9.0	57.2	33.2	48.8	47.7	2.6	128
Primary incomplete	14.3	75.1	10.6	1.1	17.6	78.7	2.6	87.7	5.9	6.1	8.8	77.1	12.8	34.3	63.1	2.0	1,037
Primary complete	8.6	86.9	4.5	0.7	14.9	82.0	2.3	89.0	5.2	5.0	5.5	85.5	8.5	27.5	71.0	1.1	833
Secondary+	3.6	94.2	2.1	0.8	20.0	78.1	1.2	94.0	3.3	2.3	3.4	93.3	3.2	21.8	76.7	1.4	1,388
Total	8.4	85.3	6.3	0.8	17.8	79.1	2.2	90.4	4.6	4.6	5.8	85.0	8.6	28.0	70.0	1.6	3,386

10.7 Perception of Risk of getting AIDS

Male and female respondents were asked whether their "chances of getting the AIDS virus" were great, moderate, small, or nil. Afterwards, interviewers followed up by asking why the respondent thought their chances were great/moderate, on one hand, or small/nil on the other. Tables 10.9.1 and 10.9.2 show that 77 percent of men and 66 percent of women said that they had little or no chance of being infected. Only 5 percent of men said that their chances were great, but 10 percent of women thought so.

Table 10.9.1 Perception of the risk of getting AIDS: women

Percent distribution of women who have heard of AIDS by their perception of their risk of getting AIDS, according to background characteristics, Kenya 1998

Background characteristic	Chances of getting AIDS					Total	Number of women
	No risk at all	Small	Moderate	Great	Don't know		
Age							
15-19	45.9	34.1	13.2	6.6	0.1	100.0	1,827
20-24	31.7	34.4	23.1	10.5	0.3	100.0	1,537
25-29	25.1	33.3	28.8	12.7	0.2	100.0	1,356
30-39	26.2	33.2	29.5	11.1	0.1	100.0	1,962
40-49	29.3	36.8	27.0	6.7	0.1	100.0	1,122
Marital status							
Currently married	27.1	33.8	28.2	10.7	0.2	100.0	4,785
Formerly married	30.9	36.9	22.2	9.5	0.3	100.0	668
Never married	42.7	34.2	15.7	7.2	0.1	100.0	2,351
No. of sexual partners other than husband in last 12 months							
0	33.3	34.2	23.2	9.1	0.2	100.0	6,523
1	28.1	34.4	26.2	11.1	0.2	100.0	1,014
2-3	20.0	24.5	36.3	19.2	0.0	100.0	155
4+	(19.6)	(30.0)	(22.1)	(28.3)	(0.0)	100.0	29
Don't know/missing	20.0	48.6	27.1	4.3	0.0	100.0	83
Residence							
Urban	30.4	33.1	22.4	13.8	0.3	100.0	1,821
Rural	32.7	34.5	24.4	8.3	0.1	100.0	5,983
Province							
Nairobi	27.3	32.5	24.9	15.1	0.2	100.0	768
Central	33.1	49.0	13.7	4.2	0.0	100.0	830
Coast	35.1	41.5	18.8	4.1	0.0	100.0	597
Eastern	45.4	28.2	22.9	3.5	0.1	100.0	1,378
Nyanza	20.8	33.4	25.8	19.8	0.1	100.0	1,687
Rift Valley	36.0	32.2	23.2	8.2	0.4	100.0	1,648
Western	27.3	31.3	35.3	5.9	0.1	100.0	896
Education							
No education	30.0	34.5	28.2	7.1	0.1	100.0	860
Primary incomplete	34.4	33.5	23.1	8.9	0.2	100.0	2,871
Primary complete	32.7	34.5	23.1	9.5	0.1	100.0	1,773
Secondary+	29.7	34.7	24.1	11.4	0.2	100.0	2,300
Total	32.1	34.2	23.9	9.6	0.2	100.0	7,804

Note: Total includes 2 women who reported that they have AIDS. Figures in parentheses are based on 25-49 cases.

Table 10.9.2 Perception of the risk of getting AIDS: men

Percent distribution of men who have heard of AIDS by their perception of their risk of getting AIDS, according to background characteristics, Kenya 1998

Background characteristic	Chances of getting AIDS					Total	Number of men
	No risk at all	Small	Moderate	Great	Don't know		
Age							
15-19	40.0	44.2	11.9	3.8	0.1	100.0	805
20-24	28.3	45.1	20.9	5.7	0.1	100.0	581
25-29	26.8	48.2	19.6	5.3	0.0	100.0	462
30-39	25.0	48.6	20.6	5.6	0.2	100.0	789
40-49	24.6	50.9	19.5	4.8	0.1	100.0	565
50-54	30.2	55.2	10.6	4.0	0.0	100.0	183
Marital status							
Currently married	26.3	49.3	19.2	5.2	0.1	100.0	1,784
Formerly married	18.3	53.8	19.1	8.4	0.4	100.0	126
Never married	34.6	45.2	15.8	4.4	0.1	100.0	1,476
No. of sexual partners other than wife (wives) in last 12 months							
0	34.8	46.6	14.4	4.1	0.2	100.0	2,099
1	21.6	53.5	19.9	5.0	0.0	100.0	652
2-3	20.8	44.6	27.7	6.7	0.1	100.0	436
4+	23.0	41.4	24.2	11.4	0.0	100.0	166
Don’t know/missing	(8.4)	(70.2)	(21.4)	(0.0)	(0.0)	100.0	32
Residence							
Urban	31.4	44.3	19.1	5.1	0.1	100.0	909
Rural	28.9	48.9	17.2	4.9	0.1	100.0	2,477
Province							
Nairobi	35.3	41.3	18.6	4.8	0.0	100.0	429
Central	25.9	53.3	16.2	4.6	0.0	100.0	338
Coast	48.8	32.7	15.3	2.0	1.1	100.0	240
Eastern	40.8	49.0	8.7	1.6	0.0	100.0	633
Nyanza	11.5	61.0	16.1	11.3	0.2	100.0	640
Rift Valley	34.6	35.3	25.2	4.9	0.0	100.0	753
Western	15.4	59.9	23.0	1.7	0.0	100.0	354
Education							
No education	34.3	45.1	15.6	3.3	1.6	100.0	128
Primary incomplete	34.9	43.6	16.9	4.5	0.0	100.0	1,037
Primary complete	27.8	48.5	17.5	6.2	0.0	100.0	833
Secondary+	26.3	50.4	18.6	4.6	0.1	100.0	1,388
Total	29.6	47.6	17.7	4.9	0.1	100.0	3,386

Note: Figures in parentheses are based on 25-49 cases

The KDHS made use of the fact that both men and women were independently interviewed to link data from currently married men and their wives living in the same household. This makes it possible to look at couples as units of study. Table 10.10 shows that of the couples who know about AIDS, only 9 percent shared a similar view that they had no risk at all of getting AIDS. In about one-quarter of couples, the husband reported that his risk of getting infected was small or nil, but the wife stated that her risk was moderate or great. That the female partner is more likely than the male partner to fear a high risk of infection may relate to a wife's sense (perception or fact) that her husband is involved in extramarital sexual activity.

Table 10.10 Perception of the risk of getting AIDS among couples

Percent distribution of couples who know about AIDS by husband's and wife's perceptions of risk of getting AIDS, Kenya 1998

Perception of risk of AIDS	Chances of getting AIDS: husband				Total	Number of couples
	No risk at all	Small	Moderate	Great		
Chances of getting AIDS: wife						
No risk at all	8.9	15.2	5.2	1.4	30.7	403
Small	7.5	17.0	5.9	1.4	31.9	418
Moderate	7.4	13.0	6.1	1.5	28.0	368
Great	1.4	4.7	2.0	1.3	9.4	123
Total	25.2	49.9	19.2	5.6	100.0	-
Number of couples	330	655	251	73	-	1,312

Note: Total includes 2 couples with missing data.

Table 10.11 presents information on reasons that individual men and women provided to explain their perception of AIDS risk as low or nil. By far, the most commonly reported reason for both men and women was that they had just one partner (57 percent of women, 53 percent of men). Men were much more likely (19 percent) than women (3 percent) to cite condom use as a reason for low risk. Women, on the other hand, were more likely than men to say that they have a low risk of getting the AIDS virus because they abstain or have "no partner."

Table 10.11 Reasons for perception of small/no risk of getting AIDS

Percentage of women and men who think they have a small or no risk of getting AIDS, by reasons for that perception of risk and marital status, Kenya 1998

Marital status	Abstains from sex	Uses condom	Has only one sex partner	Limits partners	Spouse has no other partner	Avoids prostitutes	No homosexual contact	No blood transfusion	No injections	Other	Number of women/men
WOMEN											
Never in union	66.8	4.1	23.5	4.7	2.6	NA	1.4	3.7	4.5	4.6	1,809
Currently in union	3.0	1.7	83.0	2.6	19.7	NA	0.6	3.4	2.7	3.8	2,913
Formerly in union	59.4	5.8	26.3	7.2	2.1	NA	0.5	5.0	3.4	4.3	453
Total	30.3	2.9	57.2	3.7	12.2	NA	0.8	3.6	3.4	4.1	5,175
MEN											
Never in union	42.8	26.4	27.8	9.3	3.5	4.6	0.3	2.7	3.1	5.9	1,177
Currently in union	3.3	10.9	76.8	9.6	10.2	6.2	0.3	3.4	3.1	4.3	1,347
Formerly in union	20.9	40.6	36.8	21.7	0.4	4.5	0.0	1.9	1.1	5.4	91
Total	21.7	18.9	53.3	9.9	6.8	5.4	0.3	3.1	3.0	5.1	2,615

NA = Not applicable

Table 10.12 shows the distribution of men and women who reported high or moderate risk by the stated reason for their perception. The majority of women (63 percent) feel that they are at moderate to high risk because they fear their spouse/partner has another partner; fewer men (23 percent) report the same. The most commonly reported reason given by men for their perception of moderate to high risk was that they themselves had more than one (or many) partner (46 percent). There is a surprisingly high percentage of both men and women who fear they are at high risk of getting AIDS because of injections and transfusions. Nonuse of condoms was mentioned by 19 percent of women and 18 percent of men as a reason for their perceived high risk of getting AIDS.

Table 10.12 Reasons for perception of moderate/great risk of getting AIDS

Percentage of women and men who think they have a moderate or great risk of getting AIDS, by reasons for that perception of risk and marital status, Kenya 1998

Marital status	Doesn't use condoms	Has many sex partners	Spouse has other partner(s)	Has sex with prosti-tutes	Homo-sexual contact	Had blood trans-fusion	Had injec-tions	Other	Number of women/ men
				WOMEN					
Never in union	19.7	21.0	30.4	NA	1.9	28.1	33.3	16.3	538
Currently in union	18.4	7.0	74.4	NA	0.6	14.7	20.6	5.3	1,863
Formerly in union	24.4	23.6	42.6	NA	0.5	12.0	21.2	11.8	212
Total	19.1	11.2	62.8	NA	0.9	17.3	23.3	8.1	2,613
				MEN					
Never in union	25.9	46.4	20.2	3.0	0.0	11.3	21.1	13.0	297
Currently in union	13.3	44.3	25.3	0.7	0.2	17.9	25.5	15.0	435
Formerly in union	(18.1)	(66.5)	(23.5)	(2.6)	(0.0)	(0.8)	(11.7)	(7.9)	35
Total	18.4	46.1	23.3	1.7	0.1	14.6	23.2	13.9	767

Note: Figures in parentheses are based on 25-49 cases.
NA = Not applicable

10.8 Behaviour Change

KDHS respondents who had heard of AIDS were asked whether or not they had changed their sexual behaviour since they learned of this disease in order to avoid getting AIDS. If they responded positively, they were further asked what they did. Tables 10.13.1 and 10.13.2 show that 23 percent of women compared with 10 percent of men said that they had not changed their sexual behaviour. The most commonly reported behaviour change in both men (50 percent) and women (47 percent) was to limit sex to one partner. In men, another 18 percent reported “fewer sexual partners.” In women, 16 percent mentioned that they had asked their spouse to be faithful.

The data also show that respondents with a low educational level and respondents living in rural areas were more likely not to have changed their sexual behaviour than their urban counterparts. In rural areas, about 25 and 11 percent of women and men, respectively, said they did not change their behaviour compared with 16 and 7 percent, respectively, in urban areas.

Table 10.13.1 AIDS prevention behaviour: women

Percentage of women who have heard of AIDS by specific changes in behaviour in order to avoid AIDS, according to background characteristics, Kenya 1998

Background characteristic	No change in sexual behaviour	Change in sexual behaviour to avoid AIDS							Change in non-sexual behaviour to avoid AIDS	Number of women
		Kept virginity	Stopped sex	Began using condoms	Restricted to one partner	Fewer partners	Asked spouse to be faithful	Other sexual behaviour		
Age										
15-19	19.9	42.3	7.3	2.6	23.6	5.6	5.7	0.6	28.9	1,827
20-24	18.8	10.1	6.0	2.8	53.8	7.0	14.3	0.1	28.3	1,537
25-29	22.2	2.2	4.9	4.2	57.3	5.7	21.8	0.2	29.1	1,356
30-39	23.9	0.8	4.8	1.8	55.2	4.6	22.6	0.6	32.8	1,962
40-49	30.5	1.2	9.7	1.4	46.8	3.3	16.2	0.4	37.9	1,122
Marital status										
Never married	25.5	0.9	1.3	1.7	58.7	3.4	22.3	0.4	33.4	4,785
Currently married	18.1	2.0	25.4	4.0	41.6	11.4	9.2	0.1	26.9	668
Formerly married	17.9	39.6	11.2	4.0	23.8	7.5	5.0	0.5	27.6	2,351
Residence										
Urban	15.7	13.0	9.2	5.0	50.7	8.8	19.1	0.3	24.9	1,821
Rural	24.7	12.5	5.5	1.8	45.5	4.3	15.0	0.4	33.0	5,983
Province										
Nairobi	12.9	15.6	9.3	5.7	54.8	11.2	27.0	0.0	23.4	768
Central	48.9	8.0	3.9	1.0	28.8	2.7	9.5	0.6	53.6	830
Coast	13.0	14.5	5.9	3.5	56.8	3.8	15.0	0.1	18.7	597
Eastern	26.0	11.2	4.6	2.3	46.0	6.4	8.1	0.4	36.8	1,378
Nyanza	13.9	13.8	8.6	2.2	60.6	4.1	21.9	0.2	20.9	1,687
Rift Valley	19.6	12.9	6.8	3.1	39.3	5.0	19.3	1.0	29.8	1,648
Western	29.5	12.8	3.9	0.9	38.2	5.0	8.1	0.3	38.1	896
Education										
No education	26.9	2.1	8.2	0.9	49.4	4.3	16.3	0.7	36.1	860
Primary incomplete	22.4	16.9	5.7	2.3	43.2	5.3	15.0	0.3	30.3	2,871
Primary complete	22.9	8.2	5.8	1.9	50.3	6.1	15.7	0.4	30.8	1,773
Secondary+	21.0	14.7	6.9	4.1	47.4	5.2	17.2	0.4	30.4	2,300
Total	22.6	12.7	6.3	2.6	46.7	5.3	16.0	0.4	31.1	7,804

Table 10.13.2 AIDS prevention behaviour: men

Percentage of men who have heard of AIDS by specific changes in behaviour in order to avoid AIDS, according to background characteristics, Kenya 1998

Background characteristic	No change in sexual behaviour	Change in sexual behaviour to avoid AIDS								Change in non-sexual behaviour to avoid AIDS	Number of men
		Kept virginity	Stopped sex	Began using condoms	Restricted to one partner	Fewer partners	Asked spouse to be faithful	Avoid sex with prosti-tutes	Other sexual behaviour		
Age											
15-19	14.2	33.5	8.2	20.4	20.9	13.2	2.2	2.7	0.4	23.2	805
20-24	6.6	5.4	9.0	33.5	44.0	23.5	3.6	4.9	0.4	14.3	581
25-29	4.1	1.6	5.0	28.1	60.3	22.0	7.3	5.8	0.0	9.5	462
30-39	8.7	0.7	3.1	15.8	65.8	17.7	8.5	5.4	0.0	17.8	789
40-49	11.5	0.0	2.4	10.7	63.6	16.1	13.2	5.1	0.6	18.4	565
50-54	17.7	0.5	2.7	8.6	66.4	14.1	4.9	4.0	0.0	22.3	183
Marital status											
Never married	9.4	0.3	1.3	13.4	68.4	17.1	10.3	4.9	0.2	17.7	1,784
Currently married	6.8	0.0	11.6	42.3	39.6	28.4	3.8	3.6	0.0	12.2	126
Formerly married	10.9	21.0	10.0	26.9	29.4	17.6	2.3	4.3	0.4	18.1	1,476
Residence											
Urban	7.4	6.1	5.8	22.8	57.8	16.2	8.5	6.5	0.3	13.8	909
Rural	10.9	10.5	5.3	19.5	47.5	18.3	5.9	3.9	0.3	19.1	2,477
Province											
Nairobi	3.6	6.0	7.2	24.0	61.7	15.6	9.0	5.4	0.6	9.0	429
Central	20.3	9.7	4.4	26.1	36.9	8.0	7.3	5.4	1.0	24.0	338
Coast	3.0	9.3	6.1	20.1	43.6	19.2	18.0	16.5	0.0	9.8	240
Eastern	16.4	6.1	6.4	14.4	49.4	12.2	2.3	2.5	0.2	21.2	633
Nyanza	3.2	11.8	6.3	26.9	48.1	32.3	9.1	6.0	0.3	18.6	640
Rift Valley	16.1	6.4	5.2	18.7	44.7	14.9	4.9	2.6	0.0	25.3	753
Western	0.2	20.4	1.1	13.2	71.6	18.4	1.7	0.5	0.0	3.1	354
Education											
No education	19.0	4.0	6.4	7.3	46.6	17.0	9.0	7.3	0.0	25.9	128
Primary incomplete	12.9	18.1	6.7	15.3	36.8	17.2	5.8	4.3	0.3	19.6	1,037
Primary complete	6.9	4.0	2.7	23.4	56.1	20.0	7.2	5.9	0.7	15.2	833
Secondary+	8.7	6.4	6.1	23.5	57.3	16.9	6.6	3.8	0.0	17.0	1,388
Total	10.0	9.3	5.5	20.4	50.3	17.8	6.6	4.6	0.3	17.7	3,386

10.9 Source of Condom Supply

Because of the important role that the condom plays in combating the transmission of HIV, respondents who knew of the condom were asked where they could be obtained. Tables 10.14.1 and 10.14.2 show that knowledge of the condom is almost universal in Kenya. Ninety-nine percent of men and 96 percent of women reported that they knew about condoms.

Of respondents who knew of the condom, 39 percent of women and 24 percent of men were not able to name a place where they could obtain condoms. Lower levels of knowledge of a source for condoms are observed in the youngest and oldest age groups, amongst rural respondents, and amongst respondents with lower educational levels.

Government-run health services and shops were the two most commonly cited sources among both men and women, but men tend to favour shops and women the health facilities. Pharmacies, private medical sources, and community-based distribution (CBD) agents were (each) cited as sources by less than 10 percent of respondents.

Table 10.14.1 Knowledge of source for condoms: women

Percentage of women who know about condoms and the percentage who know a specific source for condoms, by background characteristics, Kenya 1998

Background characteristic	Know about condoms	Know source for condoms: Public sector	Private medical sector	Private pharmacy	Shop	CBD agent	Friends/ relatives	Other source	Don't know a source	Number of women
Age										
15-19	95.9	18.8	4.3	3.8	18.0	1.0	0.8	0.4	53.0	801
20-24	97.7	33.9	7.6	4.6	15.2	1.6	0.4	0.7	36.0	1,367
25-29	97.4	40.3	9.0	5.6	10.1	2.5	0.5	0.6	31.3	1,331
30-39	96.3	36.7	8.4	4.0	11.0	3.4	0.2	0.5	35.9	1,960
40-49	93.8	31.3	6.2	2.7	7.9	3.9	0.6	0.5	47.0	1,122
Marital status										
Never married	96.0	36.2	7.7	4.0	10.4	2.7	0.4	0.6	38.1	4,785
Currently married	96.2	34.4	6.8	3.1	11.5	3.9	0.0	0.4	39.9	668
Formerly married	98.0	23.0	7.0	5.6	19.1	1.7	0.9	0.5	42.2	1,127
Residence										
Urban	99.0	30.1	9.3	9.8	18.7	1.0	0.4	0.6	30.1	1,558
Rural	95.5	34.9	6.9	2.5	9.9	3.1	0.5	0.5	41.7	5,023
Province										
Nairobi	99.4	20.5	8.2	10.8	23.6	1.1	0.6	0.6	34.7	647
Central	97.9	41.3	8.1	5.6	10.8	1.7	0.2	0.0	32.3	716
Coast	92.2	34.7	11.4	1.8	9.8	0.5	0.4	0.0	41.3	498
Eastern	97.8	29.7	9.1	1.6	15.7	3.5	1.0	0.6	38.7	1,129
Nyanza	98.2	43.3	5.6	2.6	7.8	3.0	0.4	0.7	36.7	1,421
Rift Valley	92.2	26.2	7.9	5.1	10.2	2.1	0.3	0.7	47.6	1,428
Western	97.0	39.9	3.8	4.0	10.3	5.3	0.2	0.6	35.7	741
Education										
No education	87.4	26.5	4.5	1.2	5.7	1.9	0.3	0.1	59.9	844
Primary incomplete	95.5	30.6	5.8	2.4	10.8	2.5	0.5	0.5	46.8	2,262
Primary complete	98.1	34.1	8.4	2.6	12.5	4.1	0.3	0.8	37.2	1,588
Secondary+	99.8	40.5	10.0	9.0	15.8	1.8	0.6	0.6	21.7	1,887
Total	96.3	33.8	7.5	4.2	12.0	2.6	0.5	0.5	39.0	6,581

CBD = Community Based Distribution

Table 10.14.2 Knowledge of source for condoms: men

Percentage of men who know about condoms and the percentage who know a specific source for condoms, by background characteristics, Kenya 1998

Background characteristic	Know about condoms	Know source for condoms: Public sector	Private medical sector	Private pharmacy	Shop	CBD agent	Friends/ relatives	Other source	Don't know a source	Number of men
Age										
15-19	99.9	17.3	4.0	5.1	38.0	3.9	5.7	1.8	24.2	440
20-24	99.4	22.5	7.8	5.6	37.5	6.9	3.6	2.0	14.0	534
25-29	99.2	22.6	10.0	7.8	27.9	6.5	4.2	1.8	19.1	457
30-39	99.3	26.1	7.9	6.1	26.4	5.3	2.7	2.1	23.5	785
40-49	97.9	23.2	7.3	4.9	25.1	6.4	1.5	0.9	30.7	563
50-54	97.9	19.5	3.7	2.8	20.2	4.1	2.1	1.9	45.8	183
Marital status										
Never married	98.6	24.8	7.9	5.5	24.2	5.9	2.5	1.4	27.8	1,784
Currently married	98.7	27.5	2.7	6.7	33.5	4.2	4.6	0.7	20.1	126
Formerly married	99.7	18.5	6.6	5.9	38.7	5.6	4.4	2.6	17.8	1,052
Residence										
Urban	99.8	17.8	7.5	9.5	36.8	1.9	3.3	1.5	21.7	842
Rural	98.7	24.6	7.1	4.2	26.9	7.2	3.3	1.9	24.9	2,120
Province										
Nairobi	100.0	19.0	6.3	8.2	33.5	3.8	3.2	1.3	24.7	405
Central	99.4	24.5	11.7	4.4	34.9	2.6	3.0	3.2	15.7	288
Coast	97.9	16.7	3.4	6.3	43.2	2.2	6.7	3.6	17.8	217
Eastern	100.0	17.0	5.0	2.8	48.7	5.7	4.4	1.7	14.8	540
Nyanza	100.0	34.0	4.8	8.3	14.9	4.2	3.1	2.2	28.4	563
Rift Valley	97.5	24.3	13.1	4.1	28.8	6.3	2.5	1.2	19.7	674
Western	97.9	14.4	2.2	7.1	3.3	16.3	1.0	0.2	55.6	275
Education										
No education	85.6	13.9	3.7	0.0	19.6	2.3	1.7	0.0	58.8	121
Primary incomplete	99.5	20.1	4.5	3.1	26.0	7.4	4.6	2.3	32.0	778
Primary complete	99.0	20.6	8.5	3.8	32.3	5.7	2.4	2.1	24.7	783
Secondary+	100.0	26.3	8.5	8.9	31.4	5.0	3.1	1.4	15.3	1,280
Total	99.0	22.6	7.3	5.7	29.7	5.7	3.3	1.8	23.9	2,962

CBD = Community Based Distribution

10.10 Use of Condoms

Table 10.15 shows the percentage of men and women who used a condom during last sex, by partner and background characteristics. Based on KDHS data, men are about three times more likely than women to have used a condom at last sex—taking all types of partners together (i.e., any partner). The last sexual encounter (with any partner) involved use of a condom 6 percent of the time for women and 21 percent of the time for men.

Condom use is much less common during sex with spouses for both women (3 percent) and men (7 percent), compared with sex with regular partners or other partners. It is clear that both women and men regard sex outside of (or before) marriage to be more risky. For men, 42 percent of last sex with regular nonmarital partners and 43 percent of last sex with "other" partners involved use of a condom. For women, the figures are 16 and 15 percent. It may be surprising that there is no difference in the frequency of condom use between sex with regular nonmarital partners and sex with "other" nonspousal partners, since the latter are expected to often be viewed as involving a greater risk of STD transmission.

Table 10.15 Use of condoms

Percentage of women and men who used a condom during last sexual intercourse, by partner and background characteristics, Kenya 1998

Background characteristic	Women: used condom in most recent sexual intercourse with:								Men: used condom in most recent sexual intercourse with:							
	Spouse		Regular partner		Someone else		Any partner		Spouse		Regular partner		Someone else		Any partner	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Age																
15-19	3.5	294	15.0	291	12.4	94	9.6	679	*	6	42.4	181	33.1	184	37.2	372
20-24	3.4	947	16.0	225	12.3	80	6.2	1,252	10.7	85	45.8	233	49.7	149	40.6	467
25-29	2.8	1,059	19.8	146	(34.4)	47	6.0	1,253	15.1	261	41.6	85	47.4	80	26.5	426
30-39	3.2	1,623	17.8	123	11.1	55	4.4	1,800	6.6	655	(40.8)	40	46.8	71	12.1	767
40-49	1.9	820	12.1	70	(8.5)	33	2.9	922	3.2	494	*	19	37.1	26	5.2	539
50-54	NA	NA	NA	NA	NA	NA	NA	NA	4.9	158	*	3	*	9	7.6	170
Marital status																
Currently married	3.0	4,670	*	11	*	15	3.1	4,696	7.0	1,653	*	21	59.7	73	9.7	1,746
Formerly married	0.0	72	14.9	210	10.1	100	10.8	381	*	7	(16.7)	44	28.7	60	22.2	110
Never married	NA	NA	17.0	634	16.0	194	16.8	828	NA	0	44.5	497	41.3	387	43.1	884
Residence																
Urban	4.6	991	23.2	300	23.8	81	9.8	1,371	9.8	492	42.7	147	53.0	118	22.9	756
Rural	2.5	3,751	12.5	555	12.1	228	4.2	4,534	5.8	1,168	42.3	414	39.4	402	20.2	1,984
Education																
No education	1.4	649	7.9	60	(7.6)	37	2.2	746	4.5	90	*	11	*	14	8.6	115
Primary incomplete	2.3	1,607	12.6	299	9.7	144	4.3	2,051	6.3	360	29.0	168	29.4	185	17.6	713
Primary complete	3.0	1,174	15.8	206	14.9	50	5.3	1,430	7.9	480	41.3	133	44.5	120	20.0	733
Secondary+	4.4	1,312	22.1	290	29.0	77	8.6	1,678	7.0	729	53.6	250	53.8	200	24.8	1,179
Total	2.9	4,742	16.3	855	15.1	308	5.5	5,905	7.0	1,660	42.4	561	42.5	520	21.0	2,740

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that a figure is based on fewer than 25 cases and has been suppressed.
NA = Not applicable

Married men, when engaged in sex with nonregular partners, use condoms 60 percent of the time compared with 7 percent condom use with wives. This comparison cannot be made for married women since this group reported too few extramarital partners to support analysis.

Condom use is higher is urban than rural areas, but the differential is much less pronounced amongst men than women. Condom use tends to decline with increasing age of the respondent, but this relationship is weak and varies depending on the partner type and sex of the respondent. Education of the respondent is uniformly associated with higher condom use.

10.11 Recognition of *Trust* Condoms

In the 1998 KDHS, respondents were asked whether they "ever heard of a condom called *Trust*, a brand of socially marketed male condom in Kenya. Table 10.16 shows that 48 percent of women and 68 percent of men interviewed said that they had indeed heard of *Trust* condoms.

Table 10.16 Heard of *Trust* condoms

Percent distribution of respondents who know the condom brand *Trust*, according to selected background characteristics, Kenya 1998

Background characteristic	Women		Men	
	Knows *Trust* condom	Number of women	Knows *Trust* condom	Number of men
Age				
15-19	25.8	1,851	45.5	811
20-24	59.8	1,548	82.7	589
25-29	62.1	1,371	84.8	463
30-39	54.9	1,977	76.7	793
40-49	40.2	1,134	63.5	568
50-54	NA	NA	55.7	183
Marital status				
Currently married	55.6	4,834	72.3	1,791
Formerly married	49.9	676	71.0	126
Never married	32.6	2,372	62.7	1,489
Residence				
Urban	52.5	1,830	81.9	913
Rural	46.9	6,051	63.0	2,494
Province				
Nairobi	35.3	770	81.5	431
Central	51.5	834	74.5	341
Coast	98.9	605	71.6	242
Eastern	35.5	1,386	64.3	633
Nyanza	33.0	1,690	63.3	641
Rift Valley	58.7	1,696	66.7	758
Western	50.3	899	61.4	361
Education				
No education	31.1	909	29.7	131
Primary incomplete	37.6	2,893	48.0	1,047
Primary complete	56.7	1,777	72.7	841
Secondary+	61.7	2,302	84.1	1,388
Total	48.2	7,881	68.1	3,407

NA = Not applicable

Generally, younger (less than 20) and older (40 and over) men and women were the least likely to have heard of *Trust* condoms. Also, uneducated men and women and those living in rural areas have evidently been less exposed to the *Trust* brand name. Never-married respondents, especially women, reported lower levels of *Trust* name recognition. In comparing provinces, there is wide variation. For example, amongst female respondents, *Trust* name recognition runs from as low as 33-36 percent in Nyanza, Nairobi, and Eastern provinces to over one-half of respondents in Western, Central, and Rift Valley provinces to nearly universal recognition amongst Coast women. The provincial pattern is different in men, with less overall variation (61-82 percent).

10.12 Willingness to Pay for Condoms

Respondents who said that they knew where they could get a condom were asked if they would pay for condoms. If they responded "yes," they were asked (through a series of probes) to report how much they would be willing to pay for a package of three condoms.

Tables 10.17.1 and 10.17.2 indicate that three-quarters of women and almost one-half of men would not be willing to pay for condoms. Another 7 percent of women and 17 percent of men mentioned that they did not know how much they would be willing to pay or that they would not be willing to pay as much as 10 shillings. Ten shillings was the most commonly mentioned amount for both men and women. Still, only 17 percent of women and 36 percent of men said they would be willing to pay that amount or more for a package of three condoms.

Table 10.17.1 Willingness to pay for condoms: women

Percent distribution of women who know where to obtain condoms, by willingness to pay for condoms and amount willing to pay for package of three condoms, according to selected background characteristics, Kenya 1998

Background characteristic	Not willing to pay for condoms	Willing to pay:					Don't know	Number of women
		<5 ksh	5 ksh	10 ksh	25 ksh	50 ksh		
Age								
15-19	69.6	2.2	3.5	9.5	5.9	4.2	5.2	808
20-24	73.1	1.4	2.3	12.3	4.5	3.3	3.1	1,376
25-29	71.6	2.2	2.6	12.6	3.7	4.1	3.2	1,347
30-39	77.8	1.2	2.7	8.7	3.4	3.7	2.5	1,975
40-49	88.0	0.9	1.4	4.7	1.4	1.6	1.9	1,134
Marital status								
Currently married	78.0	1.3	2.4	9.1	3.4	3.1	2.7	4,834
Formerly married	79.0	1.1	1.8	8.8	3.1	4.1	2.1	676
Never married	67.2	2.5	3.4	12.8	5.1	4.3	4.7	1,129
Residence								
Urban	73.2	1.3	2.4	11.6	4.3	4.0	3.1	1,565
Rural	77.3	1.6	2.5	9.1	3.5	3.2	3.0	5,074
Province								
Nairobi	75.9	1.1	2.5	9.9	4.2	3.1	3.1	649
Central	86.6	2.2	2.7	5.5	0.6	0.9	1.5	719
Coast	83.8	1.7	3.6	5.6	3.4	1.3	0.7	504
Eastern	63.3	1.3	3.7	16.2	5.2	7.9	2.4	1,132
Nyanza	75.7	2.1	3.0	9.3	2.7	2.4	4.9	1,423
Rift Valley	77.4	1.2	1.2	10.0	3.8	2.2	4.2	1,467
Western	80.4	0.8	1.2	6.4	5.4	4.8	0.9	745
Education								
No education	87.5	0.7	1.6	4.5	2.8	1.4	1.6	887
Primary incomplete	77.4	1.5	2.3	8.4	3.5	3.5	3.4	2,272
Primary complete	76.1	1.4	3.0	8.4	4.3	3.7	3.1	1,591
Secondary+	69.9	2.0	2.8	14.7	3.7	3.8	3.1	1,889
Total	76.3	1.5	2.5	9.7	3.6	3.4	3.0	6,639

Table 10.17.2 Willingness to pay for condoms: men

Percent distribution of men who know where to obtaincondoms, by willingness to pay for condoms and amount willing to pay for package of three condoms, according to selected background characteristics, Kenya 1998

Background characteristic	Not willing to pay for condoms	Willing to pay:					Don't know	Number of men
		<5 ksh	5 ksh	10 ksh	25 ksh	50 ksh		
Age								
15-19	30.0	6.4	11.3	39.3	4.8	4.6	3.8	440
20-24	31.9	4.2	11.9	38.5	5.4	5.4	2.7	536
25-29	41.5	5.8	7.5	31.4	4.6	6.2	3.1	458
30-39	50.1	5.0	8.2	23.5	4.0	5.2	3.9	789
40-49	67.3	4.9	5.1	14.2	3.1	2.3	3.1	566
50-54	71.5	2.9	5.6	11.6	1.1	0.2	7.0	183
Marital status								
Currently married	56.7	4.7	7.1	19.9	3.4	4.4	3.9	1,791
Formerly married	33.3	3.5	10.7	34.5	9.8	3.2	4.9	126
Never married	32.4	5.8	10.5	39.0	4.7	4.7	3.0	1,053
Residence								
Urban	50.4	2.6	6.0	30.9	3.7	3.8	2.7	844
Rural	45.8	6.0	9.4	25.8	4.2	4.7	4.0	2,127
Province								
Nairobi	56.3	1.3	3.2	24.7	4.4	5.1	5.1	405
Central	51.9	5.8	10.7	27.2	2.8	1.0	0.6	291
Coast	52.6	2.6	5.8	34.9	2.5	1.3	0.2	217
Eastern	36.6	8.1	11.5	34.4	5.7	1.7	2.0	540
Nyanza	31.2	9.0	16.7	25.6	5.5	2.4	9.6	565
Rift Valley	52.6	4.0	5.6	19.7	4.0	12.0	2.2	679
Western	63.8	0.0	0.2	33.3	0.6	0.5	1.6	275
Education								
No education	74.6	1.7	5.1	9.0	0.7	4.7	4.2	123
Primary incomplete	44.9	6.3	10.2	23.6	3.5	5.9	5.5	780
Primary complete	44.9	6.1	8.6	27.0	6.0	3.6	3.8	788
Secondary+	47.2	3.9	7.6	31.4	3.6	4.0	2.2	1,281
Total	47.1	5.0	8.5	27.3	4.1	4.4	3.6	2,971

10.13 Testing for the HIV/AIDS Virus

KDHS respondents were asked whether they had ever been tested for the HIV/AIDS virus. If they said that they had not, respondents were then asked if they would like to be tested. If they said they would like to be tested, respondents were asked if they knew of a specific place where they could go to get the test for the HIV/AIDS virus. The results for women and men are strikingly similar. Table 10.18 shows that 14 percent of women and 17 percent of men reported that they have already been tested for HIV/AIDS, with urban men and women, those with more education, and those in peak childbearing years (age 20-29 women; age 25-39 men) showing the highest levels of HIV/AIDS testing.

Of respondents who had not been tested, 63 percent of women and 66 percent of men said that they would like to be tested, 32 percent of both women and men said that they would not like to be tested, and 5 percent of women and 3 percent of men said that they were not sure. Socioeconomic differentials in desire to be tested for HIV/AIDS are small, with the exception of a small but significant urban-rural difference in women: 66 percent in rural areas, 54 percent in urban areas.

Table 10.18 Testing for HIV/AIDS

Among women and men who know of HIV/AIDS, the percentage who have been tested and among those not tested, the desire for testing, Kenya 1998

Background characteristic	Have been tested for HIV/AIDS	Number who know of HIV/AIDS	Among those not tested for HIV/AIDS, percentage who desire to be tested			Number not tested for HIV/AIDS
			Yes	No	Unsure	
WOMEN						
Age						
15-19	8.7	1,827	60.7	28.5	10.8	1,669
20-24	20.0	1,537	66.3	29.2	4.6	1,230
25-29	20.0	1,356	67.7	29.9	2.3	1,085
30-39	13.9	1,962	63.6	34.2	2.2	1,689
40-49	10.1	1,122	57.2	38.5	4.3	1,009
Marital status						
Currently married	15.9	4,785	64.6	32.6	2.8	4,024
Formerly married	15.9	668	63.6	33.5	3.0	562
Never married	10.8	2,351	60.1	29.8	10.1	2,097
Residence						
Urban	24.8	1,821	53.5	41.8	4.7	1,369
Rural	11.2	5,983	65.6	29.2	5.2	5,313
Education						
No education	7.2	860	58.3	36.3	5.4	799
Primary incomplete	9.4	2,871	64.8	29.2	5.9	2,601
Primary complete	15.8	1,773	67.4	29.3	3.3	1,493
Secondary+	22.2	2,300	59.1	35.6	5.3	1,790
Total	14.4	7,804	63.1	31.8	5.1	6,683
MEN						
Age						
15-19	6.8	805	63.1	35.2	1.7	750
20-24	17.2	581	70.6	26.6	2.8	481
25-29	23.7	462	71.6	26.0	2.4	352
30-39	22.8	789	66.3	31.2	2.5	610
40-49	17.1	565	62.0	34.6	3.4	469
50-54	16.5	183	56.2	40.2	3.6	153
Marital status						
Currently married	19.7	1,784	64.5	32.5	3.0	1,433
Formerly married	19.2	126	76.7	20.2	3.1	102
Never married	13.3	1,476	66.0	32.1	2.0	1,279
Residence						
Urban	27.2	909	65.7	31.9	2.4	661
Rural	13.1	2,477	65.5	31.9	2.6	2,153
Education						
No education	8.9	128	55.9	34.0	10.2	117
Primary incomplete	9.2	1,037	69.0	29.2	1.7	942
Primary complete	16.9	833	65.6	31.8	2.7	692
Secondary+	23.4	1,388	63.6	34.0	2.4	1,064
Total	16.9	3,386	65.6	31.9	2.5	2,814

Of respondents who reported that they would like to be tested for HIV/AIDS, 37 percent of women and 36 percent of men did not know where they could be tested, 54 percent of women and 57 percent of men cited a government-run facility, and 16 percent of women and 13 percent of men mentioned a private medical facility where they could be tested (Table 10.19). Urban respondents and respondents with more education were more likely to cite privately run health facilities.

Table 10.19 Knowledge of sources for HIV/AIDS testing

Percentage of women and men who have not been tested for HIV/AIDS, by knowledge of sources for HIV/AIDS testing and background characteristics, Kenya 1998

	Women					Men				
		Know source for HIV/AIDS testing					Know source for HIV/AIDS testing			
Background characteristic	Don't know a source	Public source	Private medical source	Other source	Number of women	Don't know a source	Public source	Private medical source	Other source	Number of men
Age										
15-19	49.3	42.6	11.6	0.3	1,014	47.6	46.1	9.4	0.0	473
20-24	33.0	55.4	18.4	0.7	815	31.9	60.0	14.6	1.5	340
25-29	27.5	63.5	18.0	0.4	735	25.3	62.7	16.8	0.9	252
30-39	34.4	57.2	15.0	0.4	1,075	34.2	60.6	11.7	0.0	404
40-49	37.9	53.9	16.4	0.2	577	31.8	61.9	12.1	0.3	291
50-54	NA	NA	NA	NA	NA	34.0	58.5	13.6	0.0	86
Marital status										
Never married	34.6	56.7	15.7	0.4	2,598	32.2	60.4	13.8	0.5	923
Currently married	31.8	60.0	19.0	0.6	357	27.8	66.6	8.6	3.4	78
Formerly married	43.4	46.7	14.3	0.4	1,261	40.1	52.8	11.5	0.1	844
Residence										
Urban	38.4	52.4	19.7	0.7	732	32.7	58.8	14.2	0.7	435
Rural	36.7	54.3	14.7	0.4	3,484	36.5	56.7	12.0	0.4	1,411
Education										
No education	48.1	42.3	15.0	0.1	466	51.3	46.6	2.0	0.0	65
Primary incomplete	43.4	48.2	13.0	0.2	1,687	48.8	45.8	8.8	0.0	650
Primary complete	31.7	59.2	15.2	0.4	1,006	37.6	56.3	11.3	0.8	454
Secondary+	26.9	63.4	20.2	0.9	1,058	20.1	69.7	17.9	0.7	677
Total	37.0	54.0	15.6	0.4	4,216	35.6	57.2	12.5	0.5	1,846

NA = Not applicable

Respondents who reported having already been tested for HIV/AIDS were asked where they were tested. Table 10.20 shows that 37 percent of women and 45 percent of men used a private facility to be tested for HIV/AIDS. Two conclusions may be drawn from these findings. First, in comparison with Table 10.19 (which looks at knowledge of a source amongst those who have not been tested), men and women who have actually been sufficiently motivated to seek and obtain an HIV/AIDS test chose private services to a greater extent than those who have not been tested to date and may have simply cited the facility nearest and most convenient to them. (The KDHS questionnaire did not ask whether the respondent would actually go to that facility if and when they decide to act on their desire to be tested.) When an individual reaches a point of actually having to find a source for him/herself, factors such as privacy and quality of services may become more important and cost and distance may become less important. A second conclusion is that men are marginally better able to avail themselves of the private services, which may reflect more discretionary income and greater mobility than women who cited greater use of government facilities.

As expected, private facilities were favoured for HIV/AIDS testing in urban areas and by those respondents with more education.

Table 10.20 Sources used for HIV/AIDS tests

Percent distribution of women and men who have been tested for HIV/AIDS by source used for HIV/AIDS test, according to background characteristics, Kenya 1998

Background characteristic	Women				Men			
	Public source	Private medical source	Other source	Number of women	Public source	Private medical source	Other source	Number of men
Age								
15-19	63.3	33.3	3.4	158	49.1	41.6	7.1	55
20-24	61.6	37.4	2.0	307	62.5	37.8	1.2	100
25-29	63.7	37.0	2.1	271	48.4	50.8	5.0	110
30-39	63.0	37.0	1.1	273	55.5	45.6	4.1	180
40-49	65.3	35.7	1.8	113	52.7	47.0	4.9	96
50-54	NA	NA	NA	NA	(61.9)	(46.0)	(4.9)	30
Marital status								
Currently married	62.2	38.0	1.7	761	54.0	46.5	4.7	351
Formerly married	*	*	*	*	*	*	*	24
Never married	68.0	30.1	2.6	254	54.2	43.0	3.9	196
Residence								
Urban	55.6	43.0	2.8	452	40.5	53.3	8.3	247
Rural	68.2	32.0	1.4	670	65.4	38.9	1.1	324
Education								
No education	*	*	*	*	*	*	*	11
Primary incomplete	70.0	30.9	0.1	270	55.9	42.8	4.2	95
Primary complete	67.8	31.9	2.0	280	63.9	41.0	0.0	141
Secondary+	55.4	43.4	2.9	510	49.8	47.9	6.2	324
Total	63.1	36.5	2.0	1,122	54.6	45.1	4.2	571

Note: Total includes 3 women and 2 men who said they did not know where they obtained their HIV/AIDS test. Figures in parentheses are based on 25-49 cases. An asterisk indicates that figure is based on less than 25 cases and has been suppressed.
NA = Not applicable

CHAPTER 11

ADULT AND MATERNAL MORTALITY

George Bicego and George Kichamu

Chapter 7 provided an assessment of mortality during the first years of life. Early childhood mortality varies substantially as an index of social and economic development and thus tends to be predictably high in disadvantaged settings. Mortality during later childhood and adolescence is, on the other hand, relatively low in all societies, but begins to rise with age starting in the late teenage years. The pattern and pace of the rise in adult mortality with increasing age is tied closely to the occupational profile, fertility pattern, and epidemiologic characteristics of a population. Two aspects of adult mortality dynamics are of particular interest in the Kenyan context. First, given the recent increase in the prevalence of HIV infection and AIDS (discussed in the previous chapter), Kenya is expected to suffer increases in both female and male adult mortality in the near term. Second, mortality related to pregnancy and childbearing (maternal mortality) is an important indicator for women's and reproductive health programmes in the country.

The 1998 KDHS women's questionnaire included a sibling history, which is a detailed account of the survivorship of all of the live-born children of the respondent's mother (i.e., maternal siblings). These data allow direct estimation of overall adult mortality (by sex), as well as maternal mortality in particular. The direct approach to estimating adult and maternal mortality maximises use of the available data, using information on the age of surviving siblings, the age at death of siblings who died, and the number of years ago the sibling died. This allows the data to be aggregated to determine the number of person-years of exposure to mortality risk and the number of sibling deaths occurring in defined calendar periods. Rates of maternal and adult mortality are obtained by dividing maternal (or all female or all male adult) deaths in a calendar period by person-years of exposure to death.

11.1 The Data

Each respondent was first asked to give the total number of her mother's live births. Then the respondent was asked to provide a list of all of the children born to her mother starting with the first-born, and whether or not each of these siblings was still alive at the survey date. For living siblings, current age was collected; for deceased siblings, age at death and years since death were collected. Interviewers were instructed that when a respondent could not provide precise information on ages or years ago, approximate but still quantitative answers were acceptable. For sisters who died at ages 10 years or above, three questions were used to determine if the death was maternity-related: "Was [NAME OF SISTER] pregnant when she died?" and, if negative, "Did she die during childbirth?" and, if negative, "Did she die within six weeks of the birth of a child or pregnancy termination?"

The estimation of adult and maternal mortality by either direct or indirect means requires reasonably accurate reporting of the number of sisters and brothers the respondent ever had, the number that have died, and (for maternal mortality) the number of sisters who have died of maternity-related causes. There is no definitive procedure for establishing the completeness or accuracy of retrospective data on sibling survivorship. However, the KDHS sibling history data do not show any obvious defects that would indicate poor data quality or systematic underreporting. Table 11.1 shows the number of siblings reported by the respondents and the completeness of the reported data on current age, age at death, and years since death.

Table 11.1 Data on siblings: completeness of the reported data

Number of siblings reported by survey respondents and completeness of the reported data on age, age at death, and years since death, Kenya 1998

Sibling status and completeness of reporting	Sisters		Brothers		Total	
	Number	Percent	Number	Percent	Number	Percent
All siblings	24,648	100.0	24,628	100.0	49,277	100.0
Living	21,742	88.2	21,409	86.9	43,151	87.6
Dead	2,902	11.8	3,213	13.0	6,115	12.4
Missing survival status	5	0.0	6	0.0	11	0.0
Living siblings	21,742	100.0	21,409	100.0	43,151	100.0
Age reported	21,545	99.1	21,201	99.0	42,746	99.1
Age missing	197	0.9	208	1	405	0.9
Dead siblings	2,902	100.0	3,213	100.0	6,115	100.0
AD and YSD reported	2,784	95.9	3,036	94.5	5,820	95.2
Only AD missing	13	0.5	28	0.9	41	0.7
Only YSD missing	45	1.6	55	1.7	100	1.6
AD and YSD missing	59	2.0	94	2.9	153	2.5

AD = Age at death
YSD = Years since death

Of the nearly 50,000 siblings reported in the sibling histories of KDHS respondents, survival status was not reported for only 11 (<0.1 percent). Among surviving siblings, current age (used to estimate exposure to death) was not reported for less than 1 percent of siblings. Among deceased siblings, complete reporting of age at death and years since death was nearly universal. For 95 percent of deceased siblings, both age at death and years since the death were reported. For only 3 percent of deceased siblings was both age at death and years since death not reported. Rather than exclude the small number of siblings with missing data from further analysis, information on the birth order of siblings in conjunction with other information was used to impute the missing data.[1] The sibling survivorship data, including cases with imputed values, were used in the direct estimation of adult and maternal mortality.

11.2 Direct Estimates of Adult Mortality

One way to assess the quality of data used to estimate maternal mortality is to evaluate the plausibility and stability of overall adult mortality. It is reasoned that if estimated rates of overall adult mortality are implausible, rates based on a subset of deaths—i.e., maternal deaths in particular—are unlikely to be free of serious problems. Also, as described above, levels and trends in overall adult mortality have important implications in their own right for health and social programs in Kenya, especially with regard to the potential impact of the AIDS epidemic.

[1] The imputation procedure is based on the assumption that the reported birth order of siblings is correct. The first step is to calculate birth dates. For each living sibling with a reported age and each dead sibling with complete information on both age at death and years since death, the birth date was calculated. For a sibling missing these data, a birth date was imputed within the range defined by the birth dates of the bracketing siblings. In the case of living siblings, an age was then calculated from the imputed birth date. In the case of dead siblings, if either the age at death or years since death was reported, that information was combined with the birth date to produce the missing information. If both pieces of information were missing, the distribution of the ages at death for siblings for whom the years since death was unreported but age at death was reported was used as a basis for imputing age at death.

Table 11.2 presents the age-specific rates of male and female mortality (15-49 years) for the seven-year period before the survey. Since the number of deaths on which the rates are based is not very large (only 527 female and 500 male deaths for ages 15-49), the estimated age-specific rates are subject to considerable sampling variation. Still, the age-specific estimates of mortality are surprisingly stable, showing expected increases in both male and female rates with increasing age. Male and female rates are roughly equal at age 15-19. For age group 20-34, female mortality far exceeds male mortality; whereas from age 35 onwards, male mortality climbs to levels much higher than those for women. The net effect of these opposing sex-specific age patterns is that the female mortality rate and male mortality rate for ages 15-49 are equal (4.7 deaths per 1,000 years of exposure). This is unusual since male mortality typically exceeds female mortality during these ages. This may indicate that male deaths have been underreported in the KDHS sibling histories (particularly at ages 15-29), but this cannot be established without further indepth analysis.

Table 11.2 Adult mortality rates

Direct estimates of age-specific mortality rates for women and men age 15-49 based on the survivorship of sisters and brothers of survey respondents for the period 0-6 years prior to survey, and model life tables, Kenya 1998

WOMEN

	Estimated female mortality rates			Coale-Demeny model life tables[a]		
Age	Female deaths	Exposure years	Mortality rates (000)	1979-1989 Intercensal estimate	Model North (62 years)	Model West (60 years)
15-19	49	23,007	2.13	2.5	2.6	2.5
20-24	106	24,928	4.26	3.4	3.3	3.3
25-29	111	22,893	4.85	3.5	3.8	3.9
30-34	118	18,184	6.47	3.7	4.3	4.4
35-39	63	12,913	4.89	4.2	5.0	5.2
40-44	55	7,621	7.21	5.0	6.0	6.1
45-49	27	3,756	7.28	6.4	6.9	7.7
15-49	529	113,302	4.65[b]	-	-	-

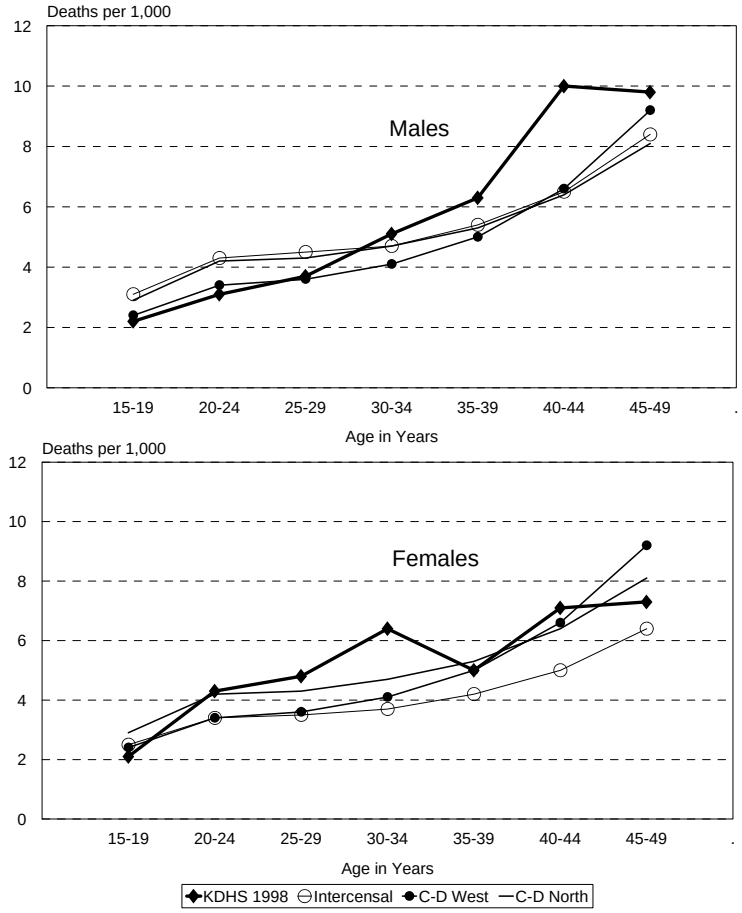
MEN

	Estimated male mortality rates			Coale-Demeny model life tables[a]		
Age	Male deaths	Exposure years	Mortality rates (000)	1979-1989 Intercensal estimate	Model North (58 years)	Model West (58 years)
15-19	51	22,412	2.29	3.1	3.0	2.6
20-24	77	24,707	3.13	4.3	4.4	3.7
25-29	81	21,759	3.72	4.5	4.6	3.9
30-34	93	17,661	5.25	4.7	4.9	4.4
35-39	79	12,507	6.34	5.4	5.6	5.4
40-44	79	7,799	10.07	6.5	6.8	7.1
45-49	40	4,082	9.77	8.4	8.5	9.6
15-49	500	110,927	4.68[b]	-	-	-

[a] Model life tables were selected at a level of mortality approximately corresponding to a sex-specific probability of dying between birth and age 5 for the period 0-9 years before the survey (i.e. 108 per thousand for males, 103 per thousand for females). Implied life expectancies given in parentheses.
[b] Age adjusted

Figure 11.1 shows the age-pattern of male and female mortality between ages 15 and 49, against age-specific rates produced from the 1989 census data[2] and as described in two model mortality schedules. Embodied in a model life table is a relationship between mortality during childhood and mortality during later years. Some models describe high child mortality relative to adult mortality levels; others describe low child mortality relative to adult mortality. So that by selecting model mortality schedules based on an observed under-five mortality level, one can assess whether adult rates are higher or lower than would be expected. Here, the KDHS under-five mortality estimates of 108 per thousand for males and 103 per thousand for females (from Table 7.3) are used as indices to enter the model mortality schedules: model North and model West of the Coale-Demeny life tables.

Figure 11.1
Adult Mortality by Sex and Age, 0-6 Years Preceding the 1998 KDHS: 1998 KDHS, 1979-89 Intercensal Estimate, and Two Model Life Tables



[2] Census estimates were produced from analysis of the 1979-89 intercensal period, using a Brass two-parameter logit life table and q(5) estimates to adjust the census-derived orphanhood data (CBS, 1996).

The figure shows that, until age 20-24 for women and age 30-34 for men, the KDHS rates are roughly within model expectations and consistent with the census-derived estimates, although male rates up to age 30 tend to be at the lower limit. Above age 30-34 for men and at ages 25-34 women, mortality from the KDHS data exceed census rates and rates described in the reference model schedules. Compared with the census estimates, KDHS female mortality in particular appears high. These findings indicate that underreporting of deceased siblings is unlikely to be a serious problem in the KDHS data, at least regarding mortality of women.

The fact that the estimated rates from the 1998 KDHS data exceed model rates and census-derived rates (for women at age 20-34 years and men above age 30) may be explained by the recent deterioration in adult survival prospects due to the AIDS epidemic. The KDHS sibling histories are not expected to capture the full mortality impact of the epidemic, since most HIV-infected individuals are now living. Should HIV prevalence levels continue to rise through the year 2000 as expected (FHI/AIDSCAP, 1996), adult mortality would climb further and the impact would then be captured in data obtained from later surveys.

A more detailed analysis of trends in adult mortality would be a useful extension to this line of inquiry; unfortunately, the sparseness of the KDHS sibling history data will not support a statistically reliable look across the relevant calendar periods.

11.3 Direct Estimates of Maternal Mortality

Direct, age-specific estimates of maternal mortality from the reported survivorship of sisters are shown in Table 11.3, for the period 0-9 years before the survey. The number of maternal deaths (160) is small, so that age-specific rates should not be overinterpreted—the preferred approach is to calculate one estimate for all childbearing ages (15-49 years). For the period 0-9 years before the survey (1989-1998), the rate of deaths due to causes related to pregnancy and childbearing years is 0.994 maternal deaths per 1,000 woman-years of exposure.[3] Maternal deaths represent 27 percent of all deaths to women age 15-49, a figure which is consistent with a plausible range established by Stanton et al., 1997 in their review of similar data collected around the world.

The maternal mortality rate can be converted to a maternal mortality ratio and expressed per 100,000 live births by dividing the rate by the general fertility rate of 0.168 operating during the same time period. In this way, the obstetrical risk of pregnancy and childbearing is underlined. By direct estimation procedures, the maternal mortality ratio is estimated to be 590 maternal deaths per 100,000 live births, applicable to the period 1989-1998.

Table 11.3 Direct estimates of maternal mortality

Maternal mortality rates for the period 0-9 years prior to the survey, based on the survivorship of sisters of survey respondents, Kenya 1998

Age	Maternal deaths	Exposure years	Mortality rates (\1000)
15-19	18.9	34,015	0.555
20-24	44.3	34,963	1.268
25-29	39.7	30,948	1.284
30-34	27.4	23,843	1.150
35-39	17.4	16,218	1.072
40-44	11.9	9,249	1.286
45-49	0.6	4,390	0.134
15-49	160.2	153,625	0.994[a]
General Fertility Rate (GFR)			0.168
Maternal Mortality Ratio (MMR)[b]			590

[a] Standardised on the 1998 KDHS household age structure
[b] Per 100,000 live births; calculated as the maternal mortality rate (ages 15-49) divided by the general fertility rate.

[3] The rate for the whole age range 15-49 is standardised on the KDHS household age structure.

CHAPTER 12

FEMALE CIRCUMCISION

Vane Nyong'a

Female circumcision (FC), referred to as female genital mutilation or "cutting" in many international forums, is the partial or complete cutting away of a woman's external genitalia. The practice takes various forms across Africa and, even within Kenya, the severity of the procedure varies. While FC is thought to be a cultural tradition in Kenya, its origin and underlying cultural rationale is not well understood or documented. The practice is neither medically necessary nor mandated on religious grounds (Toubia, 1995; Carr, 1997). In Kenya, three general types of FC are practiced:

- *Clitoridectomy,* removal of the prepuce or the partial or complete removal of the clitoris;
- *Excision,* removal of the clitoris and partial or complete removal of the labia minora; and
- *Infibulation,* removal of all external genitalia, stitching the edges together to leave a small opening for passage of urine and menstrual blood.

The KDHS women's questionnaire included a series of questions on practices and attitudes related to FC. Respondents were asked whether female circumcision was practiced in their community, whether the respondent was circumcised and, if so, at what age she was circumcised. All the women respondents were asked whether their eldest daughters were circumcised or whether they intended to have them circumcised. For those whose daughters had been circumcised, respondents were asked to report the age at which the operation was done, who performed the operation, where the operation was performed, and the instrument used in the operation. The survey sought to ascertain the severity of the circumcision by asking "what parts of the body were cut or removed." Information on who made or will make the decision to have the daughters circumcised was collected. Attitudinal questions were also asked on whether and why FC should be continued or discontinued.

12.1 Prevalence

Table 12.1 provides the KDHS results on the reported prevalence of circumcision amongst respondents age 15-49 and their eldest daughters. The data on eldest daughters were collected so as to provide a description of practices for a time period more recent than would be provided by looking at respondents alone, the oldest of which may have undergone the procedure 40 or more years ago. Because a woman's eldest daughter may still be at an age which precedes traditional or eventual age at circumcision, circumcision rates for daughters are calculated only for cases where the respondent's eldest daughter has reached 15 years of age.[1] A comparison of mothers' and daughters' circumcision status shows trends in the practice over time. Another way to examine recent prevalence levels is to look at respondents in the youngest age groups (e.g., 15-19 and 20-24).

[1] Without this adjustment, rates among daughters would have been understated substantially. It is acknowledged that, even with this adjustment procedure, the rates could still be slightly underestimated. The current solution, i.e., using a threshold age of 15, was based on an examination of the distribution of the data on age at circumcision. Raising the age threshold even higher would have reduced the effective sample size below acceptable levels and possibly introduced a bias in the daughters' estimates related to selection of mothers who survived to older ages (i.e., only older mothers have older daughters).

Table 12.1 Prevalence of female circumcision

Percentage of women circumcised and percentage of eldest daughters who have reached the age of 15 circumcised, by selected background characteristics, Kenya 1998

Background characteristic	Percentage of women circumcised	Number of women	Percentage of eldest daughters circumcised	Number of eldest daughters
Age of respondent				
15-19	26.0	1,851	NA	NA
20-24	32.2	1,548	NA	NA
25-29	40.4	1,371	NA	NA
30-34	40.9	986	NA	NA
35-39	49.3	991	NA	NA
40-44	47.4	637	NA	NA
45-49	47.5	497	NA	NA
Residence				
Urban	23.1	1,830	11.3	243
Rural	42.0	6,051	26.4	1,347
Mother's education				
No education	50.8	909	33.1	474
Primary incomplete	41.8	2,893	27.5	509
Primary complete	38.0	1,777	14.9	343
Secondary+	26.9	2,302	13.5	264
Ethnicity				
Kalenjin	62.2	992	33.1	195
Kamba	33.0	1,008	11.7	213
Kikuyu	42.5	1,414	17.6	241
Kisii	97.0	860	92.6	173
Luhya	1.6	1,142	2.2	242
Luo	1.2	1,074	1.0	237
Masai	88.8	113	(76.5)	27
Meru/Embu	54.2	564	36.6	119
Mijikenda/Swahili	12.2	391	5.3	76
Taita/Taveta	59.2	81	*	16
Other	19.2	234	(14.6)	48
Total	37.6	7,881	24.1	1,590

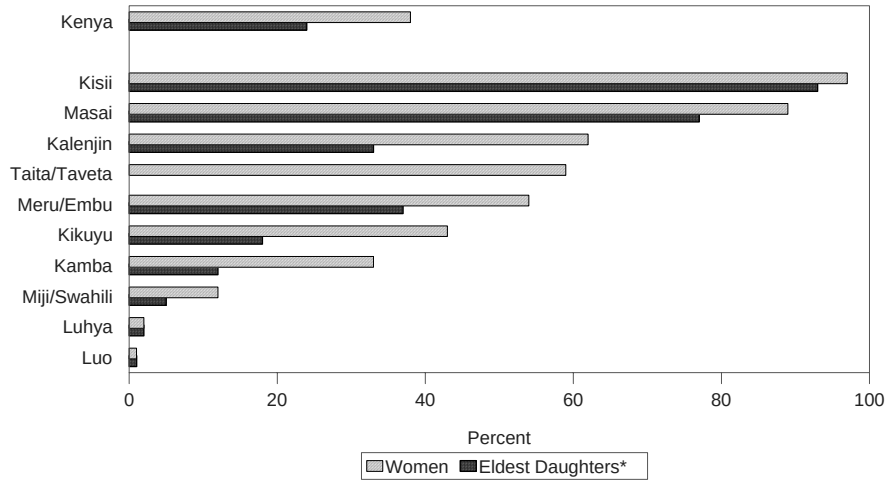
Note: Total includes 2 cases with ethnic group missing. Figures in parentheses are based on 25-49 cases. An asterisk indicates that figure is based on fewer than 25 cases and has been suppressed.

NA = Not applicable

Table 12.1 shows that 38 percent of Kenyan women age 15-49 have been circumcised. The proportion of women circumcised increases steeply with age, from 26 percent of women age 15-19 to nearly one-half of women age 35 and above. This age pattern suggests a decline in the practice of circumcision over the past two decades.

Differences across ethnic groups are striking (Figure 12.1). Among women reporting Luo and Luhya affiliation, circumcision is rare. Circumcision among Kisii women age 15-49 is nearly universal (97 percent) and the practice is very common among the Masai (89 percent), Kalenjin (62 percent), Taita/Taveta (59), and Meru/Embu (54 percent) groups. Lower percentages of Kikuyu (43 percent), Kamba (33 percent) and Mijikenda/Swahili (12 percent) women reported that they had been circumcised.

Figure 12.1
Prevalence of Circumcision among Women Age 15-49 and Their Eldest Daughters, by Ethnic Group



* Includes only eldest daughters who were age 15 by the survey date (see text for explanation).

Twenty-four percent of daughters (at least 15 years old) had been circumcised, a finding consistent with the prevalence rate of 26 percent in the youngest age group of respondents. In all ethnic groups, circumcision is less common in daughters than in mothers, but the extent of the difference (i.e., representing a generational decline in practice) varies. Among the Kisii and Masai, circumcision is still widely practiced. Even among the Meru, over one-third of daughters are still circumcised. On the other hand, circumcision has declined substantially among the Kikuyu to 18 percent and to 12 percent among the Kamba.

Circumcision is much more common in rural areas than urban areas and among women who have received little or no education than amongst more educated women. Urban-rural and education-related differentials are wider among daughters than their mothers, suggesting that factors associated with urbanisation and modernisation are causing the reduction in the practice of female circumcision.

The median age at circumcision amongst eldest daughters is 11-12 years of age (data not shown), although there is substantial variation. In the ethnic group for which the data allow confident assessment of age at circumcision, the Kisii, median age at circumcision is 9-10 years.

Of the 516 eldest daughters who were circumcised, 96 percent or all but 20 girls, were reported to have undergone a *clitoridectomy* (data not shown). Nineteen *excisions* and one *infibulation* were reported. These results should be interpreted in the context of the fact that the 4 percent of Kenya's national population not included in the KDHS sample (i.e., the whole of Northeastern Province and northern parts of Rift Valley and Eastern provinces) are disproportionately comprised of groups that favour the more extreme forms of FC. Also, to the extent that some respondents have been sensitised by messages emphasising the health risks of FC, women may knowingly understate the severity of the procedures. Lastly and perhaps most likely, mothers simply may not know precisely what tissues were cut from their daughter and consequently provide information that systematically understates the amount of tissue that was removed.

12.2 The Decision to Circumcise Daughters

In the KDHS a question was asked about who made the decision to have the eldest daughter circumcised. The question allowed for more than one person to be provided. It should be mentioned that in the results that follow, which refer to circumcised daughters as the unit of analysis, the observed patterns are heavily weighted toward those ethnic groups that have the highest prevalence rates. Thus, of the 516 eldest daughters who were circumcised 249, or almost one-half, are of Kisii affiliation.

Table 12.2 shows that among eldest daughters who were circumcised, the daughter's mother (i.e., the respondent) was involved in the decision more than half of the time (59 percent). The decision to circumcise also commonly involved the respondent's husband (13 percent), the respondent's mother (5 percent), the respondent's mother-in-law (5 percent), or other relative of the respondent (21 percent) or other relative of the respondent's husband (13 percent).

Table 12.2 Decisionmakers regarding female circumcision

Among women whose eldest daughters were circumcised, the percentage reporting that specific persons made the decision to circumcise, and percentage of daughters informed in advance about details of the procedure, by selected background characteristics, Kenya 1998

Background characteristic	Person who made decision to have daughter circumcised							Percentage of daughters informed about procedure	Number of women
	Respondent	Respondent's husband	Respondent's mother	Respondent's mother-in-law	Other relative of respondent	Other relative of husband	Other		
Age									
20-29	51.8	24.9	11.3	13.7	21.5	7.1	6.8	70.3	54
30-34	53.6	14.5	9.5	0.0	22.0	17.7	1.3	75.5	61
35-39	55.5	12.0	3.0	5.9	25.3	15.5	2.5	67.4	164
40-44	60.6	14.4	3.4	4.7	17.5	12.7	3.9	67.9	137
45-49	66.8	7.6	3.2	3.6	16.7	9.0	9.7	66.5	100
Residence									
Urban	(73.8)	(9.6)	(2.0)	(0.0)	(11.4)	(3.2)	(6.4)	(60.9)	46
Rural	57.0	13.8	5.0	5.8	21.7	13.8	4.4	69.4	470
Religion									
Catholic	54.8	17.9	6.0	6.3	21.4	11.8	3.9	72.1	182
Protestant/ other Christian	60.5	11.0	3.6	4.6	20.5	14.4	4.6	69.5	300
Other/none	(59.6)	(10.5)	(7.9)	(5.2)	(19.6)	(5.2)	(7.6)	(41.7)	34
Ethnicity									
Kalenjin	58.3	11.6	4.9	8.0	5.1	9.4	10.0	30.7	69
Kamba	(86.0)	(7.0)	(0.0)	(0.0)	(11.5)	(0.0)	(0.0)	(46.1)	39
Kikuyu	(76.4)	(3.6)	(5.2)	(0.0)	(14.8)	(3.6)	(3.0)	(75.2)	49
Kisii	52.0	18.7	4.6	5.0	28.8	21.5	2.0	89.1	249
Masai	(63.1)	(0.0)	(0.0)	(0.0)	(14.8)	(14.8)	(22.1)	(44.3)	24
Meru/Embu	43.8	14.4	7.2	17.5	22.4	1.9	5.3	64.2	52
Other	(67.5)	(7.8)	(9.9)	(0.0)	(14.2)	(0.0)	(6.7)	(35.1)	33
Total	58.5	13.4	4.8	5.3	20.7	12.9	4.6	68.6	516

Note: Figures in parentheses are based on 24-49 cases.

Involvement of the mother in the decision to circumcise the daughter rises with increasing age of the mother. In rural areas, other relatives of the circumcised daughters tend to be more involved in the decision to circumcise than in urban areas. This is consistent with the notion that community and familial pressure are important factors related to continuation of the practice. In the two ethnic groups with the highest prevalence (i.e., Kisii and Masai), there is considerable involvement of extended family members in the decision to circumcise girls.

In the KDHS, respondents were asked whether their circumcised daughters had been informed of "the details of the circumcision procedure" before the event. The results in Table 12.2 indicate that about two-thirds of girls were informed, but this varies from less than one-third among Kalenjin girls to nearly 9 in 10 Kisii girls. Other background differentials are small.

12.3 Circumstances of the Procedure

The persons who perform female circumcisions in Kenya vary (Table 12.3). One-half of eldest daughters' circumcisions were performed by circumcision practitioners, about one-quarter by nurses or midwives, and about one-tenth by traditional birth attendants. Doctors were reported to carry out 7 percent of circumcisions. A higher percentage of circumcisions are performed by doctors, nurses, and midwives amongst urban than rural dwellers and amongst the Kisii and Kikuyu than among other groups.

Table 12.3 Persons who perform female circumcision

Percent distribution of circumcised eldest daughters of respondents, by person who performed the circumcision, according to background characteristics of the respondent, Kenya 1998

Background characteristic	Person who performed circumcision						Total	Number of daughters
	Doctor	Nurse/ midwife	TBA	Circumcision practitioner	Other	Don't know/ missing		
Age								
20-29	7.9	44.0	5.0	38.1	0.0	5.0	100.0	54
30-34	14.6	39.0	12.2	33.2	0.0	1.0	100.0	61
35-39	9.1	32.5	7.8	47.3	0.0	3.4	100.0	164
40-44	3.6	13.6	24.0	55.1	0.0	3.8	100.0	137
45-49	3.8	21.4	5.9	65.5	1.8	1.6	100.0	100
Residence								
Urban	(17.8)	(29.3)	(5.2)	(38.1)	(0.0)	(9.6)	100.0	46
Rural	6.1	27.1	12.6	51.4	0.4	2.4	100.0	470
Religion								
Catholic	10.4	24.0	11.9	49.7	1.0	3.0	100.0	182
Protestant/Other Christian	4.9	31.1	11.1	49.4	0.0	3.4	100.0	300
Other/none	(9.5)	(11.1)	(19.1)	(60.2)	(0.0)	(0.0)	100.0	34
Ethnicity								
Kalenjin	3.5	26.4	23.7	36.8	2.6	7.0	100.0	69
Kamba	(4.5)	(13.3)	(0.0)	(77.3)	(0.0)	(4.9)	100.0	39
Kikuyu	(15.5)	(22.9)	(18.7)	(33.3)	(0.0)	(9.6)	100.0	49
Kisii	9.3	40.4	10.4	39.9	0.0	0.0	100.0	249
Masai	(0.0)	(7.4)	(0.0)	(92.6)	(0.0)	(0.0)	100.0	24
Meru/Embu	0.0	0.0	5.7	86.2	0.0	8.1	100.0	52
Other	(5.0)	(11.1)	(22.1)	(61.8)	(0.0)	(0.0)	100.0	33
Total	7.1	27.3	11.9	50.3	0.3	3.0	100.0	516

Note: Figures in parentheses are based on 24-49 cases.
TBA = Traditional birth attendant

The place where the circumcision takes place also varies (Table 12.4). For 46 percent of circumcisions, the daughter underwent the procedure at her own home. Another 26 percent of circumcisions took place in the home of the traditional practitioner. Most of the remaining circumcisions were performed either at another's home (18 percent) or elsewhere (9 percent).

The KDHS also asked a question regarding the particular instrument that was used to carry out the circumcision. Nine percent of respondents were not able to provide a response to this question. About three-quarters of respondents (74 percent) reported that a razor blade was used. Seventeen percent of respondents reported that their daughter was circumcised with a razor blade that was used on other girls who were being circumcised at the same time. Other instruments, such as a scalpel or a knife, were reported less frequently. Shared razor blades were more likely and scalpels less likely to be used for circumcision in rural areas than urban areas. The use of a shared razor blade decreases with decreasing age of the mother suggesting that there is a time trend towards increasing recognition of the hygienic risks associated with this practice.

Table 12.4 Place of circumcision and instrument used in circumcision

Percent distribution of circumcised eldest daughters of respondents by place of circumcision and instrument used in circumcision, according to background characteristics, Kenya 1998

	Place of circumcision						Instrument used in circumcision							
Background characteristic	Own home	Practi-tioner's home	An-other home	Other	Don't know	Total	Own razor blade	Shared razor blade	Scalpel	Knife	Other	Don't know	Total	Number of daughters
Age														
20-29	43.6	36.6	6.7	8.1	5.0	100.0	70.1	7.0	9.0	7.4	1.5	5.0	100.0	54
30-34	45.4	29.2	13.3	11.2	1.0	100.0	66.0	16.3	4.1	3.4	6.2	4.0	100.0	61
35-39	43.5	27.5	15.8	10.4	2.8	100.0	61.5	15.4	9.1	4.7	2.1	7.2	100.0	164
40-44	44.5	23.1	23.7	6.3	2.4	100.0	51.4	18.4	6.3	11.2	0.6	12.1	100.0	137
45-49	51.0	19.1	21.0	8.0	0.8	100.0	46.1	21.4	6.2	10.3	4.7	11.3	100.0	100
Residence														
Urban	(36.4)	(33.3)	(12.4)	(13.6)	(4.2)	(100.0)	(50.1)	(9.2)	(18.0)	(7.2)	(3.2)	(12.3)	(100.0)	46
Rural	46.3	25.2	18.2	8.2	2.1	100.0	58.0	17.3	6.1	7.7	2.6	8.3	100.0	470
Religion														
Catholic	43.1	29.6	15.9	8.4	3.0	100.0	57.0	20.4	7.1	5.0	2.1	8.4	100.0	182
Protestant/ other Christian	46.9	25.2	16.7	9.2	2.0	100.0	60.5	13.3	6.9	8.5	2.6	8.2	100.0	300
Other/none	(45.3)	(11.7)	(35.8)	(5.9)	(1.3)	(100.0)	(30.3)	(25.4)	(10.2)	(13.6)	(5.9)	(14.5)	(100.0)	34
Ethnicity														
Kalenjin	36.1	4.4	53.3	0.0	6.2	100.0	44.9	15.1	3.8	17.9	0.0	18.3	100.0	69
Kamba	(50.9)	(25.2)	(13.9)	(5.1)	(4.9)	(100.0)	(5.2)	(16.1)	(9.4)	(41.7)	(14.5)	(13.1)	(100.0)	39
Kikuyu	(23.7)	(33.6)	(18.3)	(21.3)	(3.0)	(100.0)	(27.7)	(13.1)	(14.8)	(5.1)	(4.6)	(34.6)	(100.0)	49
Kisii	41.3	37.3	9.8	11.2	0.4	100.0	71.3	17.5	6.8	1.9	1.5	1.0	100.0	249
Masai	(81.2)	(0.0)	(11.4)	(7.4)	(0.0)	(100.0)	(59.0)	(22.1)	(7.4)	(0.0)	(7.4)	(4.1)	(100.0)	24
Meru/Embu	73.3	6.6	12.9	1.9	5.3	100.0	78.0	7.2	5.7	0.0	0.0	9.1	100.0	52
Other	(52.5)	(22.7)	(18.5)	(5.0)	(1.4)	(100.0)	(49.0)	(29.2)	(5.0)	(10.5)	(0.7)	(5.5)	(100.0)	33
Total	45.5	25.9	17.7	8.7	2.3	100.0	57.3	16.6	7.2	7.6	2.6	8.7	100.0	516

Note: Figures in parentheses are based on 24-49 cases

12.4 Reasons for Continuation or Discontinuation of Female Circumcision

When all female respondents (age 15-49) were asked whether "female circumcision should be continued or discontinued?" 20 percent responded that the practice should continue, 73 percent said it should be stopped, and 7 percent were unsure (Table 12.5). Urban and better-educated women are more likely to favour discontinuing the practice than rural and less-educated women. Respondents were further asked to provide a reason or reasons for their attitude in favour of or against the practice.

Table 12.5 Attitudes toward continuation of female circumcision

Percent distribution of women age 15-49 by whether they favour continuation or discontinuation of female circumcision, according to urban-rural residence and education, Kenya 1998

Attitude toward female circumcision	Residence		Education				Total
	Urban	Rural	No education	Primary incomplete	Primary complete	Secondary+	
Favour continuation	12.3	22.1	30.4	24.2	16.0	13.0	19.8
Favour discontinuation	81.0	71.0	56.4	67.3	79.2	82.9	73.3
Not sure	6.6	7.0	13.2	8.5	4.8	4.0	6.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,830	6,051	909	2,893	1,777	2,303	7,881

Table 12.6 shows that, of those favouring continuation of female circumcision, 56 percent simply said that they felt that way because it was a tradition or custom. Forty-two percent said that it was a "good tradition/custom." Thirty percent of women responded that they were in favour of circumcision's continuation because it preserved a girl's virginity or prevented immorality, a response that is cited with increasing frequency as the education of the respondent increases. Eighteen percent of women reported that they felt a girl had better marriage prospects if she were circumcised. This attitude, along with the belief that circumcision is a "good tradition," decreases in frequency with increasing level of education of the respondent.

Table 12.6 Reasons for favouring continuation of female circumcision

Percentage of women age 15-49 who favour continuation of female circumcision by specific reasons for their attitude, according to residence and education level attained, Kenya 1998

Reason	Residence		Education				Total
	Urban	Rural	No education	Primary incomplete	Primary complete	Secondary+	
Good tradition	37.7	42.7	54.5	40.6	38.7	36.6	41.9
Custom/ tradition	48.2	57.6	52.7	59.4	54.7	53.9	56.3
Religious demand	6.7	4.5	3.8	3.8	4.9	8.2	4.9
Cleanliness	9.5	2.6	4.1	3.3	2.7	4.8	3.6
Better marriage prospects/life	12.2	18.8	19.7	19.1	18.1	12.8	17.8
Greater pleasure of husband	4.9	1.6	2.3	2.4	1.1	1.8	2.0
Preservation of virginity/ prevent immorality	35.4	29.4	20.5	27.8	34.4	41.1	30.3
Other	2.3	2.0	1.2	2.1	1.1	3.5	2.0
Don't know	1.9	1.4	0.2	2.1	0.9	1.6	1.5
Number of women who favour continuation	226	1,334	277	699	284	300	1,560

Note: Respondents were allowed to mention multiple reasons.

Over one-half of women who favour discontinuation of female circumcision said that they think circumcision is a "bad tradition" (Table 12.7). One-quarter of women cited potential medical complications as a reason to stop the practice. This response increases from 15 percent among women with no education to 37 percent among women with at least some secondary school. Other reasons frequently mentioned by women are that it is against their religion (23 percent), that it is a painful personal experience (18 percent), that it infringes on the dignity of women (14 percent), and that it prevents sexual satisfaction (10 percent).

Table 12.7 Reasons for favouring discontinuation of female circumcision

Percentage of women age 15-49 who favour discontinuation of female circumcision by specific reasons for their attitude, according to residence and education level attained, Kenya 1998

	Residence		Education				
Reason	Urban	Rural	No education	Primary incomplete	Primary complete	Secondary+	Total
Bad tradition	48.6	53.6	63.1	54.0	53.6	46.8	52.3
Against religion	19.2	23.8	26.4	22.9	23.7	20.4	22.6
Medical complications	34.1	21.8	15.3	16.3	24.5	36.6	24.9
Painful personal experience	22.6	16.2	20.4	15.7	17.9	19.4	17.9
Against dignity of women	15.9	12.9	12.8	11.4	12.6	17.0	13.7
Prevents sexual satisfaction	11.7	4.4	5.6	3.9	5.3	9.6	6.3
False status/limits education	5.5	6.7	5.7	6.4	5.4	7.2	6.4
Other	2.7	2.9	3.2	3.7	1.9	2.5	2.8
Don't know	2.7	2.7	0.9	4.1	2.9	1.5	2.7
Number of women favouring discontinuation	1,483	4,294	512	1,948	1,407	1,910	5,777

Note: Respondents were allowed to mention multiple reasons.

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APPENDIX A

SAMPLE DESIGN

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SAMPLE DESIGN

A.1 Introduction

The 1998 Kenya Demographic and Health Survey (KDHS) covered the population residing in private households[1] throughout the country, with the exception of sparsely-populated areas in the north of the country that together comprise about 4 percent of the national population.[2] Like the 1993 KDHS, the 1998 KDHS was designed to produce reliable national estimates as well as urban and rural estimates of fertility and childhood mortality rates, contraceptive prevalence, and various other health and population indicators. The design also allows for estimates of selected variables for the rural parts of 15 oversampled districts. Because of the relative rarity of maternal death, the maternal mortality ratio is estimated only at the national level.

In addition to the KDHS principal sample of women, a sub-sample of men age 15-54 were also interviewed to allow for the study of HIV/AIDS, family planning, and other selected topics.

A.2 Sampling Frame and First-stage Selection

THE KDHS UTILISED A TWO-STAGE, STRATIFIED SAMPLING APPROACH. The first step involved selecting sample points or "clusters"; the second stage involved selecting households within sample points from a list compiled during a special KDHS household listing exercise.

The 1998 KDHS sample points were the same as those used in the 1993 KDHS, and were selected from a national master sample (i.e., sampling frame) maintained by the Central Bureau of Statistics. From this master sample, called NASSEP-3,[3] were drawn 536 sample points: 444 rural and 92 urban.

Selected districts were oversampled in the 1998 KDHS in order to produce reliable estimates for certain variables at the district level. Fifteen districts were thus targeted in both the 1993 and 1998 KDHS: Bungoma, Kakamega, Kericho, Kilifi, Kisii, Machakos, Meru, Murang'a, Nakuru, Nandi, Nyeri, Siaya, South Nyanza, Taita-Taveta, and Uasin Gishu. In addition, Nairobi and Mombasa were targeted. Due to this oversampling, the 1998 KDHS is not self-weighting (i.e., sample weights are needed to produce national estimates).

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[1] Persons residing on state land (e.g., national parks, etc.) and in institutions, which account for less than one percent of the total population, were not included.

[2] The following districts were not included due to issues involving cost, logistics and security: Garissa, Mandera, Wajir, Isiola, Marsabit, Turkana, and Samburu.

[3] The updated, third National Sample Survey and Evaluation Programme (NASSEP-3) follows a two-stage stratified design, consisting of 1048 rural and 325 urban sample points ("clusters") selected from enumeration areas defined in the 1989 census exercise. The NASSEP-3, and thus the 1993 KDHS and 1998 KDHS, defines *urban* as population centers of 10,000 or more, plus all district headquarters regardless of size.

Within each of the 15 oversampled (rural) districts, about 400 households were selected. In all other rural areas combined, about 1,400 households were selected, and 2,000 households were selected in urban areas. The total number of households targeted for selection was thus approximately 9,400 households. Within each sampling stratum, implicit stratification was introduced by ordering the sample points geographically within the hierarchy of administrative units (i.e., sublocation, location, and district within province).

A.3 Selection of Households and Individuals

The Central Bureau of Statistics began a complete listing of households in all sample points during November 1997 and finished the exercise in February 1998. In the end, listing in 6 of 536 sample points[4] could not be completed (and were thus not included in the survey) due to problems of inaccesibility. From these 530 household lists, a systematic sample of households was drawn, with a "take" of 22 households in urban clusters and 17 households in the rural clusters for a total of 9,465 households. All women age 15-49 were targeted for interview in the selected households. Every second household was identified for inclusion in the male survey; in those households, all men age 15-54 were identified and considered eligible for individual interview.

A.4 Response Rates by Province

Tables A.1.1 and A.1.2 provide information regarding the level of response to the survey among households, eligible women, and eligible men according to province. Being the only province that is mostly urban-based, Nairobi Province experienced the lowest response rates.[5] The household response rate was 88 percent compared with 95-99 percent in the other provinces.

At the individual woman level, Nairobi Province again experienced relatively low response to the survey (92 percent) but no lower than Central Province (92 percent); other provinces had woman's response rates of 93-98 percent. For the male survey, response rates ranged from a low of 63 percent in Nairobi to 95 percent in Western Province.

The main reason for individual men and women not being interviewed is their absense from the household over an extended period (i.e., during the days when the survey teams were operating in those sample points). The lower response rates among men (especially in Nairobi) were due to the greater time they spend on trips or otherwise away from the household (e.g., work, social activity).

[4] Of the 6 selected clusters eventually not included, 5 are rural and 1 is urban.

[5] Non-response is often related to the mobility of eligible respondents, which is typically much greater in urban areas.

Table A.1.1 Sample implementation: Women

Percent distribution of households and eligible women and men in the DHS sample by result of the interview and household, eligible women, eligible men and overall response rates, according to province and urban rural area, Kenya 1998

	Province							Residence		
Result	Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	Urban	Rural	Total
Selected households										
Completed (C)	79.7	86.0	84.4	93.8	92.3	87.9	93.1	82.3	90.2	88.5
Household present but no competent respondent at home (HP)	5.7	2.6	3.1	0.8	0.5	0.9	0.4	3.8	1.1	1.7
Postponed (P)	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.1
Refused (R)	4.2	2.2	0.5	0.7	0.2	0.8	0.1	2.3	0.6	1.0
Dwelling not found (DNF)	0.6	0.2	0.2	0.0	0.1	0.7	0.0	0.2	0.3	0.3
Household absent (HA)	3.2	3.8	4.2	1.5	2.5	2.7	1.7	4.6	2.4	2.8
Dwelling vacant/address not a dwelling (DV)	5.5	4.4	5.6	2.2	3.2	5.2	4.4	5.9	4.0	4.4
Dwelling destroyed (DD)	0.8	0.9	1.7	0.9	1.0	1.8	0.3	0.5	1.4	1.2
Other (O)	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	616	1,283	1,544	1,186	1,497	2,333	1,006	2,002	7,463	9,465
Household response rate (HRR)[1]	88.3	94.6	95.6	98.4	98.9	97.4	99.5	92.7	97.8	96.8
Eligible women										
Completed (EWC)	91.9	91.5	93.4	96.4	98.4	97.2	96.7	93.0	96.4	95.7
Not at home (EWNH)	5.0	5.2	4.0	1.3	0.6	1.0	1.9	4.2	1.8	2.2
Refused (EWR)	1.8	1.5	0.7	0.7	0.4	0.7	0.4	1.5	0.6	0.8
Partly completed (EWPC)	0.0	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1
Incapacitated (EWI)	0.4	1.6	1.4	1.1	0.5	0.7	0.4	0.6	1.0	0.9
Other (EWO)	0.9	0.0	0.4	0.4	0.0	0.2	0.3	0.5	0.2	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	456	860	1,313	1,230	1,413	2,034	927	1,576	6,657	8,233
Eligible woman response rate (EWRR)[2]	91.9	91.5	93.4	96.4	98.4	97.2	96.7	93.0	96.4	95.7
Overall response rate (ORR)[3]	81.1	86.6	89.3	94.9	97.3	94.7	96.1	86.2	94.3	92.6

Note: The household response rate is calculated for completed households as a proportion of completed, no competent respondent, postponed, refused, and dwelling not found. The eligible woman response rate is calculated for completed interviews as a proportion of completed, not at home, postponed, refused, partially completed, incapacitated and "other." The overall response rate is the product of the household and woman response rates.

[1]Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + P + R + DNF}$$

[2]Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{EWC}{EWC + EWNH + EWP + EWR + EWPC + EWI + EWO}$$

[3]The overall response rate (ORR) is calculated as:

$$ORR = HRR * EWRR$$

Table A.1.2 Sample implementation: Men

Percent distribution of households and eligible women and men in the DHS sample by result of the interview and household, eligible women, eligible men and overall response rates, according to province and urban rural area, Kenya 1998

	Province							Residence		
Result	Nairobi	Central	Coast	Eastern	Nyanza	Rift Valley	Western	Urban	Rural	Total
Selected households										
Completed (C)	76.3	85.4	84.3	94.0	92.1	88.5	92.6	81.4	90.1	88.3
Household present but no competent respondent at home (HP)	7.8	2.7	2.9	0.7	0.4	0.8	0.6	4.1	1.1	1.7
Postponed (P)	0.0	0.0	0.1	0.0	0.3	0.1	0.0	0.1	0.1	0.1
Refused (R)	4.2	1.7	0.5	1.0	0.3	0.8	0.0	2.1	0.6	0.9
Dwelling not found (DNF)	0.6	0.2	0.3	0.0	0.0	0.7	0.0	0.3	0.3	0.3
Household absent (HA)	4.9	4.7	4.8	0.8	2.1	2.3	1.2	5.2	2.3	2.9
Dwelling vacant/address not a dwelling (DV)	4.9	4.7	5.5	2.3	4.0	5.0	5.4	6.1	4.2	4.6
Dwelling destroyed (DD)	1.0	0.6	1.3	1.2	0.8	1.9	0.2	0.4	1.3	1.1
Other (O)	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.3	0.0	0.1
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	308	638	784	604	746	1,164	503	1,001	3,746	4,747
Household response rate (HRR)[1]	85.8	94.9	95.7	98.3	99.0	97.4	99.4	92.5	97.7	96.7
Eligible men										
Completed (EMC)	62.5	78.3	86.8	93.7	93.9	92.3	94.6	76.7	92.0	88.6
Not at home (EMNH)	28.3	16.6	10.8	3.4	2.6	5.2	2.7	17.7	5.2	7.9
Postponed (EMP)	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Refused (EMR)	7.8	2.6	1.0	1.0	1.7	0.9	0.5	4.0	1.0	1.7
Partly completed (EMPC)	0.4	0.5	0.0	0.2	0.0	0.1	0.0	0.1	0.1	0.1
Incapacitated (EMI)	0.0	1.8	0.3	1.2	1.2	0.6	1.7	0.5	1.1	0.9
Other (EMO)	1.1	0.3	0.8	0.5	0.5	0.9	0.5	0.8	0.6	0.7
Total percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	269	392	613	590	577	996	408	855	2,990	3,845
Eligible man response rate (EMRR)[2]	62.5	78.3	86.8	93.7	93.9	92.3	94.6	76.7	92.0	88.6
Overall response rate (ORR)[3]	53.6	74.4	83.0	92.1	93.0	89.9	94.0	71.0	89.9	85.6

Note: The household response rate is calculated for completed households as a proportion of completed, no competent respondent, refused, and dwelling not found. The eligible man response rate is calculated for completed interviews as a proportion of completed, not at home, postponed, refused, partially completed, incapacitated and "other." The overall response rate is the product of the household and man response rates.

[1]Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{C}{C + HP + R + DNF}$$

[2]Using the number of eligible men falling into specific response categories, the eligible man response rate (EMRR) is calculated as:

$$\frac{EWC}{EMC + EMNH + EMP + EMR + EMPC + EMI + EMO}$$

[3]The overall response rate (ORR) is calculated as:

$$ORR = HRR * EMRR$$

APPENDIX B

ESTIMATES OF SAMPLING DESIGNS

APPENDIX B

ESTIMATES OF SAMPLING ERRORS

The estimates from a sample survey are affected by two types of errors: (1) nonsampling errors, and (2) sampling errors. Nonsampling (measurement) errors are the results of shortcomings in the implemention of data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 1998 Kenya Demographic and Health Survey (KDHS) to minimize this type of error, nonsampling errors are impossible to entirely avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 1998 KDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability between all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

A sampling error is usually measured in terms of the *standard error* for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95 percent of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 1998 KDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulae. The computer software used to calculate sampling errors for the 1998 Kenya Demographic and Health Survey (KDHS) is the ISSA Sampling Error Module. This module uses the Taylor linearization method of variance estimation for survey estimates that are means or proportions. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

The Taylor linearisation method treats any percentage or average as a ratio estimate, $r = y/x$, where y represents the total sample value for variable y, and x represents the total number of cases in the group or subgroup under consideration. The variance of r is computed using the formula given below, with the standard error being the square root of the variance:

$$v(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \left[\frac{m_h}{m_h - 1} \left(\sum_{i=1}^{m_h} z_h^2 - \frac{z_h^2}{m_h} \right) \right]$$

in which

$$z_h = y_h - r \cdot x_h \quad , \quad z_h = y_h - r \cdot x_h$$

where h represents the stratum which varies from 1 to H,
m_h is the total number of clusters selected in the h^{th} stratum,
y_{hi} is the sum of the weighted values of variable y in the i^{th} cluster in the h^{th} stratum,
x_{hi} is the sum of the weighted number of cases in the i^{th} cluster in the h^{th} stratum, and
f is the overall sampling fraction, which is so small that it is ignored.

The Jackknife repeated replication method derives estimates of complex rates from each of several replications of the parent sample, and calculates standard errors for these estimates using simple formulae. Each replication considers *all but one* clusters in the calculation of the estimates. Pseudo-independent replications are thus created. In the 1998 KDHS, there were 530 non-empty clusters. Hence, 530 replications were created. The variance of a rate r is calculated as follows:

$$\mathrm{var}^2(R) = \mathrm{var}(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1) r_{(i)}$$

where r is the estimate computed from the full sample of 530 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 529 clusters (i^{th} cluster excluded), and
k is the total number of clusters.

In addition to the standard error, ISSA computes the design effect (DEFT) for each estimate, which is defined as the ratio between the standard error using the given sample design and the standard error that would result if a simple random sample had been used. A DEFT value of 1.0 indicates that the sample design is as efficient as a simple random sample, while a value greater than 1.0 indicates the increase in the sampling error due to the use of a more complex and less statistically efficient design. ISSA also computes the relative error and confidence limits for the estimates.

Sampling errors for the 1998 KDHS are calculated for selected variables considered to be of primary interest. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for the seven surveyed provinces. For each variable, the type of statistic (mean, proportion, or rate) and the base population are given in Table B.1. Tables B.2 to B.11 present the value of the statistic (R), its standard error (SE), the number of unweighted (N) and weighted (WN) cases, the design effect (DEFT), the relative standard error (SE/R), and the 95 percent confidence limits (R±2SE), for each variable. The DEFT is considered undefined when the standard error considering simple random sample is zero (when the estimate is close to 0 or 1). In the case of the total fertility rate, the number of unweighted cases is not relevant, as there is no known unweighted value for woman-years of exposure to child-bearing.

The confidence interval (e.g., as calculated for *Children ever born to women aged 15-49*) can be interpreted as follows: the overall average from the national sample is 2.895 and its standard error is 0.034. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 2.895±2×0.034. There is a high probability (95 percent) that the *true* average number of children ever born to all women aged 15 to 49 is between 2.827 and 2.962. (The confidence interval should not be interpreted to mean that all values between 2.827 and 2.962 are equally likely to be the true value. Indeed, based on the assumption that the sample design is unbiased, the estimated value of 2.895 is the best estimate (most likely single value) of the average number of children ever born that can be inferred from the KDHS data.)

Sampling errors are analyzed for the national woman sample and for two separate groups of estimates: (1) means and proportions, and (2) complex demographic rates. The relative standard errors (SE/R) for the means and proportions range between 0.2 percent and 22.5 percent with an average of 4.2 percent. The highest relative standard errors are for estimates of very low values (e.g., *Women currently using contraceptive implants, or Norplant*). If estimates of very low values (less than 1 percent) were removed, than the average would drop to 2.4 percent. So in general, the relative standard errors for most estimates for the country as a whole are small, except for estimates of very small proportions (i.e. rare occurences). The relative standard error for the total fertility rate is small, 2.3 percent. However, for the childhood mortality rates, the average relative standard error is much higher, 5.5 to 8.0 percent.

There are differentials in subnational estimates of the relative standard error. For example, for the variable *With Secondary Education or higher*, the relative standard errors (i.e., as a percentage of the estimated proportion) for the whole country, for the urban areas, and for the Coast region are 3 percent, 3.9 percent, and 10.4 percent, respectively.

For the total sample, the value of the design effect (DEFT), averaged over all variables, is 1.26. This which means that, due to the sample design which involves multi-stage clustering, the average standard error is increased by 26 percent over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Kenya 1998

Variable	Estimate	Base population
	WOMEN	
Urban residence	Proportion	All women 15-49
No education	Proportion	All women 15-49
Secondary education or higher	Proportion	All women 15-49
Never married (in union)	Proportion	All women 15-49
Currently married (in union)	Proportion	All women 15-49
Married before age 20	Proportion	Women 25-49
Had first sexual intercourse before 18	Proportion	Women 25-49
Children ever born	Mean	All women 15-49
Children ever born to women over 40	Mean	Women age 40-49
Children surviving	Mean	All women 15-49
Know any contraceptive method	Proportion	Currently married women 15-49
Know any modern contraceptive method	Proportion	Currently married women 15-49
Ever used any contraceptive method	Proportion	Currently married women 15-49
Currently using any method	Proportion	Currently married women 15-49
Currently using a modern method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using IUD	Proportion	Currently married women 15-49
Currently using injections	Proportion	Currently married women 15-49
Currently using implants	Proportion	Currently married women 15-49
Currently using condom	Proportion	Currently married women 15-49
Currently using female sterilisation	Proportion	Currently married women 15-49
Currently using male sterilisation	Proportion	Currently married women 15-49
Currently using periodic abstinence	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Using public sector source	Proportion	Current users of modern method
Want no more children	Proportion	Currently married women 15-49
Want to delay at least 2 years	Proportion	Currently married women 15-49
Ideal number of children	Mean	All women 15-49
Mothers received tetanus injection	Proportion	Births in last 3 years
Mothers received medical care at birth	Proportion	Births in last 3 years
Had diarrhoea in the last 2 weeks	Proportion	Children under 3
Treated with ORS packets	Proportion	Children under 3 with diarrhoea in last 2 weeks
Consulted medical personnel	Proportion	Children under 3 with diarrhoea in last 2 weeks
Having health card, seen	Proportion	Children 12-23 months
Received BCG vaccination	Proportion	Children 12-23 months
Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
Received polio vaccination (3 doses)	Proportion	Children 12-23 months
Received measles vaccination	Proportion	Children 12-23 months
Fully immunised	Proportion	Children 12-23 months
Weight-for-height (< -2 SD)	Proportion	Children under 5 who were measured
Height-for-age (< -2 SD)	Proportion	Children under 5 who were measured
Weight-for-age (< -2 SD)	Proportion	Children under 5 who were measured
Total fertility rate (3 years)	Rate	Woman-years of exposure to childbearing
Neonatal mortality rate (10 years)	Rate	Number of births
Infant mortality rate (10 years)	Rate	Number of births
Child mortality rate (10 years)	Rate	Number of births
Under-five mortality rate (10 years)	Rate	Number of births
Postneonatal mortality rate (10 years)	Rate	Number of births
	MEN	
Urban residence	Proportion	All men 15-54
No education	Proportion	All men 15-54
Secondary education or higher	Proportion	All men 15-54
Never married (in union)	Proportion	All men 15-54
Currently married (in union)	Proportion	All men 15-54
Knowing any contraceptive method	Proportion	Currently married men 15-54
Knowing any modern contraceptive method	Proportion	Currently married men 15-54
Ever used any contraceptive method	Proportion	Currently married men 15-54
Currently using any method	Proportion	Currently married men 15-54
Currently using a modern method	Proportion	Currently married men 15-54
Currently using pill	Proportion	Currently married men 15-54
Currently using IUD	Proportion	Currently married men 15-54
Currently using injections	Proportion	Currently married men 15-54
Currently using implants	Proportion	Currently married men 15-54
Currently using condom	Proportion	Currently married men 15-54
Currently using female sterilisation	Proportion	Currently married men 15-54
Currently using male sterilisation	Proportion	Currently married men 15-54
Currently using periodic abstinence	Proportion	Currently married men 15-54
Currently using withdrawal	Proportion	Currently married men 15-54
Want no more children	Proportion	Currently married men 15-54
Want to delay at least 2 years	Proportion	Currently married men 15-54
Ideal number of children	Mean	All men 15-54

Table B.2 Sampling errors - National sample: Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.232	0.007	7881	7881	1.385	0.028	0.219	0.245
No education	0.115	0.005	7881	7881	1.454	0.045	0.105	0.126
Secondary education or higher	0.292	0.009	7881	7881	1.706	0.030	0.275	0.310
Never married (in union)	0.301	0.006	7881	7881	1.171	0.020	0.289	0.313
Currently married (in union)	0.613	0.006	7881	7881	1.157	0.010	0.601	0.626
Married before age 20	0.545	0.009	6029	6030	1.409	0.017	0.527	0.563
Had first sexual intercourse before 18	0.642	0.007	6029	6030	1.195	0.011	0.627	0.657
Children ever born	2.895	0.034	7881	7881	1.037	0.012	2.827	2.962
Children ever born to women over 40	6.622	0.095	1167	1134	1.138	0.014	6.432	6.811
Children surviving	2.566	0.029	7881	7881	1.026	0.011	2.508	2.625
Know any contraceptive method	0.983	0.002	4847	4834	1.111	0.002	0.979	0.987
Know any modern contraceptive method	0.977	0.003	4847	4834	1.476	0.003	0.971	0.983
Ever used any contraceptive method	0.641	0.009	4847	4834	1.251	0.013	0.623	0.658
Currently using any method	0.390	0.009	4847	4834	1.291	0.023	0.372	0.408
Currently using a modern method	0.315	0.009	4847	4834	1.297	0.027	0.297	0.332
Currently using pill	0.085	0.005	4847	4834	1.280	0.060	0.075	0.095
Currently using IUD	0.027	0.003	4847	4834	1.201	0.103	0.021	0.033
Currently using injectables	0.118	0.006	4847	4834	1.235	0.048	0.107	0.130
Currently using implants	0.008	0.002	4847	4834	1.448	0.225	0.005	0.012
Currently using condom	0.013	0.002	4847	4834	1.174	0.145	0.010	0.017
Currently using female sterilisation	0.062	0.005	4847	4834	1.327	0.074	0.053	0.071
Currently using male sterilisation	0.000	0.000	4847	4834	NA	NA	0.000	0.000
Currently using periodic abstinence	0.061	0.004	4847	4834	1.160	0.065	0.053	0.069
Currently using withdrawal	0.006	0.001	4847	4834	0.960	0.179	0.004	0.008
Using public sector source	0.580	0.015	1782	1860	1.306	0.026	0.549	0.610
Want no more children	0.471	0.008	4847	4834	1.170	0.018	0.454	0.488
Want to delay at least 2 years	0.250	0.007	4847	4834	1.167	0.029	0.236	0.265
Ideal number of children	3.822	0.030	7464	7501	1.388	0.008	3.763	3.881
Mothers received tetanus injection	0.899	0.006	3531	3464	1.136	0.007	0.887	0.911
Mothers received medical care at birth	0.444	0.012	3531	3464	1.366	0.028	0.419	0.468
Had diarrhoea in the last 2 weeks	0.171	0.008	3275	3205	1.196	0.047	0.155	0.187
Treated with ORS packets	0.369	0.023	538	549	1.094	0.061	0.324	0.415
Consulted medical personnel	0.443	0.025	538	549	1.151	0.056	0.393	0.492
Having health card, seen	0.554	0.017	1127	1097	1.146	0.031	0.520	0.589
Received BCG vaccination	0.959	0.007	1127	1097	1.122	0.007	0.945	0.972
Received DPT vaccination (3 doses)	0.792	0.016	1127	1097	1.283	0.020	0.760	0.823
Received polio vaccination (3 doses)	0.744	0.015	1127	1097	1.166	0.021	0.713	0.775
Received measles vaccination	0.792	0.014	1127	1097	1.164	0.018	0.764	0.821
Fully immunised	0.595	0.019	1127	1097	1.240	0.031	0.558	0.633
Weight-for-height (< -2 SD)	0.061	0.005	4517	4413	1.212	0.075	0.051	0.070
Height-for-age (< -2 SD)	0.330	0.008	4517	4413	1.136	0.026	0.313	0.347
Weight-for-age (< -2 SD)	0.221	0.008	4517	4413	1.193	0.036	0.205	0.237
Total fertility rate (3 years)	4.699	0.110	NA	21899	1.390	0.023	4.479	4.919
Neonatal mortality rate (10 years)	27.012	1.957	11341	11101	1.130	0.072	23.098	30.926
Infant mortality rate (10 years)	70.706	4.283	11354	11113	1.538	0.061	62.139	79.272
Child mortality rate (10 years)	37.147	2.936	11403	11166	1.412	0.079	31.275	43.019
Under-five mortality rate (10 years)	105.226	5.787	11418	11180	1.664	0.055	93.652	116.800
Postneonatal mortality rate (10 years)	43.694	3.478	11352	11112	1.592	0.080	36.737	50.650
MEN								
Urban residence	0.268	0.009	3407	3407	1.121	0.032	0.251	0.285
No education	0.038	0.005	3407	3407	1.429	0.122	0.029	0.048
Secondary education or higher	0.407	0.012	3407	3407	1.385	0.029	0.384	0.431
Never married (in union)	0.437	0.011	3407	3407	1.268	0.025	0.416	0.459
Currently married (in union)	0.526	0.011	3407	3407	1.245	0.020	0.504	0.547
Know any contraceptive method	0.992	0.002	1763	1791	1.108	0.002	0.988	0.997
Know any modern contraceptive method	0.986	0.004	1763	1791	1.534	0.004	0.978	0.995
Ever used any contraceptive method	0.815	0.010	1763	1791	1.063	0.012	0.796	0.835
Currently using any method	0.623	0.013	1763	1791	1.122	0.021	0.597	0.649
Currently using a modern method	0.391	0.015	1763	1791	1.275	0.038	0.361	0.420
Currently using pill	0.124	0.010	1763	1791	1.240	0.078	0.105	0.144
Currently using IUD	0.022	0.004	1763	1791	1.262	0.201	0.013	0.031
Currently using injectables	0.087	0.008	1763	1791	1.177	0.091	0.072	0.103
Currently using implants	0.011	0.003	1763	1791	1.279	0.292	0.005	0.017
Currently using condom	0.078	0.008	1763	1791	1.231	0.101	0.062	0.093
Currently using female sterilisation	0.066	0.007	1763	1791	1.246	0.112	0.051	0.081
Currently using male sterilisation	0.002	0.001	1763	1791	1.451	0.799	0.000	0.005
Currently using periodic abstinence	0.198	0.012	1763	1791	1.256	0.060	0.174	0.222
Currently using withdrawal	0.011	0.003	1763	1791	1.182	0.268	0.005	0.017
Want no more children	0.387	0.013	1763	1791	1.125	0.034	0.361	0.413
Want to delay at least 2 years	0.273	0.012	1763	1791	1.138	0.044	0.249	0.298
Ideal number of children	3.975	0.049	3214	3219	1.298	0.012	3.877	4.072

NA = Not applicable

Table B.3 Sampling errors - Urban sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	1.000	0.000	1466	1830	NA	0.000	1.000	1.000
No education	0.055	0.009	1466	1830	1.594	0.172	0.036	0.074
Secondary education or higher	0.494	0.019	1466	1830	1.476	0.039	0.455	0.532
Never married (in union)	0.353	0.016	1466	1830	1.320	0.047	0.320	0.386
Currently married (in union)	0.552	0.019	1466	1830	1.449	0.034	0.514	0.590
Married before age 20	0.410	0.022	1154	1422	1.526	0.054	0.366	0.454
Had first sexual intercourse before 18	0.559	0.017	1154	1422	1.185	0.031	0.525	0.594
Children ever born	1.908	0.066	1466	1830	1.207	0.034	1.776	2.039
Children ever born to women over 40	4.592	0.207	140	175	0.991	0.045	4.179	5.006
Children surviving	1.756	0.059	1466	1830	1.188	0.034	1.637	1.875
Know any contraceptive method	0.985	0.004	838	1010	0.950	0.004	0.977	0.993
Know any modern contraceptive method	0.985	0.004	838	1010	0.950	0.004	0.977	0.993
Ever used any contraceptive method	0.772	0.021	838	1010	1.472	0.028	0.729	0.814
Currently using any method	0.496	0.024	838	1010	1.403	0.049	0.447	0.544
Currently using a modern method	0.410	0.023	838	1010	1.366	0.057	0.363	0.456
Currently using pill	0.125	0.013	838	1010	1.160	0.106	0.098	0.151
Currently using IUD	0.058	0.010	838	1010	1.189	0.166	0.038	0.077
Currently using injectables	0.126	0.016	838	1010	1.359	0.123	0.095	0.158
Currently using implants	0.021	0.007	838	1010	1.503	0.354	0.006	0.036
Currently using condom	0.019	0.006	838	1010	1.176	0.291	0.008	0.030
Currently using female sterilisation	0.059	0.008	838	1010	1.011	0.140	0.042	0.075
Currently using male sterilisation	0.000	0.000	838	1010	NA	NA	0.000	0.000
Currently using periodic abstinence	0.069	0.010	838	1010	1.136	0.144	0.049	0.089
Currently using withdrawal	0.009	0.003	838	1010	1.027	0.364	0.003	0.016
Using public sector source	0.501	0.029	425	566	1.209	0.059	0.442	0.559
Want no more children	0.431	0.017	838	1010	0.993	0.039	0.397	0.465
Want to delay at least 2 years	0.256	0.016	838	1010	1.078	0.064	0.223	0.288
Ideal number of children	3.153	0.054	1414	1765	1.367	0.017	3.045	3.262
Mothers received tetanus injection	0.914	0.016	529	636	1.226	0.017	0.882	0.945
Mothers received medical care at birth	0.708	0.028	529	636	1.292	0.039	0.653	0.764
Had diarrhoea in the last 2 weeks	0.171	0.023	492	600	1.288	0.135	0.125	0.217
Treated with ORS packets	0.513	0.052	85	103	0.925	0.102	0.409	0.617
Consulted medical personnel	0.543	0.067	85	103	1.185	0.122	0.410	0.676
Having health card, seen	0.425	0.030	175	210	0.788	0.071	0.365	0.485
Received BCG vaccination	0.980	0.011	175	210	1.032	0.011	0.958	1.000
Received DPT vaccination (3 doses)	0.790	0.028	175	210	0.902	0.036	0.733	0.846
Received polio vaccination (3 doses)	0.720	0.035	175	210	1.002	0.048	0.650	0.789
Received measles vaccination	0.928	0.021	175	210	1.061	0.023	0.885	0.970
Fully immunised	0.583	0.042	175	210	1.096	0.072	0.499	0.666
Weight-for-height (< -2 SD)	0.051	0.009	617	751	0.905	0.172	0.034	0.069
Height-for-age (< -2 SD)	0.247	0.025	617	751	1.319	0.099	0.198	0.296
Weight-for-age (< -2 SD)	0.133	0.015	617	751	1.000	0.110	0.103	0.162
Total fertility rate (3 years)	3.118	0.194	NA	5232	1.395	0.062	2.729	3.507
Neonatal mortality rate (10 years)	20.350	3.810	1557	1899	0.997	0.187	12.730	27.969
Infant mortality rate (10 years)	55.444	8.370	1557	1899	1.376	0.151	38.703	72.185
Child mortality rate (10 years)	34.808	6.886	1565	1910	1.246	0.198	21.036	48.579
Under-five mortality rate (10 years)	88.321	9.970	1565	1910	1.268	0.113	68.382	108.261
Postneonatal mortality rate (10 years)	35.094	7.304	1557	1899	1.448	0.208	20.486	49.702
MEN								
Urban residence	1.000	0.000	656	913	NA	0.000	1.000	1.000
No education	0.023	0.006	656	913	1.095	0.278	0.010	0.036
Secondary education or higher	0.596	0.028	656	913	1.483	0.048	0.539	0.653
Never married (in union)	0.391	0.024	656	913	1.269	0.062	0.342	0.439
Currently married (in union)	0.581	0.023	656	913	1.210	0.040	0.534	0.628
Know any contraceptive method	0.996	0.002	385	531	0.718	0.002	0.992	1.000
Know any modern contraceptive method	0.996	0.002	385	531	0.718	0.002	0.992	1.000
Ever used any contraceptive method	0.880	0.017	385	531	1.032	0.019	0.846	0.914
Currently using any method	0.721	0.024	385	531	1.052	0.033	0.673	0.770
Currently using a modern method	0.482	0.030	385	531	1.177	0.062	0.422	0.542
Currently using pill	0.197	0.025	385	531	1.235	0.127	0.146	0.247
Currently using IUD	0.037	0.012	385	531	1.188	0.307	0.014	0.061
Currently using injectables	0.074	0.014	385	531	1.074	0.194	0.045	0.102
Currently using implants	0.011	0.007	385	531	1.258	0.606	0.000	0.025
Currently using condom	0.092	0.018	385	531	1.208	0.194	0.056	0.127
Currently using female sterilisation	0.064	0.018	385	531	1.448	0.282	0.028	0.100
Currently using male sterilisation	0.005	0.005	385	531	1.354	0.991	0.000	0.014
Currently using periodic abstinence	0.193	0.028	385	531	1.373	0.143	0.137	0.248
Currently using withdrawal	0.011	0.006	385	531	1.146	0.548	0.000	0.024
Want no more children	0.409	0.023	385	531	0.903	0.055	0.364	0.454
Want to delay at least 2 years	0.258	0.024	385	531	1.058	0.092	0.210	0.305
Ideal number of children	3.408	0.091	629	879	1.370	0.027	3.225	3.590

NA = Not applicable

Table B.4 Sampling errors - Rural sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.000	0.000	6415	6051	NA	NA	0.000	0.000
No education	0.134	0.006	6415	6051	1.446	0.046	0.121	0.146
Secondary education or higher	0.231	0.009	6415	6051	1.723	0.039	0.213	0.249
Never married (in union)	0.285	0.006	6415	6051	1.068	0.021	0.273	0.297
Currently married (in union)	0.632	0.006	6415	6051	0.978	0.009	0.620	0.644
Married before age 20	0.587	0.010	4875	4607	1.353	0.016	0.568	0.606
Had first sexual intercourse before 18	0.668	0.008	4875	4607	1.175	0.012	0.652	0.684
Children ever born	3.193	0.038	6415	6051	1.002	0.012	3.118	3.269
Children ever born to women over 40	6.991	0.094	1027	959	1.092	0.013	6.804	7.179
Children surviving	2.812	0.032	6415	6051	0.984	0.012	2.747	2.877
Know any contraceptive method	0.982	0.002	4009	3824	1.150	0.002	0.978	0.987
Know any modern contraceptive method	0.975	0.004	4009	3824	1.567	0.004	0.967	0.983
Ever used any contraceptive method	0.606	0.009	4009	3824	1.199	0.015	0.587	0.624
Currently using any method	0.362	0.009	4009	3824	1.236	0.026	0.343	0.380
Currently using a modern method	0.290	0.009	4009	3824	1.259	0.031	0.272	0.308
Currently using pill	0.075	0.005	4009	3824	1.313	0.073	0.064	0.086
Currently using IUD	0.019	0.003	4009	3824	1.161	0.132	0.014	0.024
Currently using injectables	0.116	0.006	4009	3824	1.175	0.051	0.104	0.128
Currently using implants	0.005	0.001	4009	3824	1.203	0.264	0.002	0.008
Currently using condom	0.012	0.002	4009	3824	1.147	0.165	0.008	0.016
Currently using female sterilisation	0.063	0.005	4009	3824	1.407	0.086	0.052	0.073
Currently using male sterilisation	0.000	0.000	4009	3824	NA	NA	0.000	0.000
Currently using periodic abstinence	0.059	0.004	4009	3824	1.156	0.073	0.050	0.067
Currently using withdrawal	0.005	0.001	4009	3824	0.879	0.196	0.003	0.007
Using public sector source	0.614	0.017	1357	1294	1.310	0.028	0.579	0.649
Want no more children	0.482	0.010	4009	3824	1.212	0.020	0.463	0.501
Want to delay at least 2 years	0.249	0.008	4009	3824	1.188	0.033	0.233	0.265
Ideal number of children	4.028	0.034	6050	5736	1.395	0.008	3.961	4.096
Mothers received tetanus injection	0.896	0.007	3002	2828	1.118	0.007	0.883	0.909
Mothers received medical care at birth	0.384	0.013	3002	2828	1.426	0.035	0.358	0.411
Had diarrhoea in the last 2 weeks	0.171	0.008	2783	2606	1.162	0.049	0.154	0.188
Treated with ORS packets	0.336	0.024	453	446	1.098	0.071	0.289	0.384
Consulted medical personnel	0.419	0.027	453	446	1.176	0.064	0.365	0.473
Having health card, seen	0.585	0.020	952	888	1.210	0.034	0.546	0.624
Received BCG vaccination	0.953	0.008	952	888	1.157	0.008	0.938	0.969
Received DPT vaccination (3 doses)	0.792	0.018	952	888	1.379	0.023	0.755	0.829
Received polio vaccination (3 doses)	0.750	0.017	952	888	1.214	0.023	0.715	0.784
Received measles vaccination	0.761	0.017	952	888	1.202	0.022	0.727	0.794
Fully immunised	0.598	0.021	952	888	1.280	0.035	0.557	0.640
Weight-for-height (< -2 SD)	0.062	0.005	3900	3662	1.284	0.082	0.052	0.073
Height-for-age (< -2 SD)	0.347	0.009	3900	3662	1.103	0.026	0.330	0.365
Weight-for-age (< -2 SD)	0.239	0.009	3900	3662	1.223	0.037	0.221	0.257
Total fertility rate (3 years)	5.165	0.110	NA	16667	1.305	0.021	4.944	5.385
Neonatal mortality rate (10 years)	28.385	2.222	9784	9203	1.165	0.078	23.941	32.830
Infant mortality rate (10 years)	73.820	4.862	9797	9214	1.583	0.066	64.096	83.543
Child mortality rate (10 years)	37.594	3.245	9838	9257	1.459	0.086	31.104	44.084
Under-five mortality rate (10 years)	108.638	6.637	9853	9270	1.742	0.061	95.365	121.912
Postneonatal mortality rate (10 years)	45.434	3.919	9795	9213	1.638	0.086	37.597	53.271
MEN								
Urban residence	0.000	0.000	2751	2494	NA	NA	0.000	0.000
No education	0.044	0.006	2751	2494	1.526	0.136	0.032	0.056
Secondary education or higher	0.339	0.012	2751	2494	1.278	0.034	0.315	0.362
Never married (in union)	0.454	0.012	2751	2494	1.239	0.026	0.431	0.478
Currently married (in union)	0.506	0.012	2751	2494	1.234	0.023	0.482	0.529
Know any contraceptive method	0.990	0.003	1378	1261	1.206	0.003	0.984	0.997
Know any modern contraceptive method	0.982	0.006	1378	1261	1.665	0.006	0.970	0.994
Ever used any contraceptive method	0.788	0.012	1378	1261	1.085	0.015	0.764	0.812
Currently using any method	0.582	0.015	1378	1261	1.132	0.026	0.552	0.612
Currently using a modern method	0.352	0.017	1378	1261	1.286	0.047	0.319	0.385
Currently using pill	0.094	0.009	1378	1261	1.116	0.093	0.077	0.112
Currently using IUD	0.015	0.004	1378	1261	1.232	0.265	0.007	0.024
Currently using injectables	0.093	0.009	1378	1261	1.210	0.102	0.074	0.112
Currently using implants	0.011	0.003	1378	1261	1.252	0.325	0.004	0.018
Currently using condom	0.072	0.008	1378	1261	1.180	0.115	0.055	0.088
Currently using female sterilisation	0.067	0.007	1378	1261	1.068	0.108	0.052	0.081
Currently using male sterilisation	0.001	0.001	1378	1261	0.924	1.000	0.000	0.002
Currently using periodic abstinence	0.200	0.012	1378	1261	1.143	0.062	0.176	0.225
Currently using withdrawal	0.011	0.003	1378	1261	1.167	0.301	0.004	0.017
Want no more children	0.378	0.016	1378	1261	1.210	0.042	0.346	0.409
Want to delay at least 2 years	0.280	0.014	1378	1261	1.152	0.050	0.252	0.308
Ideal number of children	4.188	0.058	2585	2340	1.329	0.014	4.071	4.304

NA = Not applicable

Table B.5 Sampling errors - Nairobi sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	1.000	0.000	419	770	NA	0.000	1.000	1.000
No education	0.012	0.004	419	770	0.760	0.338	0.004	0.020
Secondary education or higher	0.544	0.030	419	770	1.242	0.056	0.484	0.605
Never married (in union)	0.387	0.031	419	770	1.288	0.079	0.325	0.448
Currently married (in union)	0.530	0.034	419	770	1.384	0.064	0.462	0.597
Married before age 20	0.349	0.034	321	590	1.261	0.096	0.282	0.416
Had first sexual intercourse before 18	0.576	0.027	321	590	0.983	0.047	0.522	0.631
Children ever born	1.647	0.084	419	770	0.949	0.051	1.479	1.814
Children ever born to women over 40	4.136	0.258	44	81	0.895	0.062	3.620	4.652
Children surviving	1.549	0.083	419	770	0.990	0.053	1.384	1.714
Know any contraceptive method	0.995	0.004	222	408	0.979	0.004	0.987	1.000
Know any modern contraceptive method	0.995	0.004	222	408	0.979	0.004	0.987	1.000
Ever used any contraceptive method	0.838	0.039	222	408	1.562	0.046	0.760	0.915
Currently using any method	0.563	0.039	222	408	1.181	0.070	0.484	0.642
Currently using a modern method	0.468	0.037	222	408	1.106	0.079	0.394	0.543
Currently using pill	0.167	0.026	222	408	1.044	0.157	0.114	0.219
Currently using IUD	0.077	0.020	222	408	1.137	0.266	0.036	0.117
Currently using injectables	0.108	0.023	222	408	1.106	0.214	0.062	0.154
Currently using implants	0.023	0.015	222	408	1.472	0.652	0.000	0.052
Currently using condom	0.036	0.013	222	408	1.034	0.360	0.010	0.062
Currently using female sterilisation	0.054	0.012	222	408	0.772	0.217	0.031	0.078
Currently using male sterilisation	0.000	0.000	222	408	NA	NA	0.000	0.000
Currently using periodic abstinence	0.081	0.019	222	408	1.026	0.232	0.043	0.119
Currently using withdrawal	0.005	0.005	222	408	1.006	1.006	0.000	0.014
Using public sector source	0.448	0.052	143	263	1.257	0.117	0.343	0.552
Want no more children	0.441	0.030	222	408	0.913	0.069	0.380	0.502
Want to delay at least 2 years	0.243	0.028	222	408	0.958	0.114	0.188	0.299
Ideal number of children	2.916	0.065	405	745	1.043	0.022	2.786	3.046
Mothers received tetanus injection	0.882	0.034	119	219	1.128	0.039	0.814	0.951
Mothers received medical care at birth	0.765	0.059	119	219	1.425	0.077	0.647	0.882
Had diarrhoea in the last 2 weeks	0.129	0.046	116	213	1.392	0.353	0.038	0.221
Treated with ORS packets	0.533	0.090	15	28	0.660	0.169	0.353	0.713
Consulted medical personnel	0.600	0.112	15	28	0.844	0.186	0.377	0.823
Having health card, seen	0.409	0.041	44	81	0.553	0.100	0.327	0.491
Received BCG vaccination	0.977	0.020	44	81	0.885	0.020	0.937	1.000
Received DPT vaccination (3 doses)	0.750	0.047	44	81	0.717	0.062	0.656	0.844
Received polio vaccination (3 doses)	0.636	0.059	44	81	0.815	0.093	0.518	0.755
Received measles vaccination	0.932	0.034	44	81	0.899	0.037	0.863	1.000
Fully immunised	0.500	0.068	44	81	0.903	0.136	0.364	0.636
Weight-for-height (< -2 SD)	0.071	0.021	140	257	0.862	0.288	0.030	0.113
Height-for-age (< -2 SD)	0.257	0.044	140	257	1.129	0.171	0.169	0.345
Weight-for-age (< -2 SD)	0.114	0.026	140	257	0.970	0.225	0.063	0.166
Total fertility rate (3 years)	2.610	0.277	NA	2197	1.337	0.106	2.056	3.164
Neonatal mortality rate (10 years)	19.471	7.067	361	664	0.877	0.363	5.337	33.606
Infant mortality rate (10 years)	41.051	12.203	361	664	1.152	0.297	16.644	65.458
Child mortality rate (10 years)	26.128	11.385	362	665	1.171	0.436	3.357	48.898
Under-five mortality rate (10 years)	66.106	15.004	362	665	1.118	0.227	36.098	96.114
Postneonatal mortality rate (10 years)	21.579	7.735	361	664	1.030	0.358	6.109	37.050
MEN								
Urban residence	1.000	0.000	168	431	NA	0.000	1.000	1.000
No education	0.018	0.010	168	431	1.024	0.588	0.000	0.039
Secondary education or higher	0.655	0.049	168	431	1.324	0.074	0.557	0.752
Never married (in union)	0.417	0.041	168	431	1.075	0.098	0.335	0.499
Currently married (in union)	0.560	0.037	168	431	0.956	0.066	0.486	0.633
Know any contraceptive method	1.000	0.000	94	241	NA	0.000	1.000	1.000
Know any modern contraceptive method	1.000	0.000	94	241	NA	0.000	1.000	1.000
Ever used any contraceptive method	0.957	0.021	94	241	0.984	0.022	0.916	0.999
Currently using any method	0.862	0.036	94	241	1.014	0.042	0.789	0.934
Currently using a modern method	0.543	0.049	94	241	0.956	0.091	0.444	0.641
Currently using pill	0.255	0.041	94	241	0.910	0.161	0.173	0.338
Currently using IUD	0.032	0.020	94	241	1.071	0.612	0.000	0.071
Currently using injectables	0.053	0.024	94	241	1.014	0.444	0.006	0.100
Currently using implants	0.000	0.000	94	241	NA	NA	0.000	0.000
Currently using condom	0.117	0.031	94	241	0.924	0.263	0.055	0.179
Currently using female sterilisation	0.074	0.036	94	241	1.315	0.481	0.003	0.146
Currently using male sterilisation	0.011	0.010	94	241	0.981	0.981	0.000	0.032
Currently using periodic abstinence	0.255	0.055	94	241	1.213	0.215	0.146	0.365
Currently using withdrawal	0.011	0.010	94	241	0.981	0.981	0.000	0.032
Want no more children	0.479	0.031	94	241	0.589	0.064	0.418	0.540
Want to delay at least 2 years	0.223	0.036	94	241	0.831	0.161	0.152	0.295
Ideal number of children	3.166	0.116	163	418	1.137	0.037	2.933	3.398

NA = Not applicable

Table B.6 Sampling errors - Central sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.096	0.017	787	834	1.654	0.181	0.061	0.131
No education	0.047	0.008	787	834	1.118	0.180	0.030	0.064
Secondary education or higher	0.342	0.027	787	834	1.612	0.080	0.288	0.397
Never married (in union)	0.304	0.015	787	834	0.919	0.050	0.274	0.334
Currently married (in union)	0.620	0.017	787	834	0.989	0.028	0.585	0.654
Married before age 20	0.409	0.029	643	691	1.489	0.071	0.351	0.467
Had first sexual intercourse before 18	0.630	0.023	643	691	1.222	0.037	0.584	0.677
Children ever born	2.530	0.118	787	834	1.382	0.047	2.293	2.766
Children ever born to women over 40	5.928	0.284	117	121	1.235	0.048	5.359	6.496
Children surviving	2.428	0.112	787	834	1.361	0.046	2.205	2.651
Know any contraceptive method	0.990	0.005	481	517	1.099	0.005	0.981	1.000
Know any modern contraceptive method	0.989	0.005	481	517	1.079	0.005	0.978	0.999
Ever used any contraceptive method	0.825	0.019	481	517	1.109	0.023	0.786	0.863
Currently using any method	0.611	0.027	481	517	1.196	0.044	0.558	0.664
Currently using a modern method	0.548	0.030	481	517	1.328	0.055	0.487	0.608
Currently using pill	0.166	0.023	481	517	1.361	0.139	0.120	0.212
Currently using IUD	0.073	0.013	481	517	1.060	0.172	0.048	0.098
Currently using injectables	0.226	0.019	481	517	0.977	0.083	0.188	0.263
Currently using implants	0.003	0.002	481	517	0.883	0.734	0.000	0.007
Currently using condom	0.009	0.005	481	517	1.195	0.570	0.000	0.019
Currently using female sterilisation	0.071	0.014	481	517	1.195	0.198	0.043	0.099
Currently using male sterilisation	0.000	0.000	481	517	NA	NA	0.000	0.000
Currently using periodic abstinence	0.056	0.011	481	517	1.017	0.191	0.034	0.077
Currently using withdrawal	0.001	0.001	481	517	0.727	1.001	0.000	0.003
Using public sector source	0.595	0.032	315	335	1.163	0.054	0.531	0.659
Want no more children	0.567	0.025	481	517	1.123	0.045	0.516	0.617
Want to delay at least 2 years	0.201	0.026	481	517	1.444	0.132	0.148	0.254
Ideal number of children	3.065	0.075	764	810	1.654	0.025	2.914	3.216
Mothers received tetanus injection	0.913	0.015	282	306	0.878	0.016	0.884	0.942
Mothers received medical care at birth	0.686	0.030	282	306	1.039	0.044	0.625	0.746
Had diarrhoea in the last 2 weeks	0.092	0.015	272	296	0.843	0.159	0.063	0.121
Treated with ORS packets	0.424	0.148	21	27	1.520	0.349	0.128	0.721
Consulted medical personnel	0.449	0.095	21	27	0.964	0.211	0.260	0.638
Having health card, seen	0.548	0.084	76	81	1.476	0.153	0.380	0.716
Received BCG vaccination	1.000	0.000	76	81	NA	0.000	1.000	1.000
Received DPT vaccination (3 doses)	0.972	0.014	76	81	0.760	0.015	0.943	1.000
Received polio vaccination (3 doses)	0.797	0.051	76	81	1.116	0.064	0.694	0.900
Received measles vaccination	0.913	0.025	76	81	0.778	0.028	0.862	0.963
Fully immunised	0.708	0.060	76	81	1.144	0.084	0.589	0.827
Weight-for-height (< -2 SD)	0.056	0.014	376	414	1.214	0.249	0.028	0.083
Height-for-age (< -2 SD)	0.275	0.027	376	414	1.159	0.099	0.220	0.329
Weight-for-age (< -2 SD)	0.143	0.021	376	414	1.098	0.145	0.102	0.185
Total fertility rate (3 years)	3.670	0.262	NA	235	1.216	0.071	3.146	4.194
Neonatal mortality rate (10 years)	17.656	5.481	927	100	1.194	0.310	6.694	28.618
Infant mortality rate (10 years)	27.329	7.868	927	100	1.230	0.288	11.594	43.064
Child mortality rate (10 years)	6.294	2.940	926	100	1.124	0.467	0.414	12.173
Under-five mortality rate (10 years)	33.451	8.005	927	100	1.173	0.239	17.442	49.460
Postneonatal mortality rate (10 years)	9.673	4.354	926	100	1.187	0.450	0.965	18.382
MEN								
Urban residence	0.056	0.009	307	341	0.663	0.155	0.039	0.074
No education	0.015	0.008	307	341	1.123	0.515	0.000	0.031
Secondary education or higher	0.418	0.028	307	341	1.005	0.068	0.361	0.475
Never married (in union)	0.491	0.035	307	341	1.228	0.072	0.421	0.561
Currently married (in union)	0.476	0.037	307	341	1.289	0.077	0.402	0.549
Know any contraceptive method	0.989	0.008	145	162	0.941	0.008	0.972	1.000
Know any modern contraceptive method	0.989	0.008	145	162	0.941	0.008	0.972	1.000
Ever used any contraceptive method	0.790	0.032	145	162	0.931	0.040	0.727	0.853
Currently using any method	0.635	0.040	145	162	1.004	0.063	0.554	0.715
Currently using a modern method	0.511	0.047	145	162	1.134	0.092	0.417	0.606
Currently using pill	0.191	0.031	145	162	0.950	0.163	0.129	0.253
Currently using IUD	0.038	0.017	145	162	1.043	0.437	0.005	0.071
Currently using injectables	0.102	0.034	145	162	1.334	0.329	0.035	0.170
Currently using implants	0.000	0.000	145	162	NA	NA	0.000	0.000
Currently using condom	0.101	0.034	145	162	1.360	0.339	0.032	0.169
Currently using female sterilisation	0.079	0.025	145	162	1.117	0.318	0.029	0.129
Currently using male sterilisation	0.000	0.000	145	162	NA	NA	0.000	0.000
Currently using periodic abstinence	0.094	0.025	145	162	1.034	0.268	0.044	0.144
Currently using withdrawal	0.007	0.007	145	162	1.027	0.989	0.000	0.022
Want no more children	0.503	0.052	145	162	1.251	0.104	0.399	0.607
Want to delay at least 2 years	0.265	0.040	145	162	1.079	0.150	0.186	0.345
Ideal number of children	3.283	0.124	290	325	1.420	0.038	3.035	3.531

NA = Not applicable

Table B.7 Sampling errors - Coast sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.417	0.024	1226	605	1.720	0.058	0.369	0.466
No education	0.306	0.025	1226	605	1.900	0.082	0.256	0.356
Secondary education or higher	0.211	0.022	1226	605	1.884	0.104	0.167	0.255
Never married (in union)	0.252	0.016	1226	605	1.251	0.062	0.221	0.283
Currently married (in union)	0.616	0.016	1226	605	1.148	0.026	0.584	0.648
Married before age 20	0.626	0.025	962	474	1.575	0.039	0.577	0.675
Had first sexual intercourse before 18	0.514	0.019	962	474	1.149	0.036	0.477	0.551
Children ever born	2.839	0.088	1226	605	1.094	0.031	2.662	3.015
Children ever born to women over 40	6.278	0.362	194	94	1.767	0.058	5.554	7.001
Children surviving	2.509	0.071	1226	605	1.000	0.028	2.367	2.651
Know any contraceptive method	0.960	0.008	753	373	1.066	0.008	0.944	0.975
Know any modern contraceptive method	0.960	0.008	753	373	1.066	0.008	0.944	0.975
Ever used any contraceptive method	0.438	0.037	753	373	2.050	0.085	0.364	0.512
Currently using any method	0.221	0.018	753	373	1.191	0.081	0.185	0.258
Currently using a modern method	0.200	0.017	753	373	1.173	0.086	0.166	0.234
Currently using pill	0.054	0.010	753	373	1.158	0.176	0.035	0.073
Currently using IUD	0.011	0.005	753	373	1.303	0.453	0.001	0.021
Currently using injectables	0.074	0.010	753	373	1.052	0.135	0.054	0.094
Currently using implants	0.008	0.005	753	373	1.498	0.600	0.000	0.018
Currently using condom	0.011	0.004	753	373	1.038	0.356	0.003	0.019
Currently using female sterilisation	0.041	0.007	753	373	0.952	0.168	0.027	0.055
Currently using male sterilisation	0.000	0.000	753	373	NA	NA	0.000	0.000
Currently using periodic abstinence	0.012	0.003	753	373	0.821	0.271	0.006	0.019
Currently using withdrawal	0.005	0.002	753	373	0.676	0.353	0.001	0.008
Using public sector source	0.510	0.052	215	99	1.514	0.101	0.407	0.614
Want no more children	0.331	0.022	753	373	1.266	0.066	0.288	0.375
Want to delay at least 2 years	0.332	0.017	753	373	0.962	0.050	0.299	0.365
Ideal number of children	4.356	0.153	1129	546	2.210	0.035	4.049	4.663
Mothers received tetanus injection	0.904	0.018	536	284	1.420	0.019	0.869	0.939
Mothers received medical care at birth	0.363	0.027	536	284	1.256	0.074	0.309	0.417
Had diarrhoea in the last 2 weeks	0.152	0.020	498	263	1.228	0.129	0.113	0.191
Treated with ORS packets	0.546	0.063	71	40	1.104	0.115	0.420	0.671
Consulted medical personnel	0.633	0.078	71	40	1.404	0.123	0.478	0.789
Having health card, seen	0.658	0.049	186	100	1.477	0.075	0.559	0.757
Received BCG vaccination	0.948	0.031	186	100	1.996	0.033	0.885	1.000
Received DPT vaccination (3 doses)	0.813	0.034	186	100	1.240	0.042	0.745	0.881
Received polio vaccination (3 doses)	0.811	0.035	186	100	1.270	0.043	0.741	0.881
Received measles vaccination	0.916	0.025	186	100	1.275	0.027	0.866	0.966
Fully immunised	0.677	0.069	186	100	2.080	0.101	0.539	0.814
Weight-for-height (< -2 SD)	0.043	0.009	672	346	1.097	0.204	0.025	0.060
Height-for-age (< -2 SD)	0.391	0.019	672	346	0.968	0.048	0.353	0.429
Weight-for-age (< -2 SD)	0.274	0.016	672	346	0.946	0.060	0.241	0.307
Total fertility rate (3 years)	5.048	0.332	NA	1700	1.429	0.066	4.385	5.712
Neonatal mortality rate (10 years)	27.699	4.041	1654	861	0.952	0.146	19.617	35.780
Infant mortality rate (10 years)	69.844	13.826	1654	861	2.063	0.198	42.192	97.495
Child mortality rate (10 years)	27.859	6.663	1661	864	1.505	0.239	14.532	41.185
Under-five mortality rate (10 years)	95.757	14.515	1661	864	1.885	0.152	66.727	124.786
Postneonatal mortality rate (10 years)	42.145	13.399	1654	861	2.430	0.318	15.347	68.943
MEN								
Urban residence	0.508	0.024	532	242	1.111	0.047	0.459	0.556
No education	0.075	0.018	532	242	1.595	0.244	0.038	0.111
Secondary education or higher	0.381	0.030	532	242	1.425	0.079	0.321	0.441
Never married (in union)	0.444	0.021	532	242	0.991	0.048	0.401	0.487
Currently married (in union)	0.523	0.024	532	242	1.091	0.045	0.476	0.571
Know any contraceptive method	0.966	0.017	272	127	1.530	0.018	0.932	1.000
Know any modern contraceptive method	0.966	0.017	272	127	1.530	0.018	0.932	1.000
Ever used any contraceptive method	0.572	0.036	272	127	1.183	0.062	0.501	0.644
Currently using any method	0.454	0.028	272	127	0.926	0.062	0.398	0.510
Currently using a modern method	0.356	0.029	272	127	1.014	0.083	0.297	0.415
Currently using pill	0.123	0.028	272	127	1.416	0.229	0.067	0.180
Currently using IUD	0.018	0.008	272	127	0.950	0.425	0.003	0.033
Currently using injectables	0.099	0.020	272	127	1.078	0.198	0.060	0.138
Currently using implants	0.013	0.013	272	127	1.821	0.947	0.000	0.039
Currently using condom	0.065	0.017	272	127	1.170	0.270	0.030	0.100
Currently using female sterilisation	0.038	0.010	272	127	0.868	0.266	0.018	0.058
Currently using male sterilisation	0.000	0.000	272	127	NA	NA	0.000	0.000
Currently using periodic abstinence	0.065	0.014	272	127	0.934	0.215	0.037	0.093
Currently using withdrawal	0.017	0.013	272	127	1.652	0.759	0.000	0.043
Want no more children	0.232	0.032	272	127	1.243	0.137	0.169	0.296
Want to delay at least 2 years	0.381	0.031	272	127	1.064	0.082	0.318	0.444
Ideal number of children	4.311	0.134	506	224	1.365	0.031	4.044	4.578

NA = Not applicable

Table B.8 Sampling errors - Eastern sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.107	0.007	1186	1386	0.817	0.068	0.093	0.122
No education	0.100	0.012	1186	1386	1.406	0.123	0.075	0.124
Secondary education or higher	0.251	0.023	1186	1386	1.834	0.092	0.205	0.297
Never married (in union)	0.322	0.013	1186	1386	0.923	0.039	0.297	0.347
Currently married (in union)	0.595	0.014	1186	1386	0.973	0.023	0.567	0.622
Married before age 20	0.487	0.026	887	1039	1.549	0.053	0.435	0.539
Had first sexual intercourse before 18	0.638	0.020	887	1039	1.215	0.031	0.599	0.677
Children ever born	2.830	0.085	1186	1386	1.034	0.030	2.660	3.000
Children ever born to women over 40	6.560	0.200	191	216	1.052	0.030	6.160	6.960
Children surviving	2.575	0.071	1186	1386	0.961	0.028	2.433	2.718
Know any contraceptive method	0.998	0.002	702	824	1.296	0.002	0.993	1.000
Know any modern contraceptive method	0.995	0.003	702	824	1.254	0.003	0.989	1.000
Ever used any contraceptive method	0.747	0.021	702	824	1.260	0.028	0.706	0.788
Currently using any method	0.456	0.028	702	824	1.471	0.061	0.401	0.511
Currently using a modern method	0.360	0.028	702	824	1.539	0.077	0.305	0.416
Currently using pill	0.131	0.015	702	824	1.216	0.118	0.100	0.162
Currently using IUD	0.026	0.007	702	824	1.135	0.265	0.012	0.039
Currently using injectables	0.114	0.010	702	824	0.822	0.087	0.094	0.134
Currently using implants	0.011	0.004	702	824	1.052	0.377	0.003	0.019
Currently using condom	0.015	0.005	702	824	1.092	0.335	0.005	0.025
Currently using female sterilisation	0.064	0.012	702	824	1.338	0.194	0.039	0.088
Currently using male sterilisation	0.000	0.000	702	824	NA	NA	0.000	0.000
Currently using periodic abstinence	0.084	0.011	702	824	1.017	0.127	0.062	0.105
Currently using withdrawal	0.001	0.001	702	824	0.916	1.001	0.000	0.004
Using public sector source	0.581	0.035	324	364	1.275	0.060	0.511	0.651
Want no more children	0.542	0.018	702	824	0.958	0.033	0.506	0.578
Want to delay at least 2 years	0.228	0.015	702	824	0.968	0.067	0.197	0.259
Ideal number of children	3.538	0.070	1169	1364	1.581	0.020	3.397	3.678
Mothers received tetanus injection	0.928	0.008	484	584	0.669	0.009	0.912	0.944
Mothers received medical care at birth	0.481	0.038	484	584	1.589	0.080	0.404	0.558
Had diarrhoea in the last 2 weeks	0.197	0.020	455	546	1.053	0.100	0.158	0.237
Treated with ORS packets	0.307	0.043	84	108	0.895	0.139	0.222	0.393
Consulted medical personnel	0.372	0.061	84	108	1.178	0.163	0.250	0.493
Having health card, seen	0.693	0.037	148	173	0.948	0.054	0.618	0.768
Received BCG vaccination	0.979	0.014	148	173	1.184	0.014	0.952	1.000
Received DPT vaccination (3 doses)	0.862	0.032	148	173	1.118	0.037	0.799	0.926
Received polio vaccination (3 doses)	0.815	0.037	148	173	1.109	0.045	0.741	0.888
Received measles vaccination	0.866	0.037	148	173	1.332	0.043	0.791	0.941
Fully immunised	0.686	0.036	148	173	0.920	0.052	0.614	0.757
Weight-for-height (< -2 SD)	0.047	0.010	637	753	1.197	0.209	0.027	0.067
Height-for-age (< -2 SD)	0.368	0.024	637	753	1.190	0.066	0.319	0.417
Weight-for-age (< -2 SD)	0.257	0.019	637	753	1.009	0.074	0.219	0.294
Total fertility rate (3 years)	4.684	0.261	NA	3811	1.355	0.056	4.163	5.206
Neonatal mortality rate (10 years)	22.590	4.112	1519	1800	1.103	0.182	14.367	30.813
Infant mortality rate (10 years)	53.124	8.232	1520	1801	1.363	0.155	36.660	69.589
Child mortality rate (10 years)	26.080	7.808	1529	1812	1.815	0.299	10.463	41.696
Under-five mortality rate (10 years)	77.819	12.067	1530	1812	1.603	0.155	53.685	101.952
Postneonatal mortality rate (10 years)	30.534	6.261	1520	1801	1.312	0.205	18.012	43.056
MEN								
Urban residence	0.123	0.017	553	633	1.193	0.135	0.090	0.157
No education	0.028	0.011	553	633	1.621	0.405	0.005	0.051
Secondary education or higher	0.298	0.021	553	633	1.092	0.071	0.255	0.341
Never married (in union)	0.450	0.026	553	633	1.227	0.058	0.398	0.502
Currently married (in union)	0.486	0.027	553	633	1.278	0.056	0.431	0.540
Know any contraceptive method	1.000	0.000	265	307	NA	0.000	1.000	1.000
Know any modern contraceptive method	1.000	0.000	265	307	NA	0.000	1.000	1.000
Ever used any contraceptive method	0.959	0.012	265	307	1.009	0.013	0.935	0.984
Currently using any method	0.692	0.032	265	307	1.123	0.046	0.628	0.756
Currently using a modern method	0.431	0.044	265	307	1.454	0.103	0.343	0.520
Currently using pill	0.175	0.025	265	307	1.058	0.142	0.125	0.224
Currently using IUD	0.028	0.014	265	307	1.349	0.488	0.001	0.056
Currently using injectables	0.084	0.015	265	307	0.860	0.175	0.054	0.113
Currently using implants	0.015	0.008	265	307	1.018	0.512	0.000	0.030
Currently using condom	0.066	0.017	265	307	1.141	0.264	0.031	0.101
Currently using female sterilisation	0.064	0.017	265	307	1.104	0.260	0.031	0.097
Currently using male sterilisation	0.000	0.000	265	307	NA	NA	0.000	0.000
Currently using periodic abstinence	0.232	0.034	265	307	1.297	0.145	0.164	0.299
Currently using withdrawal	0.011	0.005	265	307	0.847	0.492	0.000	0.022
Want no more children	0.491	0.032	265	307	1.039	0.065	0.428	0.555
Want to delay at least 2 years	0.262	0.024	265	307	0.898	0.093	0.213	0.311
Ideal number of children	4.071	0.121	541	616	1.269	0.030	3.830	4.313

NA = Not applicable

Table B.9 Sampling errors - Nyanza sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.146	0.011	1390	1690	1.177	0.076	0.124	0.168
No education	0.107	0.010	1390	1690	1.202	0.093	0.087	0.127
Secondary education or higher	0.254	0.016	1390	1690	1.342	0.062	0.223	0.286
Never married (in union)	0.289	0.011	1390	1690	0.932	0.039	0.267	0.312
Currently married (in union)	0.620	0.012	1390	1690	0.920	0.019	0.596	0.644
Married before age 20	0.676	0.012	1020	1230	0.846	0.018	0.651	0.700
Had first sexual intercourse before 18	0.821	0.011	1020	1230	0.922	0.013	0.799	0.843
Children ever born	3.214	0.077	1390	1690	0.900	0.024	3.061	3.367
Children ever born to women over 40	7.396	0.214	208	235	1.035	0.029	6.968	7.824
Children surviving	2.592	0.062	1390	1690	0.897	0.024	2.469	2.715
Know any contraceptive method	0.996	0.003	875	1048	1.250	0.003	0.990	1.000
Know any modern contraceptive method	0.994	0.003	875	1048	1.200	0.003	0.988	1.000
Ever used any contraceptive method	0.538	0.019	875	1048	1.109	0.035	0.501	0.576
Currently using any method	0.282	0.018	875	1048	1.172	0.063	0.247	0.318
Currently using a modern method	0.250	0.015	875	1048	1.052	0.062	0.219	0.281
Currently using pill	0.034	0.005	875	1048	0.740	0.134	0.025	0.043
Currently using IUD	0.012	0.004	875	1048	1.153	0.354	0.004	0.020
Currently using injectables	0.107	0.014	875	1048	1.341	0.131	0.079	0.135
Currently using implants	0.006	0.004	875	1048	1.383	0.608	0.000	0.013
Currently using condom	0.008	0.004	875	1048	1.216	0.459	0.001	0.015
Currently using female sterilisation	0.084	0.014	875	1048	1.494	0.167	0.056	0.112
Currently using male sterilisation	0.000	0.000	875	1048	NA	NA	0.000	0.000
Currently using periodic abstinence	0.024	0.005	875	1048	1.070	0.233	0.013	0.035
Currently using withdrawal	0.004	0.003	875	1048	1.127	0.568	0.000	0.010
Using public sector source	0.618	0.030	243	307	0.951	0.048	0.559	0.678
Want no more children	0.424	0.018	875	1048	1.083	0.043	0.388	0.460
Want to delay at least 2 years	0.241	0.017	875	1048	1.141	0.068	0.208	0.274
Ideal number of children	4.124	0.053	1307	1600	1.081	0.013	4.019	4.229
Mothers received tetanus injection	0.880	0.017	624	753	1.202	0.019	0.846	0.913
Mothers received medical care at birth	0.382	0.021	624	753	1.022	0.055	0.341	0.424
Had diarrhoea in the last 2 weeks	0.177	0.019	530	641	1.132	0.107	0.139	0.214
Treated with ORS packets	0.341	0.061	97	113	1.226	0.179	0.219	0.463
Consulted medical personnel	0.371	0.053	97	113	1.041	0.142	0.266	0.477
Having health card, seen	0.471	0.042	183	224	1.126	0.089	0.387	0.555
Received BCG vaccination	0.929	0.019	183	224	1.000	0.020	0.891	0.967
Received DPT vaccination (3 doses)	0.662	0.053	183	224	1.513	0.081	0.555	0.768
Received polio vaccination (3 doses)	0.637	0.044	183	224	1.241	0.069	0.549	0.725
Received measles vaccination	0.619	0.041	183	224	1.150	0.067	0.536	0.701
Fully immunised	0.444	0.043	183	224	1.166	0.097	0.357	0.530
Weight-for-height (< -2 SD)	0.070	0.012	751	906	1.267	0.172	0.046	0.094
Height-for-age (< -2 SD)	0.308	0.019	751	906	1.068	0.060	0.271	0.345
Weight-for-age (< -2 SD)	0.222	0.017	751	906	1.044	0.075	0.189	0.255
Total fertility rate (3 years)	4.983	0.237	NA	4580	1.196	0.048	4.508	5.458
Neonatal mortality rate (10 years)	38.080	5.310	2105	2512	1.121	0.139	27.460	48.700
Infant mortality rate (10 years)	135.343	12.977	2113	2519	1.516	0.096	109.389	161.297
Child mortality rate (10 years)	73.432	8.616	2126	2537	1.170	0.117	56.199	90.664
Under-five mortality rate (10 years)	198.836	16.941	2134	2544	1.585	0.085	164.955	232.717
Postneonatal mortality rate (10 years)	97.263	10.886	2113	2519	1.503	0.112	75.491	119.034
MEN								
Urban residence	0.168	0.016	542	641	0.969	0.093	0.137	0.199
No education	0.022	0.007	542	641	1.096	0.314	0.008	0.036
Secondary education or higher	0.396	0.032	542	641	1.527	0.081	0.331	0.460
Never married (in union)	0.456	0.018	542	641	0.833	0.039	0.420	0.491
Currently married (in union)	0.506	0.017	542	641	0.798	0.034	0.472	0.540
Know any contraceptive method	1.000	0.000	270	324	NA	0.000	1.000	1.000
Know any modern contraceptive method	0.998	0.002	270	324	0.726	0.002	0.994	1.000
Ever used any contraceptive method	0.764	0.025	270	324	0.974	0.033	0.714	0.815
Currently using any method	0.441	0.028	270	324	0.913	0.063	0.386	0.497
Currently using a modern method	0.260	0.028	270	324	1.048	0.108	0.204	0.316
Currently using pill	0.063	0.017	270	324	1.137	0.268	0.029	0.096
Currently using IUD	0.011	0.007	270	324	1.027	0.586	0.000	0.025
Currently using injectables	0.061	0.018	270	324	1.218	0.291	0.026	0.097
Currently using implants	0.012	0.007	270	324	1.077	0.593	0.000	0.026
Currently using condom	0.031	0.009	270	324	0.825	0.282	0.013	0.048
Currently using female sterilisation	0.082	0.015	270	324	0.890	0.182	0.052	0.112
Currently using male sterilisation	0.000	0.000	270	324	NA	NA	0.000	0.000
Currently using periodic abstinence	0.170	0.021	270	324	0.911	0.123	0.128	0.211
Currently using withdrawal	0.005	0.005	270	324	1.107	0.999	0.000	0.014
Want no more children	0.291	0.033	270	324	1.200	0.114	0.225	0.358
Want to delay at least 2 years	0.329	0.029	270	324	1.019	0.089	0.270	0.387
Ideal number of children	4.494	0.114	495	590	1.090	0.025	4.267	4.721

NA = Not applicable

Table B.10 Sampling errors - Rift Valley sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.142	0.013	1977	1696	1.621	0.090	0.117	0.168
No education	0.145	0.015	1977	1696	1.897	0.104	0.115	0.175
Secondary education or higher	0.246	0.019	1977	1696	2.009	0.079	0.208	0.285
Never married (in union)	0.275	0.011	1977	1696	1.143	0.042	0.252	0.298
Currently married (in union)	0.642	0.011	1977	1696	0.988	0.017	0.621	0.663
Married before age 20	0.576	0.020	1527	1339	1.544	0.034	0.537	0.615
Had first sexual intercourse before 18	0.596	0.018	1527	1339	1.465	0.031	0.559	0.633
Children ever born	3.232	0.061	1977	1696	0.912	0.019	3.110	3.353
Children ever born to women over 40	7.030	0.167	265	228	0.977	0.024	6.696	7.363
Children surviving	2.981	0.054	1977	1696	0.894	0.018	2.873	3.090
Know any contraceptive method	0.952	0.008	1234	1089	1.298	0.008	0.936	0.968
Know any modern contraceptive method	0.929	0.013	1234	1089	1.844	0.015	0.902	0.956
Ever used any contraceptive method	0.576	0.018	1234	1089	1.248	0.030	0.541	0.611
Currently using any method	0.377	0.017	1234	1089	1.262	0.046	0.342	0.412
Currently using a modern method	0.264	0.016	1234	1089	1.284	0.061	0.231	0.296
Currently using pill	0.055	0.010	1234	1089	1.499	0.177	0.036	0.075
Currently using IUD	0.020	0.004	1234	1089	1.051	0.209	0.012	0.029
Currently using injectables	0.122	0.013	1234	1089	1.440	0.110	0.095	0.149
Currently using implants	0.006	0.003	1234	1089	1.216	0.443	0.001	0.011
Currently using condom	0.014	0.004	1234	1089	1.037	0.244	0.007	0.022
Currently using female sterilisation	0.046	0.007	1234	1089	1.123	0.146	0.032	0.059
Currently using male sterilisation	0.000	0.000	1234	1089	NA	NA	0.000	0.000
Currently using periodic abstinence	0.089	0.010	1234	1089	1.286	0.117	0.068	0.110
Currently using withdrawal	0.013	0.003	1234	1089	0.902	0.222	0.007	0.019
Using public sector source	0.619	0.036	395	349	1.472	0.058	0.547	0.691
Want no more children	0.479	0.019	1234	1089	1.334	0.040	0.441	0.517
Want to delay at least 2 years	0.257	0.016	1234	1089	1.284	0.062	0.225	0.289
Ideal number of children	4.223	0.071	1861	1605	1.464	0.017	4.081	4.365
Mothers received tetanus injection	0.884	0.013	1003	867	1.170	0.014	0.859	0.910
Mothers received medical care at birth	0.392	0.025	1003	867	1.529	0.065	0.341	0.442
Had diarrhoea in the last 2 weeks	0.182	0.017	951	824	1.341	0.092	0.148	0.215
Treated with ORS packets	0.382	0.040	159	150	1.097	0.106	0.301	0.462
Consulted medical personnel	0.529	0.042	159	150	1.121	0.080	0.444	0.613
Having health card, seen	0.512	0.034	332	290	1.249	0.067	0.444	0.581
Received BCG vaccination	0.963	0.013	332	290	1.259	0.013	0.937	0.989
Received DPT vaccination (3 doses)	0.839	0.027	332	290	1.336	0.032	0.786	0.893
Received polio vaccination (3 doses)	0.819	0.024	332	290	1.149	0.030	0.770	0.867
Received measles vaccination	0.837	0.022	332	290	1.087	0.026	0.793	0.881
Fully immunised	0.669	0.035	332	290	1.352	0.052	0.600	0.739
Weight-for-height (< -2 SD)	0.074	0.009	1291	1134	1.211	0.124	0.056	0.092
Height-for-age (< -2 SD)	0.331	0.014	1291	1134	1.027	0.042	0.303	0.359
Weight-for-age (< -2 SD)	0.249	0.018	1291	1134	1.404	0.071	0.214	0.284
Total fertility rate (3 years)	5.309	0.204	NA	4802	1.333	0.038	4.901	5.717
Neonatal mortality rate (10 years)	28.326	4.015	3302	2855	1.131	0.142	20.296	36.356
Infant mortality rate (10 years)	50.295	5.108	3302	2855	1.146	0.102	40.080	60.511
Child mortality rate (10 years)	18.452	3.101	3310	2862	1.246	0.168	12.249	24.655
Under-five mortality rate (10 years)	67.819	6.340	3311	2863	1.241	0.093	55.139	80.500
Postneonatal mortality rate (10 years)	21.969	3.118	3301	2855	1.094	0.142	15.733	28.206
MEN								
Urban residence	0.140	0.009	919	758	0.823	0.067	0.121	0.159
No education	0.066	0.014	919	758	1.731	0.214	0.038	0.095
Secondary education or higher	0.374	0.022	919	758	1.366	0.058	0.330	0.417
Never married (in union)	0.403	0.025	919	758	1.559	0.063	0.353	0.454
Currently married (in union)	0.575	0.024	919	758	1.493	0.042	0.526	0.624
Know any contraceptive method	0.989	0.006	509	436	1.385	0.007	0.976	1.000
Know any modern contraceptive method	0.965	0.016	509	436	1.976	0.017	0.933	0.997
Ever used any contraceptive method	0.867	0.021	509	436	1.424	0.025	0.824	0.910
Currently using any method	0.672	0.025	509	436	1.200	0.037	0.622	0.722
Currently using a modern method	0.346	0.025	509	436	1.185	0.072	0.296	0.396
Currently using pill	0.054	0.014	509	436	1.378	0.255	0.027	0.082
Currently using IUD	0.017	0.005	509	436	0.962	0.327	0.006	0.028
Currently using injectables	0.122	0.017	509	436	1.184	0.141	0.088	0.156
Currently using implants	0.015	0.009	509	436	1.621	0.591	0.000	0.032
Currently using condom	0.071	0.013	509	436	1.150	0.184	0.045	0.098
Currently using female sterilisation	0.061	0.010	509	436	0.957	0.166	0.041	0.081
Currently using male sterilisation	0.002	0.002	509	436	0.956	1.001	0.000	0.005
Currently using periodic abstinence	0.272	0.021	509	436	1.070	0.078	0.230	0.315
Currently using withdrawal	0.020	0.008	509	436	1.259	0.389	0.004	0.036
Want no more children	0.405	0.027	509	436	1.257	0.068	0.350	0.459
Want to delay at least 2 years	0.304	0.028	509	436	1.394	0.094	0.247	0.361
Ideal number of children	4.286	0.124	896	739	1.490	0.029	4.038	4.534

NA = Not applicable

Table B.11 Sampling errors - Western sample, Kenya 1998

Variable	Value (R)	Standard error (SE)	Number of cases: Unweighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.101	0.004	896	899	0.376	0.038	0.093	0.108
No education	0.122	0.012	896	899	1.109	0.099	0.098	0.146
Secondary education or higher	0.305	0.022	896	899	1.421	0.072	0.262	0.349
Never married (in union)	0.295	0.019	896	899	1.232	0.064	0.257	0.332
Currently married (in union)	0.640	0.019	896	899	1.213	0.030	0.601	0.679
Married before age 20	0.589	0.024	669	667	1.239	0.040	0.542	0.636
Had first sexual intercourse before 18	0.573	0.017	669	667	0.912	0.030	0.538	0.608
Children ever born	3.205	0.087	896	899	0.830	0.027	3.032	3.378
Children ever born to women over 40	6.973	0.215	148	159	0.920	0.031	6.543	7.403
Children surviving	2.760	0.076	896	899	0.850	0.028	2.607	2.912
Know any contraceptive method	0.998	0.002	580	575	1.080	0.002	0.994	1.000
Know any modern contraceptive method	0.998	0.002	580	575	1.080	0.002	0.994	1.000
Ever used any contraceptive method	0.623	0.022	580	575	1.096	0.035	0.579	0.668
Currently using any method	0.302	0.020	580	575	1.034	0.065	0.263	0.342
Currently using a modern method	0.219	0.018	580	575	1.053	0.083	0.183	0.256
Currently using pill	0.060	0.010	580	575	1.037	0.171	0.039	0.080
Currently using IUD	0.004	0.003	580	575	0.951	0.614	0.000	0.009
Currently using injectables	0.078	0.014	580	575	1.268	0.181	0.050	0.106
Currently using implants	0.009	0.005	580	575	1.352	0.580	0.000	0.020
Currently using condom	0.008	0.004	580	575	0.955	0.436	0.001	0.015
Currently using female sterilisation	0.060	0.011	580	575	1.106	0.181	0.038	0.082
Currently using male sterilisation	0.000	0.000	580	575	NA	NA	0.000	0.000
Currently using periodic abstinence	0.065	0.011	580	575	1.050	0.166	0.043	0.086
Currently using withdrawal	0.008	0.004	580	575	0.968	0.457	0.001	0.015
Using public sector source	0.652	0.046	147	145	1.162	0.070	0.561	0.744
Want no more children	0.466	0.027	580	575	1.318	0.059	0.411	0.520
Want to delay at least 2 years	0.285	0.019	580	575	1.025	0.068	0.246	0.323
Ideal number of children	4.134	0.052	829	831	0.787	0.013	4.029	4.238
Mothers received tetanus injection	0.917	0.015	483	451	1.128	0.017	0.886	0.948
Mothers received medical care at birth	0.330	0.033	483	451	1.403	0.100	0.264	0.396
Had diarrhoea in the last 2 weeks	0.197	0.020	453	423	1.014	0.102	0.157	0.237
Treated with ORS packets	0.309	0.054	91	83	1.097	0.176	0.201	0.418
Consulted medical personnel	0.330	0.061	91	83	1.179	0.184	0.208	0.451
Having health card, seen	0.614	0.042	158	148	1.056	0.069	0.530	0.699
Received BCG vaccination	0.944	0.018	158	148	0.970	0.019	0.907	0.981
Received DPT vaccination (3 doses)	0.722	0.046	158	148	1.251	0.064	0.629	0.814
Received polio vaccination (3 doses)	0.662	0.045	158	148	1.144	0.067	0.572	0.751
Received measles vaccination	0.658	0.045	158	148	1.158	0.069	0.567	0.748
Fully immunised	0.512	0.053	158	148	1.283	0.103	0.406	0.617
Weight-for-height (< -2 SD)	0.046	0.010	650	604	1.035	0.206	0.027	0.065
Height-for-age (< -2 SD)	0.350	0.025	650	604	1.180	0.071	0.300	0.399
Weight-for-age (< -2 SD)	0.191	0.023	650	604	1.368	0.122	0.144	0.237
Total fertility rate (3 years)	5.625	0.284	NA	2451	1.260	0.051	5.056	6.194
Neonatal mortality rate (10 years)	20.072	4.424	1473	1405	1.130	0.220	11.224	28.920
Infant mortality rate (10 years)	63.908	7.877	1477	1409	1.154	0.123	48.154	79.662
Child mortality rate (10 years)	62.543	6.834	1489	1422	1.046	0.109	48.875	76.212
Under-five mortality rate (10 years)	122.454	10.846	1493	1425	1.200	0.089	100.762	144.146
Postneonatal mortality rate (10 years)	43.837	6.736	1477	1409	1.203	0.154	30.364	57.309
MEN								
Urban residence	0.135	0.019	386	361	1.091	0.141	0.097	0.173
No education	0.049	0.014	386	361	1.242	0.280	0.021	0.076
Secondary education or higher	0.404	0.022	386	361	0.888	0.055	0.359	0.448
Never married (in union)	0.422	0.029	386	361	1.153	0.069	0.364	0.480
Currently married (in union)	0.536	0.030	386	361	1.194	0.057	0.475	0.597
Know any contraceptive method	0.985	0.009	208	193	1.037	0.009	0.968	1.000
Know any modern contraceptive method	0.985	0.009	208	193	1.037	0.009	0.968	1.000
Ever used any contraceptive method	0.559	0.035	208	193	1.001	0.062	0.490	0.628
Currently using any method	0.513	0.030	208	193	0.861	0.058	0.453	0.573
Currently using a modern method	0.379	0.037	208	193	1.107	0.098	0.305	0.454
Currently using pill	0.087	0.023	208	193	1.172	0.264	0.041	0.133
Currently using IUD	0.018	0.011	208	193	1.232	0.631	0.000	0.041
Currently using injectables	0.082	0.022	208	193	1.168	0.272	0.037	0.126
Currently using implants	0.015	0.010	208	193	1.248	0.712	0.000	0.035
Currently using condom	0.127	0.030	208	193	1.291	0.235	0.067	0.187
Currently using female sterilisation	0.050	0.017	208	193	1.147	0.347	0.015	0.085
Currently using male sterilisation	0.000	0.000	208	193	NA	NA	0.000	0.000
Currently using periodic abstinence	0.128	0.025	208	193	1.091	0.198	0.077	0.178
Currently using withdrawal	0.000	0.000	208	193	NA	NA	0.000	0.000
Want no more children	0.232	0.029	208	193	0.979	0.124	0.174	0.289
Want to delay at least 2 years	0.128	0.028	208	193	1.210	0.220	0.072	0.184
Ideal number of children	3.620	0.072	323	306	0.971	0.020	3.476	3.763

NA = Not applicable

APPENDIX C

DATA QUALITY TABLES

APPENDIX C

DATA QUALITY TABLES

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Kenya 1998

	Males		Females			Males		Females	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
0	568	3.2	516	2.8	37	136	0.8	148	0.8
1	560	3.2	523	2.8	38	175	1.0	246	1.3
2	547	3.1	534	2.9	39	119	0.7	155	0.8
3	519	2.9	481	2.6	40	264	1.5	203	1.1
4	495	2.8	513	2.8	41	105	0.6	128	0.7
5	501	2.8	508	2.8	42	112	0.6	134	0.7
6	609	3.4	528	2.9	43	108	0.6	113	0.6
7	585	3.3	544	2.9	44	85	0.5	99	0.5
8	640	3.6	567	3.1	45	208	1.2	145	0.8
9	512	2.9	532	2.9	46	89	0.5	100	0.5
10	639	3.6	662	3.6	47	73	0.4	81	0.4
11	486	2.7	466	2.5	48	117	0.7	100	0.5
12	630	3.6	600	3.3	49	91	0.5	82	0.4
13	547	3.1	638	3.5	50	180	1.0	166	0.9
14	513	2.9	549	3.0	51	47	0.3	131	0.7
15	423	2.4	415	2.2	52	82	0.5	137	0.7
16	438	2.5	382	2.1	53	63	0.4	101	0.5
17	331	1.9	301	1.6	54	60	0.3	98	0.5
18	423	2.4	460	2.5	55	98	0.6	134	0.7
19	281	1.6	353	1.9	56	86	0.5	102	0.6
20	357	2.0	371	2.0	57	74	0.4	60	0.3
21	225	1.3	290	1.6	58	81	0.5	120	0.7
22	264	1.5	345	1.9	59	64	0.4	61	0.3
23	220	1.2	315	1.7	60	128	0.7	163	0.9
24	238	1.3	273	1.5	61	42	0.2	43	0.2
25	272	1.5	331	1.8	62	72	0.4	57	0.3
26	191	1.1	272	1.5	63	57	0.3	41	0.2
27	233	1.3	226	1.2	64	45	0.3	41	0.2
28	271	1.5	340	1.8	65	86	0.5	106	0.6
29	201	1.1	256	1.4	66	34	0.2	35	0.2
30	357	2.0	300	1.6	67	27	0.2	45	0.2
31	108	0.6	123	0.7	68	48	0.3	82	0.4
32	200	1.1	214	1.2	69	31	0.2	37	0.2
33	162	0.9	179	1.0	70+	400	2.3	391	2.1
34	184	1.0	174	0.9	Missing/				
35	282	1.6	308	1.7	Don't know	16	0.1	20	0.1
36	173	1.0	174	0.9					
					Total	17,689	100.0	18,468	100.0

Note: The de facto population includes all residents and nonresidents who slept in the household the night before the interview.

Table C.2 Age distribution of eligible and interviewed women

Percent distribution of the de facto household population of women age 10-54, and of interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted) by five-year age groups, Kenya 1998

Age	Household population		Interviewed women		Percentage of eligible women interviewed (weighted)
	Number	Percent	Number	Percent	
10-14	2,916	NA	NA	NA	NA
15-19	1,912	23.5	1,815	23.3	94.9
20-24	1,594	19.6	1,535	19.7	96.3
25-29	1,425	17.5	1,376	17.7	96.6
30-34	990	12.2	949	12.2	95.8
35-39	1,031	12.7	987	12.7	95.7
40-44	676	8.3	643	8.3	95.1
45-49	507	6.2	484	6.2	95.5
50-54	633	NA	NA	NA	NA
15-49	8,136	NA	7,789	NA	95.7

Note: The de facto population includes all residents and nonresidents who slept in the household the night before interview.
NA = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Kenya 1998

Subject	Reference group	Percentage missing information	Number of cases
Birth date	Births in last 15 years		
Month only		2.1	16,020
Month and year		0.1	16,020
Age at death	Deaths to births in last 15 years	0.3	1,617
Age/date at first union[1]	Ever-married women	0.5	5,509
Respondent's education	All women	0.0	7,881
Child's size at birth	Births in last 59 months	2.8	1,606
Anthropometry[2]	Living children age 1-59 months		
Height missing		6.9	5,073
Weight missing		6.5	5,073
Height or weight missing		7.3	5,073
Diarrhoea in last 2 weeks	Living children age 1-59 months	1.4	3,205

[1] Both year and age missing
[2] Child not measured

Table C.4 Births by calendar years

Distribution of births by Western calendar years for living (L), dead (D), and all (T) children, according to reporting completeness, sex ratio at birth, and ratio of births by calendar year, Kenya 1998

	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar ratio[3]			Male			Female		
Year	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T	L	D	T
98	375	13	388	99.5	100.0	99.5	113.4	147.3	114.4	NA	NA	NA	199	8	207	176	5	181
97	1,106	83	1,189	99.7	100.0	99.7	105.9	102.7	105.7	151.5	135.7	150.3	569	42	611	537	41	578
96	1,085	109	1,194	99.2	99.7	99.3	98.3	94.6	97.9	105.5	129.1	107.3	538	53	591	547	56	603
95	950	86	1,036	99.1	100.0	99.2	98.0	136.8	100.7	91.2	74.4	89.5	470	50	520	480	36	516
94	999	123	1,122	99.5	100.0	99.6	105.0	106.6	105.2	107.7	127.8	109.6	511	63	575	487	60	547
93	905	106	1,011	99.8	100.0	99.8	102.9	99.9	102.6	87.7	78.7	86.7	459	53	512	446	53	499
92	1,065	146	1,212	98.8	97.8	98.6	114.1	127.1	115.6	118.7	135.7	120.5	568	82	650	498	65	562
91	890	110	1,000	97.9	98.2	97.9	105.6	132.5	108.3	86.1	76.4	84.9	457	63	520	433	47	480
90	1,002	141	1,143	97.4	97.8	97.5	100.6	122.3	103.0	107.3	127.8	109.5	502	78	580	499	63	563
89	977	111	1,088	97.3	96.4	97.2	95.8	83.3	94.4	NA	NA	NA	478	50	528	499	60	559
94-98	4,515	415	4,929	99.4	99.9	99.4	102.7	109.0	103.2	NA	NA	NA	2,288	216	2,504	2,227	198	2,425
89-93	4,839	614	5,453	98.2	98.0	98.2	103.8	112.8	104.7	NA	NA	NA	2,464	326	2,790	2,375	289	2,664
84-88	4,571	516	5,087	97.1	89.4	96.3	97.8	104.9	98.5	NA	NA	NA	2,260	264	2,524	2,311	252	2,563
79-83	3,230	414	3,643	96.9	91.4	96.3	102.0	111.1	103.0	NA	NA	NA	1,631	218	1,848	1,599	196	1,795
< 79	3,071	629	3,700	95.5	90.1	94.6	97.3	113.4	99.9	NA	NA	NA	1,515	334	1,849	1,556	295	1,851
All	20,226	2,587	22,813	97.6	93.6	97.1	100.9	110.4	101.9	NA	NA	NA	10,157	1,358	11,515	10,069	1,230	11,298

NA = Not applicable

[1] Both year and month of birth given

[2] $(B_m/B_f)*100$, where B_m and B_f are the numbers of male and female births, respectively

[3] $[2B_x/(B_{x-1}+B_{x+1})]*100$, where B_x is the number of births in calendar year *x*

Table C.5 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at ages 0-6 days, for five-year periods preceding the survey (unweighted), Kenya 1998

Age at death (in days)	Number of years preceding the survey				Total
	0-4	5-9	10-14	15-19	0-19
<1	68	52	52	28	200
1	14	24	24	18	79
2	13	5	10	9	38
3	10	4	12	8	35
4	4	3	2	7	16
5	2	10	1	5	17
6	5	1	8	0	14
7	13	15	10	6	44
8	1	0	1	0	2
9	0	2	0	0	3
10	0	0	2	0	2
11	0	0	1	0	1
12	0	0	1	1	2
13	0	0	1	0	2
14	8	14	9	9	41
16	0	0	1	0	1
18	0	0	1	0	1
20	2	0	0	0	2
21	4	5	3	2	13
22	0	2	0	1	3
25	2	0	0	0	2
27	0	0	0	1	1
28	5	5	1	0	11
29	2	1	0	0	3
30	0	3	1	2	6
Missing	0	1	0	0	1
Total 0-30[1]	153	144	142	97	537
Percent early neonatal[2]	75.7	68.2	76.8	77.2	74.2

[1] Includes cases for which age at death (in exact days) is not known
[2] (0-6 days/0-30 days) * 100

Table C.6 Reporting of age at death in months

Distribution of reported deaths under two years of age by age at death in months and the percentage of infant deaths reported to occur at ages under one month, for five-year periods preceding the survey (unweighted), Kenya 1998

Age at death (in months)	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1[a]	153	146	144	98	541
1	18	16	13	23	70
2	23	31	28	21	103
3	39	26	25	10	98
4	31	34	12	5	82
5	18	25	18	9	69
6	18	31	14	14	76
7	17	18	18	10	64
8	30	22	17	6	74
9	16	15	16	10	56
10	9	5	5	8	27
11	6	8	7	6	27
12	24	17	13	12	66
13	3	2	1	5	11
14	8	8	6	6	28
15	3	5	4	1	13
16	0	3	4	1	8
17	1	5	2	4	13
18	15	5	10	4	34
19	3	1	1	2	7
20	2	4	1	1	7
21	1	3	2	0	6
22	0	2	0	0	2
23	1	1	2	0	4
1 year	10	19	14	10	53
Total 0-11[b]	377	377	316	218	1,288
Percent neonatal[c]	40.6	38.7	45.6	44.8	42.0

[a] Includes deaths under 1 month reported in days
[b] Includes cases for which age at death (in exact months) is not known
[c] (under 1 month/under 1 year) * 100

APPENDIX D

PERSONS INVOLVED IN THE 1998 KENYA DEMOGRAPHIC AND HEALTH SURVEY

APPENDIX D
PERSONS INVOLVED IN THE 1998 KENYA DEMOGRAPHIC AND HEALTH SURVEY

KDHS HEAD OFFICE STAFF

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Gloria Chepngeno
Janet Chelangat
Linner Tonui

Betty Tonui
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Stella Bii
Willy Langat
Esther Mugo
Ruth Ireri
Jane Mwangi
Grace Mugare
Nancy Muchera
Rose Wacera
Esther Githitho
Elena Gichero
Duncan Ndirangu
Ndilai Resiani
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Nancy Githitho
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Binti Yanga
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Majuma Babu
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Mwanaulu Katera
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APPENDIX E

QUESTIONNAIRES

NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
CENTRAL BUREAU OF STATISTICS
KENYA DEMOGRAPHIC AND HEALTH SURVEY 3
HOUSEHOLD SCHEDULE

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IDENTIFICATION

PROVINCE _____ | |

DISTRICT _____ | | |

LOCATION/TOWN _____

SUBLOCATION/WARD _____

NASSEP CLUSTER NUMBER..... | | | | |

KDHS CLUSTER NUMBER..... | | | |

HOUSEHOLD NUMBER..... | | | |

NAIROBI/MOMBASA=1, SMALL CITY=2, TOWN=3, RURAL=4... |

NAME OF HOUSEHOLD HEAD _____

HOUSEHOLD SELECTED FOR MALE SURVEY? (YES=1, NO=2) |

INTERVIEWER VISITS	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY | | MONTH | | YEAR | |
INTERVIEWER'S NAME	_____	_____	_____	NAME | |
RESULT *	_____	_____	_____	RESULT |
NEXT VISIT: DATE	_____	_____		NO.OF VISITS |
TIME	_____	_____		TOTAL IN HOUSEHOLD | |

* RESULT CODES:
1 COMPLETED
2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL WOMEN 15-49 \| \|

MEN 15-54 \| \|

LINE NO. OF RESP. TO HOUSE HOLD SCHEDULE \| \|

LANGUAGE OF QUESTIONNAIRE: ENGLISH | 1 | 0 |

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME	_____	_____	_____	| |
DATE	_____	_____	_____	

&l1O (s0p16.67h8.5v0s0b0T &l8D &a10L

&dDHOUSEHOLD SCHEDULE &d@

Now we would like some information about the people who usually live in your household or who are staying with you now.

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATION TO HEAD OF HOUSEHOLD*	RESIDENCE		SEX	AGE	EDUCATION			PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 15 YEARS OLD***				ELIGIBILITY WOMEN	ELIGIBILITY MEN
							IF AGE 6 YEARS OR OLDER								
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household?	Does (NAME) usually live here?	Did (NAME) stay here last night?	Is (NAME) male or female?	How old is (NAME)?	Has (NAME) ever been to school?	IF ATTENDED SCHOOL: What is the highest level of school (NAME) attended? What is the highest grade (NAME) completed at that level?**	IF AGE LESS THAN 25 YEARS: Is (NAME) still in school?	Is (NAME)'s natural mother alive?	IF ALIVE: Does (NAME)'s natural mother live in this household? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER	Is (NAME)'s natural father alive?	IF ALIVE: Does (NAME)'s natural father live in this household? IF YES: What is his name? RECORD FATHER'S LINE NUMBER	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CIRCLE LINE NUMBER OF ALL MEN AGE 15-54
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(15A)
			YES NO	YES NO	M F	IN YEARS	YES NO	LEVEL GRADE	YES NO	YES NO DK		YES NO DK			
01			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		01	01
02			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		02	02
03			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		03	03
04			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		04	04
05			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		05	05
06			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		06	06
07			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		07	07

LINE (1)	RESIDENTS/VISITORS (2)	RELATION (3)	RESIDENCE (4)	RESIDENCE (5)	SEX (6)	AGE (7)	(8)	EDUCATION (9)	(10)	PARENTAL SURVIVORSHIP AND RESIDENCE (11)	(12)	(13)	(14)	ELIG. (15)	ELIG. (15A)
			YES NO	YES NO	M F	IN YEARS	YES NO	LEVEL GRADE	YES NO	YES NO DK		YES NO DK			
08			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		08	08
09			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		09	09
10			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		10	10
11			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		11	11
12			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		12	12
13			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		13	13
14			1 2	1 2	1 2		1 2		1 2	1 2 8		1 2 8		14	14

TICK HERE IF CONTINUATION SHEET USED ☐ NO. ELIGIBLE WOMEN ☐☐ NO. ELIGIBLE MEN ☐☐

Just to make sure that I have a complete listing:

1) Are there any other persons such as small children or infants that we have not listed? YES ☐ ENTER EACH IN TABLE NO ☐

2) In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here? YES ☐ ENTER EACH IN TABLE NO ☐

3) Are there any guests or temporary visitors staying here, or anyone else who slept here last night that have not been listed? YES ☐ ENTER EACH IN TABLE NO ☐

* CODES FOR Q.3
RELATIONSHIP TO HEAD OF HOUSEHOLD:
01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = CO-WIFE
10 = OTHER RELATIVE
11 = ADOPTED/FOSTER/STEP CHILD
12 = NOT RELATED
98 = DON'T KNOW

** CODES FOR Q.9
EDUCATION LEVEL:
1 = PRIMARY
2 = SECONDARY
3 = HIGHER
8 = DON'T KNOW

EDUCATION GRADE:
00 = LESS THAN 1 YEAR COMPLETED
98 = DON'T KNOW

*** Q.11 THROUGH Q.14:
These questions refer to the biological parents of the child. Record 00 if parent not member of household.

&l0O &a1L

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
16	What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO RESIDENCE/COMPOUND/PLOT....11 PUBLIC TAP.....12 WELL WATER WELL ON RESIDENCE/PLOT.....21 PUBLIC WELL.....22 SURFACE WATER RIVER/STREAM.....31 POND/LAKE.....32 RAINWATER.....41 OTHER_____ 96 (SPECIFY)	18 18 18
17	How long does it take to go there, get water, and come back?	MINUTES..... ☐☐☐ ON PREMISES.....996	
18	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PIT TOILET/LATRINE TRADITIONAL PIT TOILET.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 NO FACILITY/BUSH/FIELD.....31 OTHER_____ 96 (SPECIFY)	
19	Does your household have:	YES NO	
	Electricity?	ELECTRICITY.....1 2	
	A radio?	RADIO.....1 2	
	A television?	TELEVISION.....1 2	
	A telephone?	TELEPHONE.....1 2	
	A refrigerator?	REFRIGERATOR.....1 2	
20	How many rooms in your household are used for sleeping?	ROOMS..... ☐☐	
21	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	NATURAL FLOOR MUD/DUNG/SAND.....11 RUDIMENTARY FLOOR WOOD PLANKS.....21 FINISHED FLOOR POLISHED WOOD/VINYL/TILES....31 CEMENT.....34 OTHER_____ 96 (SPECIFY)	
22	MAIN MATERIAL OF THE ROOF. RECORD OBSERVATION.	GRASS/THATCH.....11 CORRUGATED IRON (MABATI).....21 TILES.....31 OTHER_____ 96 (SPECIFY)	
23	Does any member of your household own:	YES NO	
	A bicycle?	BICYCLE.....1 2	
	A motorcycle?	MOTORCYCLE.....1 2	
	A car?	CAR.....1 2	

NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
CENTRAL BUREAU OF STATISTICS
KENYA DEMOGRAPHIC AND HEALTH SURVEY 3
WOMAN'S QUESTIONNAIRE

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IDENTIFICATION

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

NASSEP CLUSTER NUMBER.....

KDHS CLUSTER NUMBER.....

HOUSEHOLD NUMBER.....

NAIROBI/MOMBASA=1, SMALL CITY=2, TOWN=3, RURAL=4...

NAME OF HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF WOMAN_____

INTERVIEWER VISITS	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY / MONTH / YEAR
INTERVIEWER'S NAME	_____	_____	_____	NAME
RESULT *	_____	_____	_____	RESULT
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS
TIME	_____	_____		

* RESULT CODES: 1 COMPLETED 4 REFUSED 7 OTHER_____
2 NOT AT HOME 5 PARTLY COMPLETED _____
3 POSTPONED 6 INCAPACITATED (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: ENGLISH 1 0

LANGUAGE USED IN INTERVIEW**.....

RESPONDENT'S LOCAL LANGUAGE**.....

TRANSLATOR USED (NOT AT ALL=1; SOMETIMES=2; ALL THE TIME=3).....

** LANGUAGE CODES:

01 KALENJIN	05 LUHYA	09 KISWAHILI
02 KAMBA	06 LUO	10 ENGLISH
03 KIKUYU	07 MERU/EMBU	11 MASAI
04 KISII	08 MIJIKENDA	12 OTHER

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME	_____	_____	_____	
DATE	_____	_____	_____	

&dDSECTION 1. RESPONDENT'S BACKGROUND &d@

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR..... [ ][ ] MINUTES..... [ ][ ]	
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you in Nairobi or Mombasa, in another town or city, or in the countryside?	NAIROBI/MOMBASA.....1 OTHER CITY/TOWN.....2 COUNTRYSIDE.....3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS..... [ ][ ] ALWAYS.....95 VISITOR.....96	105
104	Just before you moved here, did you live in Nairobi or Mombasa, in another city or town, or in the countryside?	NAIROBI/MOMBASA.....1 OTHER CITY/TOWN.....2 COUNTRYSIDE.....3	
105	In what month and year were you born?	MONTH..... [ ][ ] DON'T KNOW MONTH.....98 YEAR..... [1][9][ ][ ] DON'T KNOW YEAR.....9998	
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS..... [ ][ ]	
107	Have you ever attended school?	YES.....1 NO.....2	114
108	What is the highest level of school you attended: primary, secondary, or higher?	PRIMARY.....1 SECONDARY.....2 HIGHER.....3	
109	What is the highest (standard/form/year) you completed at that level?	STANDARD/FORM/YEAR..... [ ][ ]	
110	CHECK 106: AGE 24 OR BELOW [ ] AGE 25 OR ABOVE [ ]		113
111	Are you currently attending school?	YES.....1 NO.....2	113
112	What was the main reason you stopped attending school?	GOT PREGNANT.....01 GOT MARRIED.....02 TO CARE FOR YOUNGER CHILDREN...03 FAMILY NEEDED HELP ON FARM OR IN BUSINESS.....04 COULD NOT PAY SCHOOL FEES.....05 NEEDED TO EARN MONEY.....06 COMPLETED/HAD ENOUGH SCHOOLING.07 DID NOT PASS ENTRANCE EXAMS....08 DID NOT LIKE SCHOOL.....09 SCHOOL NOT ACCESSIBLE/TOO FAR..10 OTHER_____ 96 (SPECIFY) DON'T KNOW.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
113	CHECK 108: PRIMARY ☐ SECONDARY OR HIGHER ☐		115
114	Can you read and understand a letter or newspaper easily, with difficulty, or not at all?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	116
115	Do you usually read a newspaper or magazine at least once a week?	YES.....1 NO.....2	
116	Do you usually listen to a radio every day?	YES.....1 NO.....2	
117	Do you usually watch television at least once a week?	YES.....1 NO.....2	
118	What is your religion?	CATHOLIC.....1 PROTESTANT/OTHER CHRISTIAN.....2 MUSLIM.....3 NO RELIGION.....4 OTHER_____6 (SPECIFY)	
119	What is your ethnic group/tribe?	KALENJIN.....01 KAMBA.....02 KIKUYU.....03 KISII.....04 LUHYA.....05 LUO.....06 MASAI.....07 MERU/EMBU.....08 MIJIKENDA/SWAHILI.....09 SOMALI.....10 TAITA/TAVETA.....11 OTHER_____96 (SPECIFY)	
120	CHECK Q.4 IN THE HOUSEHOLD QUESTIONNAIRE THE WOMAN INTERVIEWED IS NOT A USUAL RESIDENT ☐ THE WOMAN INTERVIEWED IS A USUAL RESIDENT ☐		201
121	Now I would like to ask about the place in which you usually live. Do you usually live in Nairobi or Mombasa, another town or city, or in the countryside?	NAIROBI/MOMBASA.....1 OTHER CITY/TOWN.....2 COUNTRYSIDE.....3	
122	In which District is that located?	DISTRICT_____ ☐☐ _____ (PRINT DISTRICT NAME)	
123	Now I would like to ask about the household in which you usually live. What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO RESIDENCE/COMPOUND/PLOT....11 — 125 PUBLIC TAP.....12 WELL WATER WELL ON RESIDENCE/PLOT.....21 — 125 PUBLIC WELL.....22 SURFACE WATER RIVER/STREAM.....31 POND/LAKE.....32 RAINWATER.....41 — 125 OTHER_____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
124	How long does it take to go there, get water, and come back?	MINUTES..... ☐☐☐ ON PREMISES.....996	
125	What kind of toilet facility does your household have?	FLUSH TOILET OWN FLUSH TOILET.....11 SHARED FLUSH TOILET.....12 PIT TOILET/LATRINE TRADITIONAL PIT TOILET.....21 VENTILATED IMPROVED PIT (VIP) LATRINE.....22 NO FACILITY/BUSH/FIELD.....31 OTHER_____ 96 (SPECIFY)	
126	Does your household have: Electricity? A radio? A television? A telephone? A refrigerator?	YES NO ELECTRICITY.....1 2 RADIO.....1 2 TELEVISION.....1 2 TELEPHONE.....1 2 REFRIGERATOR.....1 2	
127	Could you describe the main material of the floor of your home?	NATURAL FLOOR MUD/DUNG/SAND.....11 RUDIMENTARY FLOOR WOOD PLANKS.....21 FINISHED FLOOR POLISHED WOOD/VINYL/TILES....31 CEMENT.....34 OTHER_____ 96 (SPECIFY)	
127a	Could you describe the main material of the roof of your home?	GRASS/THATCH.....11 CORRUGATED IRON (MABATI).....21 TILES.....31 OTHER_____ 96 (SPECIFY)	
128	Does any member of your household own: A bicycle? A motorcycle? A car?	YES NO BICYCLE.....1 2 MOTORCYCLE.....1 2 CAR.....1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES.....1 NO.....2	206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES.....1 NO.....2	204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES.....1 NO.....2	206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	
206	Sometimes it happens that children die. It may be very painful to talk about and I am sorry to ask you about painful memories, but it is important to get the right information. Have you ever given birth to a boy or girl who was born alive but later died? IF NO: PROBE: Any baby who cried or showed signs of life but survived only a few hours or days?	YES.....1 NO.....2	208
207	In all, how many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL.....	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ____ births during your life. Is that correct? YES ☐ NO ☐ PROBE AND CORRECT 201-208 AS NECESSARY.		
210	CHECK 208: ONE OR MORE BIRTHS ☐ NO BIRTHS ☐		227

211 Now I would like to record the names of all your births, whether still alive or not, starting with the first one you had.
RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.

	212 What name was given to your (first/next) baby? (NAME)	213 Were any of these births twins?	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE Is (NAME) living with you?	219 IF DEAD: How old was (NAME) when he/she died? IF '1 YR.', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	220 FROM YEAR OF BIRTH OF (NAME) SUBTRACT YEAR OF PREVIOUS BIRTH. IS THE DIFFERENCE 4 OR MORE?	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME)?
01		SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (NEXT BIRTH)	DAYS....1 MONTHS..2 YEARS...3		
02		SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2
03		SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2
04		SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2
05		SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2
06		SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2
07		SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2

212 What name was given to your next baby? (NAME)	213 Were any of these births twins?	214 Is (NAME) a boy or a girl?	215 In what month and year was (NAME) born? PROBE: What is his/her birthday? OR: In what season was he/she born?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE Is (NAME) living with you?	219 IF DEAD: How old was (NAME) when he/she died? IF '1 YR.', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	220 FROM YEAR OF BIRTH OF (NAME) SUBTRACT YEAR OF PREVIOUS BIRTH. IS THE DIFFERENCE 4 OR MORE?	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and NAME)?
08	SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2
09	SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2
10	SING..1 MULT..2	BOY...1 GIRL..2	MONTH... YR	YES..1 NO...2 → 219	AGE IN YEARS	YES...1 NO....2 → (GO TO 220)	DAYS....1 MONTHS..2 YEARS...3	YES....1 NO.....2 → (NEXT BIRTH)	YES..1 NO...2

222	FROM YEAR OF INTERVIEW SUBTRACT YEAR OF LAST BIRTH. IS THE DIFFERENCE 4 YEARS OR MORE?	YES.....1 ── GO TO 223 NO.....2 ── GO TO 224
223	Have you had any live births since the birth of (NAME OF LAST BIRTH)?	YES.....1 NO.....2
224	COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME ☐ NUMBERS ARE DIFFERENT ☐ (PROBE AND RECONCILE) CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED. FOR EACH DEAD CHILD: AGE AT DEATH IS RECORDED. FOR AGE AT DEATH 12 MONTHS OR 1 YR.: PROBE TO DETERMINE EXACT NUMBER OF MONTHS.	☐
225	CHECK 215 AND ENTER THE NUMBER OF BIRTHS SINCE JANUARY 1995. IF NONE, RECORD '0'.	☐
226	FOR EACH BIRTH SINCE JANUARY 1993 ENTER 'B' IN THE MONTH OF BIRTH IN COLUMN 1 OF THE CALENDAR AND 'P' IN IN EACH OF THE 8 PRECEDING MONTHS. WRITE NAME TO THE LEFT OF THE 'B' CODE.	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
227	Now I would like to ask you about some current events in your life. Are you pregnant?	YES.....1 NO.....2 UNSURE.....8	230
228	For how many months have you been pregnant? RECORD NUMBER OF COMPLETED MONTHS. ENTER 'P's IN COLUMN 1 OF CALENDAR, BEGINNING WITH THE MONTH OF INTERVIEW AND FOR TOTAL NUMBER OF COMPLETED MONTHS.	MONTHS.....	
229	At the time you became pregnant, did you want to become pregnant &dDthen &d@, did you want to wait until &dDlater &d@, or did you &dDnot want &d@ to have any more children at all?	THEN.....1 LATER.....2 NOT WANT MORE CHILDREN.....3	
230	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth?	YES.....1 NO.....2	236
231	When did the last such pregnancy end?	MONTH..... YEAR.....	
232	CHECK 231: LAST PREGNANCY ENDED SINCE JAN. 1993 LAST PREGNANCY ENDED BEFORE JAN. 1993		236
233	How many months pregnant were you when the last pregnancy ended? RECORD NUMBER OF COMPLETED MONTHS. ENTER 'T' IN COLUMN 1 OF CALENDAR IN THE MONTH THAT THE PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.	MONTHS.....	
234	Have you ever had any other pregnancies which did not result in a live birth?	YES.....1 NO.....2	236
235	ASK THE DATE AND THE DURATION OF PREGNANCY FOR EACH EARLIER PREGNANCY BACK TO JANUARY 1993. ENTER 'T' IN COLUMN 1 OF CALENDAR IN THE MONTH THAT EACH PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.		
236	When did your last menstrual period start? _____ (DATE, IF GIVEN)	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 IN MENOPAUSE.....994 BEFORE LAST PREGNANCY.....995 NEVER MENSTRUATED.....996	
237	Between the first day of a woman's period and the first day of her &dDnext &d@ period, are there certain times when she has a greater chance of becoming pregnant than other times?	YES.....1 NO.....2 DON'T KNOW.....8	301
238	During which times of the monthly cycle does a woman have the greatest chance of becoming pregnant?	DURING HER PERIOD.....01 RIGHT AFTER HER PERIOD HAS ENDED.....02 IN THE MIDDLE OF THE CYCLE.....03 JUST BEFORE HER PERIOD BEGINS..04 OTHER_____ 96 (SPECIFY) DON'T KNOW.....98	

Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy.

CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN PROCEED DOWN COLUMN 302, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 301 OR 302, ASK 303.

	301 Which ways or methods have you heard of?	SPONTANEOUS YES	302 Have you ever heard of (METHOD)? PROBED YES	NO	303 Have you ever used (METHOD)?
01	PILL Women can take a pill every day.	1	2	3	YES.....1 NO.....2
02	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	1	2	3	YES.....1 NO.....2
03	INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	1	2	3	YES.....1 NO.....2
04	NORPLANT Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for several years.	1	2	3	YES.....1 NO.....2
05	DIAPHRAGM,FOAM,JELLY Women can place a sponge, suppository, diaphragm, jelly, or cream inside themselves before intercourse.	1	2	3	YES.....1 NO.....2
06	CONDOM Men can use a rubber sheath on their penis during sexual intercourse.	1	2	3	YES.....1 NO.....2
07	FEMALE STERILISATION Women can have an operation to avoid having any more children.	1	2	3	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2
08	MALE STERILISATION Men can have an operation to avoid having any more children.	1	2	3	Have you ever had a partner who had an operation to avoid having children? YES.....1 NO.....2
09	NATURAL METHODS Every month that a woman is sexually active she can avoid having sexual intercourse on the days of the month she is most likely to get pregnant.	1	2	3	YES.....1 NO.....2
10	WITHDRAWAL Men can be careful and pull out before the fluids come out.	1	2	3	YES.....1 NO.....2
11	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	1 _____ (SPECIFY) _____ (SPECIFY)		3	YES.....1 NO.....2 YES.....1 NO.....2

304 CHECK 303:

NOT A SINGLE "YES" (NEVER USED) ☐

AT LEAST ONE "YES" (EVER USED) ☐ ——— SKIP TO 308

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
305	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES.....1 NO.....2	→ 307
306	ENTER "0" IN COLUMN 1 OF CALENDAR IN EACH BLANK MONTH.		→ 331
307	What have you used or done? CORRECT 303 AND 304 (AND 302 IF NECESSARY).		
308	Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. What was the first method you ever used?	PILL.....01 IUD.....02 INJECTIONS.....03 NORPLANT.....04 DIAPHRAGM/FOAM/JELLY.....05 CONDOM.....06 FEMALE STERILIZATION.....07 MALE STERILIZATION.....08 NATURAL METHODS.....09 WITHDRAWAL.....10 OTHER_____ 96 (SPECIFY)	
309	How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN.....	
311	CHECK 303: WOMAN NOT STERILIZED ☐ WOMAN STERILIZED ☐		→ 314A
312	CHECK 227: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐		→ 325
313	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES.....1 NO.....2	→ 325
314 314A	Which method are you using? CIRCLE '07' FOR FEMALE STERILIZATION.	PILL.....01 IUD.....02 INJECTIONS.....03 IMPLANTS.....04 DIAPHRAGM/FOAM/JELLY.....05 CONDOM.....06 FEMALE STERILIZATION.....07 MALE STERILIZATION.....08 NATURAL METHODS.....09 WITHDRAWAL.....10 OTHER_____ 96 (SPECIFY)	02–06 → 324 08 → 318 09 → 323 10 → 324
315	How much does one packet (cycle) of pills cost you?	COST..... → 324 FREE.....996 DON'T KNOW.....998	
316	Would you be willing to pay for your pills?	YES.....1 NO.....2	→ 324
317	How much would you be willing to pay for a package (cycle) of your pills? Would you pay as much as 75 shillings? IF NO: would you pay as much as 50 shillings? IF NO: would you pay as much as 25 shillings? IF NO: would you pay as much as 10 shillings? IF NO: ENTER < 10 SHILLINGS	75 SHILLINGS.....1 50 SHILLINGS.....2 25 SHILLINGS.....3 10 SHILLINGS.....4 < 10 SHILLINGS.....5 DON'T KNOW.....8	1–5 → 324

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
318	Where did the sterilization take place? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTRE.....12 GOVERNMENT DISPENSARY.....13 MEDICAL PRIVATE SECTOR MISSION,CHURCH HOSPITAL/CLINIC.21 FPAK HEALTH CENTRE/CLINIC.....22 OTHER NON-GOVERNMENTAL SERVICE.23 PRIVATE HOSPITAL OR CLINIC.....24 PRIVATE DOCTOR.....26 MOBILE CLINIC.....31 OTHER_____96 (SPECIFY) DOES NOT KNOW.....98	
319	Do you regret that (you/your husband) had the operation not to have any (more) children?	YES.....1 NO.....2	321
320	Why do you regret the operation?	RESPONDENT WANTS ANOTHER CHILD.01 PARTNER WANTS ANOTHER CHILD....02 SIDE EFFECTS.....03 CHILD DIED.....04 OTHER_____ 96 (SPECIFY)	
321	In what month and year was the sterilization performed?	MONTH..... ☐☐ YEAR..... ☐☐☐☐	
322	CHECK 321: STERILISED BEFORE JANUARY 1993 ☐ ENTER CODE FOR STERILISATION IN MONTH OF INTERVIEW IN COLUMN 1 OF THE CALENDAR AND EACH MONTH BACK TO JANUARY 1993. THEN SKIP TO ——— 329A	STERILISED AFTER JANUARY 1993 ☐ ENTER CODE FOR STERILISATION IN MONTH OF INTERVIEW IN COLUMN 1 OF THE CALENDAR AND IN EACH MONTH BACK TO THE DATE OF THE OPERATION. THEN SKIP TO ——— 325	
323	How do you determine which days of your monthly cycle not to have sexual relations?	BASED ON CALENDAR.....01 BASED ON BODY TEMPERATURE.....02 BASED ON CERVICAL MUCUS (BILLINGS METHOD).....03 BASED ON BODY TEMPERATURE AND CERVICAL MUCUS.....04 NO SPECIFIC SYSTEM.....05 OTHER_____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
324	ENTER METHOD CODE FROM 314 IN CURRENT MONTH IN COLUMN 1 OF CALENDAR. THEN DETERMINE WHEN SHE STARTED USING METHOD THIS TIME. ENTER METHOD CODE IN EACH MONTH OF USE. ILLUSTRATIVE QUESTIONS: · When did you start using continuously? · How long have you been using this method continuously?		
325	I would like to ask you some questions about the times you or your partner may have used a method to avoid getting pregnant during the last few years. USE CALENDAR TO PROBE FOR EARLIER PERIODS OF USE AND NONUSE, STARTING WITH MOST RECENT USE, BACK TO JANUARY 1993. USE NAMES OF CHILDREN, DATES OF BIRTH, AND PERIODS OF PREGNANCY AS REFERENCE POINTS. IN COLUMN 1, ENTER CODE IN EACH MONTH OF METHOD USE OR '0' FOR NONUSE. ILLUSTRATIVE QUESTIONS: COLUMN 1: · When was the last time you used a method? Which method was that? · When did you start using that method? How long after the birth of (NAME)? · How long did you use the method then? IN COLUMN 2, ENTER CODES FOR DISCONTINUATION NEXT TO LAST MONTH OF USE. NUMBER OF CODES IN COL.2 MUST BE SAME AS NUMBER OF INTERRUPTIONS OF METHOD USE IN COLUMN 1. ASK WHY SHE STOPPED USING THE METHOD. IF A PREGNANCY FOLLOWED, ASK WHETHER SHE BECAME PREGNANT UNINTENTIONALLY WHILE USING THE METHOD OR DELIBERATELY STOPPED TO GET PREGNANT. ILLUSTRATIVE QUESTIONS: COLUMN 2: · Why did you stop using the (METHOD)? · Did you become pregnant while using (METHOD), or did you stop to get pregnant, or did you stop for some other reason? IF DELIBERATELY STOPPED TO BECOME PREGNANT, ASK: · How many months did it take you to get pregnant after you stopped using (METHOD)? AND ENTER '0' IN EACH SUCH MONTH IN COLUMN 1.		
327	CHECK 314: CIRCLE METHOD CODE:	NOT ASKED.....00 → 331 PILL.....01 IUD.....02 INJECTIONS.....03 IMPLANTS.....04 DIAPHRAGM/FOAM/JELLY.....05 CONDOM.....06 FEMALE STERILISATION.....07 MALE STERILISATION.....08 → 329A NATURAL METHODS.....09 WITHDRAWAL.....10 → 332 OTHER METHOD.....96	
328	Where did you obtain (METHOD) the last time? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTRE.....12 GOVERNMENT DISPENSARY.....13 MEDICAL PRIVATE SECTOR MISSION,CHURCH HOSPITAL/CLINIC.21 FPAK HEALTH CENTRE/CLINIC.....22 OTHER NON-GOVERNMENTAL SERVICE.23 PRIVATE HOSPITAL OR CLINIC.....24 PHARMACY.....25 PRIVATE DOCTOR.....26 MOBILE CLINIC.....31 COMMUNITY BASED DISTRIBUTOR.....41 SHOP.....51 FRIENDS/RELATIVES.....61 OTHER_____96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
329	Do you know another place where you could have obtained (METHOD) the last time?	YES.....1 NO.....2	334
329A	At the time of the sterilization operation, did you know another place where you could have received the operation?		
330	People select the place where they get family planning services for various reasons. What was the main reason you went to (NAME OF PLACE IN Q.328 OR Q.318) instead of the other place you know about? RECORD RESPONSE AND CIRCLE CODE. _____	ACCESS-RELATED REASONS CLOSER TO HOME.....11 CLOSER TO MARKET/WORK.....12 AVAILABILITY OF TRANSPORT....13 SERVICE-RELATED REASONS STAFF MORE COMPETENT/ FRIENDLY.....21 CLEANER FACILITY.....22 OFFERS MORE PRIVACY.....23 SHORTER WAITING TIME.....24 LONGER HRS. OF OPERATION.....25 USE OTHER SERVICES AT THE FACILITY.....26 LOWER COST/CHEAPER.....31 WANTED ANONYMITY.....41 OTHER_____ 96 (SPECIFY) DON'T KNOW.....98	334
331	What is the main reason you are not using a method of contraception to avoid pregnancy?	NOT MARRIED.....11 NOT INTENDING TO MARRY.....12 FERTILITY-RELATED REASONS NOT HAVING SEX.....21 INFREQUENT SEX.....22 MENOPAUSAL/HYSTERECTOMY.....23 SUBFECUND/INFECUND.....24 POSTPARTUM/BREASTFEEDING.....25 WANTS (MORE) CHILDREN.....26 PREGNANT.....27 OPPOSITION TO USE RESPONDENT OPPOSED.....31 HUSBAND OPPOSED.....32 OTHERS OPPOSED.....33 RELIGIOUS PROHIBITION.....34 LACK OF KNOWLEDGE KNOWS NO METHOD.....41 KNOWS NO SOURCE.....42 METHOD-RELATED REASONS HEALTH CONCERNS.....51 FEAR OF SIDE EFFECTS.....52 LACK OF ACCESS/TOO FAR.....53 COST TOO MUCH.....54 INCONVENIENT TO USE.....55 INTERFERES WITH BODY'S NORMAL PROCESSES.....56 OTHER_____ 96 (SPECIFY) DON'T KNOW.....98	
332	Do you know of a place where you can obtain a method of family planning?	YES.....1 NO.....2	334

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
333	Where is that? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTRE.....12 GOVERNMENT DISPENSARY.....13 MEDICAL PRIVATE SECTOR MISSION,CHURCH HOSPITAL/CLINIC.21 FPAK HEALTH CENTRE/CLINIC.....22 OTHER NON-GOVERNMENTAL SERVICE.23 PRIVATE HOSPITAL OR CLINIC.....24 PHARMACY.....25 PRIVATE DOCTOR.....26 MOBILE CLINIC.....31 COMMUNITY BASED DISTRIBUTOR.....41 SHOP.....51 FRIENDS/RELATIVES.....61 OTHER_____96 (SPECIFY)	
334	In some communities there is a person who is trained to talk to families in that area about family planning. Sometimes they visit each house and talk about family planning and give out supplies. Other times they have supplies in their houses. Is there any woman or man like that in your area?	YES.....1 NO.....2 DON'T KNOW.....8	335
334a	How many times has this person visited your home in the past 6 months?	NUMBER OF VISITS..... ☐☐	
335	Have you visited a health facility for any reason in the last 12 months?	YES.....1 NO.....2	337
336	Did any staff member at the health facility speak to you about family planning methods?	YES.....1 NO.....2	
337	Do you think that breastfeeding can affect a woman's chance of becoming pregnant while breastfeeding?	YES.....1 NO.....2 DON'T KNOW.....8	401
338	Do you think a woman's chance of becoming pregnant is increased or decreased while breastfeeding?	INCREASED.....1 DECREASED.....2 NOT AFFECTED.....3 DON'T KNOW.....8	401
339	CHECK 210: ONE OR MORE BIRTHS ☐ NO BIRTHS ☐		401
340	Have you ever relied on breastfeeding as a method of avoiding pregnancy?	YES.....1 NO.....2	401
341	CHECK 227 AND 311: NOT PREGNANT OR UNSURE AND NOT STERILIZED ☐ EITHER PREGNANT OR STERILIZED ☐		401
342	Are you currently relying on breastfeeding to avoid getting pregnant?	YES.....1 NO.....2	

401 CHECK 225:
ONE OR MORE BIRTHS SINCE JAN. 1995 ☐ — NO BIRTHS SINCE JAN. 1995 ☐ (SKIP TO 465)

402 ENTER THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1995 IN THE TABLE.
ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH.
(IF THERE ARE MORE THAN 2 BIRTHS, USE ADDITIONAL QUESTIONNAIRES).

Now I would like to ask you some more questions about the health of all your children born in the past three years. (We will talk about one child at a time.)

		LAST BIRTH	NEXT-TO-LAST BIRTH
403	LINE NUMBER FROM Q212	LINE NUMBER..... ☐☐	LINE NUMBER..... ☐☐
404	FROM Q212 AND Q216	NAME _____ ALIVE ☐ DEAD ☐	NAME _____ ALIVE ☐ DEAD ☐
405	At the time you became pregnant with (NAME), did you want to become pregnant &dDthen &d@, did you want to wait until &dDlater &d@, or did you want &dDno (more) &d@ children at all?	THEN.....1 (SKIP TO 407) LATER.....2 NO MORE.....3 (SKIP TO 407)	THEN.....1 (SKIP TO 407) LATER.....2 NO MORE.....3 (SKIP TO 407)
406	How much longer would you like to have waited?	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ DON'T KNOW.....998	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ DON'T KNOW.....998
407	When you were pregnant with (NAME), did you see anyone for antenatal care for this pregnancy? IF YES: Whom did you see? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B BIRTH ATTENDENT TRAINED.....C UNTRAINED.....D OTHER_____ X (SPECIFY) NO ONE.....Y (SKIP TO 410)	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B BIRTH ATTENDENT TRAINED.....C UNTRAINED.....D OTHER_____ X (SPECIFY) NO ONE.....Y (SKIP TO 410)
408	How many months pregnant were you when you first received antenatal care?	MONTHS..... ☐☐ DON'T KNOW.....98	MONTHS..... ☐☐ DON'T KNOW.....98
409	How many times did you receive antenatal care during this pregnancy?	NO. OF TIMES..... ☐☐ DON'T KNOW.....98	NO. OF TIMES..... ☐☐ DON'T KNOW.....98
410	When you were pregnant with (NAME) were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES.....1 NO.....2 (SKIP TO 412) DON'T KNOW.....8	YES.....1 NO.....2 (SKIP TO 412) DON'T KNOW.....8
411	During this pregnancy, how many times did you get this injection?	TIMES..... ☐ DON'T KNOW.....8	TIMES..... ☐ DON'T KNOW.....8

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
412	Where did you give birth to (NAME)?	HOME YOUR HOME.....11 OTHER HOME.....12 PUBLIC SECTOR GOVT. HOSPITAL.....21 GOVT. HEALTH CENTER...22 GOVT. MATERNITY CLNC..23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC...31 OTHER PVT. HOSP/CLNC..32 OTHER_____ 96 (SPECIFY)	HOME YOUR HOME.....11 OTHER HOME.....12 PUBLIC SECTOR GOVT. HOSPITAL.....21 GOVT. HEALTH CENTER...22 GOVT. MATERNITY CLNC..23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC...31 OTHER PRT. HOSP/CLNC..32 OTHER_____ 96 (SPECIFY)
413	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS ASSISTING.	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B BIRTH ATTENDENT TRAINED.....D UNTRAINED.....E RELATIVE/FRIEND.....F OTHER_____ X (SPECIFY) NO ONE.....Y	HEALTH PROFESSIONAL DOCTOR.....A NURSE/MIDWIFE.....B BIRTH ATTENDENT TRAINED.....D UNTRAINED.....E RELATIVE/FRIEND.....F OTHER_____ X (SPECIFY) NO ONE.....Y
413A	Did you pay for delivery services? IF YES: How much in total did you pay for all services connected to the delivery of (NAME)?	SHILLINGS... ☐☐☐☐☐ NO COST.....99994	SHILLINGS... ☐☐☐☐☐ NO COST.....99994
414	Around the time of the birth of (NAME), did you have any of the following problems: Long labor, that is, did your regular contractions last more than 12 hours? Excessive bleeding that was so much that you feared it was life threatening? A high fever with bad smelling vaginal discharge? Convulsions not caused by fever?	YES NO LABOR MORE THAN 12 HOURS...1 2 EXCESSIVE BLEEDING.....1 2 FEVER/BAD SMELLING VAG. DISCHARGE.....1 2 CONVULSIONS.....1 2	YES NO LABOR MORE THAN 12 HOURS...1 2 EXCESSIVE BLEEDING.....1 2 FEVER/BAD SMELLING VAG. DISCHARGE.....1 2 CONVULSIONS.....1 2
415	Was (NAME) delivered by caesarian section?	YES.....1 NO.....2	YES.....1 NO.....2
416	When (NAME) was born, was he/she: very large, larger than average, average, smaller than average, or very small?	VERY LARGE.....1 LARGER THAN AVERAGE.....2 AVERAGE.....3 SMALLER THAN AVERAGE.....4 VERY SMALL.....5 DON'T KNOW.....8	VERY LARGE.....1 LARGER THAN AVERAGE.....2 AVERAGE.....3 SMALLER THAN AVERAGE.....4 VERY SMALL.....5 DON'T KNOW.....8

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
417	Was (NAME) weighed at birth?	YES.....1 NO.....2 (SKIP TO 419)	YES.....1 NO.....2 (SKIP TO 420)
418	How much did (NAME) weigh? RECORD WEIGHT FROM HEALTH CARD, IF AVAILABLE.	GRAMS FROM CARD.....1 ☐☐☐☐ GRAMS FROM RECALL.....2 ☐☐☐☐ DON'T KNOW.....99998	GRAMS FROM CARD.....1 ☐☐☐☐ GRAMS FROM RECALL.....2 ☐☐☐☐ DON'T KNOW.....99998
419	Has your period returned since the birth of (NAME)?	YES.....1 (SKIP TO 421) NO.....2 (SKIP TO 422)	
420	Did your period return between the birth of (NAME) and your next pregnancy?		YES.....1 NO.....2 (SKIP TO 424)
421	For how many months after the birth of (NAME) did you &dDnot &d@ have a period?	MONTHS..... ☐☐ DON'T KNOW.....98	MONTHS..... ☐☐ DON'T KNOW.....98
422	CHECK 227: RESPONDENT PREGNANT?	NOT PREGNANT PREGNANT OR UNSURE (SKIP TO 424)	
423	Have you resumed sexual relations since the birth of (NAME)?	YES.....1 NO.....2 (SKIP TO 425)	
424	For how many months after the birth of (NAME) did you &dDnot &d@ have sexual relations?	MONTHS..... ☐☐ DON'T KNOW.....98	MONTHS..... ☐☐ DON'T KNOW.....98
425	Did you ever breastfeed (NAME)?	YES.....1 NO.....2 (SKIP TO 431)	YES.....1 NO.....2 (SKIP TO 431)
426	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY.....000 HOURS.....1 ☐☐ DAYS.....2 ☐☐	IMMEDIATELY.....000 HOURS.....1 ☐☐ DAYS.....2 ☐☐
427	CHECK 404: CHILD ALIVE?	ALIVE DEAD (SKIP TO 429)	ALIVE DEAD (SKIP TO 429)
428	Are you still breastfeeding (NAME)?	YES.....1 (SKIP TO 432) NO.....2	YES.....1 (SKIP TO 432) NO.....2
429	For how many months did you breastfeed (NAME)?	MONTHS..... ☐☐ DON'T KNOW.....98	MONTHS..... ☐☐ DON'T KNOW.....98

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
430	Why did you stop breastfeeding (NAME)?	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 NOT ENOUGH MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE/AGE TO STOP.08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER_____ 96 (SPECIFY)	MOTHER ILL/WEAK.....01 CHILD ILL/WEAK.....02 CHILD DIED.....03 NIPPLE/BREAST PROBLEM...04 NOT ENOUGH MILK.....05 MOTHER WORKING.....06 CHILD REFUSED.....07 WEANING AGE/AGE TO STOP.08 BECAME PREGNANT.....09 STARTED USING CONTRACEPTION.....10 OTHER_____ 96 (SPECIFY)
431	CHECK 404: CHILD ALIVE?	ALIVE ☐ DEAD ☐ (SKIP TO 434) (GO BACK TO 405 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 440)	ALIVE ☐ DEAD ☐ (SKIP TO 434) (GO BACK TO 405 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 440)
432	How many times did you breastfeed last night between sunset and sunrise? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF NIGHTTIME FEEDINGS..... ☐☐	NUMBER OF NIGHTTIME FEEDINGS..... ☐☐
433	How many times did you breastfeed yesterday during the daylight hours? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER.	NUMBER OF DAYLIGHT FEEDINGS..... ☐☐	NUMBER OF DAYLIGHT FEEDINGS..... ☐☐
434	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
435	At any time yesterday or last night, was (NAME) given any of the following: Plain water? Sugar water? Juice? Herbal tea? Baby formula? Tinned or powdered milk? Fresh milk? Any other liquids? Any fruits or vegetables? Any food made from wheat, maize, or rice such as porridge, bread or pasta? Any food made from cassava or plaintain? Eggs, fish, or poultry? Meat? Any other solid or semi-solid foods?	YES NO DK PLAIN WATER.....1 2 8 SUGAR WATER.....1 2 8 JUICE.....1 2 8 HERBAL TEA.....1 2 8 BABY FORMULA.....1 2 8 TINNED/POWDR'D MLK..1 2 8 FRESH MILK.....1 2 8 OTHER LIQUIDS.....1 2 8 FRUITS/VEGETABLES...1 2 8 FOOD MADE FROM GRAIN.....1 2 8 FOOD MADE FROM CASSAVA/PLAINTAIN..1 2 8 EGGS/FISH/POULTRY...1 2 8 MEAT.....1 2 8 OTHER SOLID/ SEMI-SOLID FOODS..1 2 8	YES NO DK PLAIN WATER.....1 2 8 SUGAR WATER.....1 2 8 JUICE.....1 2 8 HERBAL TEA.....1 2 8 BABY FORMULA.....1 2 8 TINNED/POWDR'D MLK..1 2 8 FRESH MILK.....1 2 8 OTHER LIQUIDS.....1 2 8 FRUITS/VEGETABLES...1 2 8 FOOD MADE FROM GRAIN.....1 2 8 FOOD MADE FROM CASSAVA/PLAINTAIN..1 2 8 EGGS/FISH/POULTRY...1 2 8 MEAT.....1 2 8 OTHER SOLID/ SEMI-SOLID FOODS..1 2 8

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
436	CHECK 435: FOOD OR LIQUID GIVEN YESTERDAY?	"YES" TO ONE OR MORE ☐ "NO/DK" TO ALL ☐ (SKIP TO 439)	"YES" TO ONE OR MORE ☐ "NO/DK" TO ALL ☐ (SKIP TO 439)
437	(Aside from breastfeeding,) how many times did (NAME) eat yesterday, including both meals and snacks? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES..... ☐ DON'T KNOW.....8	NUMBER OF TIMES..... ☐ DON'T KNOW.....8
439		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 440.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 440.

440 ENTER LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 1995 IN THE TABLE.
ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH.
(IF THERE ARE MORE THAN 2 BIRTHS USE ADDITIONAL QUESTIONNAIRES).

		LAST BIRTH	NEXT-TO-LAST BIRTH
441	LINE NUMBER FROM Q212	LINE.....	LINE.....
442	FROM Q212 AND Q216	NAME _____ ALIVE ☐ DEAD ☐ (GO TO 442 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.)	NAME _____ ALIVE ☐ DEAD ☐ (GO TO 442 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.)
443	Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it please?	YES, SEEN.....1 (SKIP TO 445) YES, NOT SEEN.....2 (SKIP TO 447) NO CARD.....3	YES, SEEN.....1 (SKIP TO 445) YES, NOT SEEN.....2 (SKIP TO 447) NO CARD.....3
444	Did you ever have a vaccination card for (NAME)?	YES.....1 (SKIP TO 447) NO.....2	YES.....1 (SKIP TO 447) NO.....2
445	(1) COPY VACCINATION DATES FOR EACH VACCINE FROM THE CARD. (2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN, BUT NO DATE IS RECORDED.	DAY MO YR	DAY MO YR
	BCG	BCG....	BCG....
	Polio 0 (at birth)	P0.....	P0.....
	Polio 1	P1.....	P1.....
	Polio 2	P2.....	P2.....
	Polio 3	P3.....	P3.....
	DPT 1	D1.....	D1.....
	DPT 2	D2.....	D2.....
	DPT 3	D3.....	D3.....
	Measles	MEA....	MEA....
446	Has (NAME) received any vaccinations that are not recorded on this card? RECORD 'YES' ONLY IF RESPONDENT MENTIONS BCG, POLIO 0-3, DPT 1-3, AND/OR MEASLES VACCINE(S).	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 445) NO.....2 DON'T KNOW.....8 (SKIP TO 449)	YES.....1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 445) NO.....2 DON'T KNOW.....8 (SKIP TO 449)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
447	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases?	YES.....1 NO.....2 (SKIP TO 449) DON'T KNOW.....8	YES.....1 NO.....2 (SKIP TO 449) DON'T KNOW.....8
448	Please tell me if (NAME) received any of the following vaccinations:*		
448A	A BCG vaccination against tuberculosis, that is, an injection in the left arm that caused a scar?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
448B	Polio vaccine, that is, drops in the mouth?	YES.....1 NO.....2 (SKIP TO 448E) DON'T KNOW.....8	YES.....1 NO.....2 (SKIP TO 448E) DON'T KNOW.....8
448C	How many times?	NUMBER OF TIMES.....	NUMBER OF TIMES.....
448D	When was the first polio vaccine given, just after birth or later?	JUST AFTER BIRTH.....1 LATER.....2	JUST AFTER BIRTH.....1 LATER.....2
448E	DPT vaccination, that is, an injection usually given at the same time as polio drops?	YES.....1 NO.....2 (SKIP TO 448G) DON'T KNOW.....8	YES.....1 NO.....2 (SKIP TO 448G) DON'T KNOW.....8
448F	How many times?	NUMBER OF TIMES.....	NUMBER OF TIMES.....
448G	An injection to prevent measles?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
449	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES.....1 NO.....2 (SKIP TO 450) DON'T KNOW.....8	YES.....1 NO.....2 (SKIP TO 450) DON'T KNOW.....8
449a	Did you seek advice or treatment for the fever?	YES.....1 NO.....2 (SKIP TO 450)	YES.....1 NO.....2 (SKIP TO 450)
449b	Where did you seek advice or treatment? Anywhere else? Anywhere else? RECORD ALL MENTIONED	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC....D OTHER PVT.HOSP/CLINIC. E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMM. HEALTH WORKER.....I OTHER SOURCE SHOP.....J HERBALIST./TRAD.PRACT..K RELATIVE/FRIEND.....L OTHER_____ X (SPECIFY)	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC....D OTHER PVT.HOSP/CLINIC. E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMM. HEALTH WORKER.....I OTHER SOURCE SHOP.....J HERBALIST./TRAD.PRACT..K RELATIVE/FRIEND.....L OTHER_____ X (SPECIFY)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
449c	Were any medicines given to (NAME) to treat the fever?	YES.....1 NO.....2 (SKIP TO 450)	YES.....1 NO.....2 (SKIP TO 450)
449d	Which medicines were given to (NAME)? Any other? Any other? RECORD ALL MENTIONED	ANTIPYRETICS.....A (ASPRO,CALPOL,BRUFEN, ETC. CHLOROQUINE.....B (MALAROQUINE,ETC.) SULFA COMBINATIONS.....C (FANCIDAR,METAKELFIN,ETC. HALOFANTRINE.....D (HANFAN) AMODIAQUINE.....E (CAMOQUINE) COTRIMOXAZOLE.....F (BACTRIM,SEPTRIN,ETC. ARTIMISININ.....G (ARTENAM,ARTOMOTHOR,ETC. HERBAL/TRADITIONAL REMEDIES.....H OTHER ANTIBIOTICS (SPECIFY).....I _____ OTHER_____ X (SPECIFY)	ANTIPYRETICS.....A (ASPRO,CALPOL,BRUFEN, ETC. CHLOROQUINE.....B (MALAROQUINE,ETC.) SULFA COMBINATIONS.....C (FANCIDAR,METAKELFIN,ETC. HALOFANTRINE.....D (HANFAN) AMODIAQUINE.....E (CAMOQUINE) COTRIMOXAZOLE.....F (BACTRIM,SEPTRIN,ETC. ARTIMISININ.....G (ARTENAM,ARTOMOTHOR,ETC. HERBAL/TRADITIONAL REMEDIES.....H OTHER ANTIBIOTICS (SPECIFY).....I _____ OTHER_____ X (SPECIFY)
450	Has (NAME) been ill with a cough at any time in the last 2 weeks?	YES.....1 NO.....2 (SKIP TO 454) DON'T KNOW.....8	YES.....1 NO.....2 (SKIP TO 454) DON'T KNOW.....8
451	When (NAME) was ill with a cough, did he/she breathe faster than usual with short, fast breaths?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
452	Did you seek advice or treatment for the cough?	YES.....1 NO.....2 (SKIP TO 454)	YES.....1 NO.....2 (SKIP TO 454)
453	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC....D OTHER PVT.HOSP/CLINIC. E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMM. HEALTH WORKER.....I OTHER SOURCE SHOP.....J HERBALIST./TRAD.PRACT..K RELATIVE/FRIEND.....L OTHER_____ X (SPECIFY)	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC....D OTHER PVT.HOSP/CLINIC. E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMM. HEALTH WORKER.....I OTHER SOURCE SHOP.....J HERBALIST./TRAD.PRACT..K RELATIVE/FRIEND.....L OTHER_____ X (SPECIFY)
454	Has (NAME) had diarrhoea in the last two weeks?	YES.....1 NO.....2 (SKIP TO 463A) DON'T KNOW.....8	YES.....1 NO.....2 (SKIP TO 463A) DON'T KNOW.....8
455	Was there any blood in the stools?	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
456	On the worst day of the diarrhoea, how many bowel movements did (NAME) have?	NUMBER OF BOWEL MOVEMENTS..... ☐☐ DON'T KNOW.....98	NUMBER OF BOWEL MOVEMENTS..... ☐☐ DON'T KNOW.....98

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
457	Was he/she given the same amount to drink as before the diarrhoea, or more, or less?	SAME.....1 MORE.....2 LESS.....3 DON'T KNOW.....8	SAME.....1 MORE.....2 LESS.....3 DON'T KNOW.....8
458	Was he/she given the same amount of food to eat as before the diarrhoea or more, or less?	SAME.....1 MORE.....2 LESS.....3 DON'T KNOW.....8	SAME.....1 MORE.....2 LESS.....3 DON'T KNOW.....8
459	When (NAME) had diarrhoea, was he/she given any of the following to drink: A fluid made from a special packet called ORALITE or ORS? Thin watery porridge made from maize, rice or wheat? (Ugi) Soup? Home-made sugar-salt-water solution? Milk or infant formula? Yoghurt-based drink? Water? Any other liquids?	YES NO DK FLUID FROM ORS PKT..1 2 8 THIN WATERY GRUEL...1 2 8 SOUP.....1 2 8 SUG.-SALT-WAT. SOL..1 2 8 MILK/INFANT FORMULA.1 2 8 YOGHURT-BASED DR....1 2 8 WATER.....1 2 8 OTHER LIQUID.....1 2 8	YES NO DK FLUID FROM ORS PKT..1 2 8 THIN WATERY GRUEL...1 2 8 SOUP.....1 2 8 SUG.-SALT-WAT. SOL..1 2 8 MILK/INFANT FORMULA.1 2 8 YOGHURT-BASED DR....1 2 8 WATER.....1 2 8 OTHER LIQUID.....1 2 8
460	Was anything (else) given to treat the diarrhoea?	YES.....1 NO.....2 → (SKIP TO 462) DON'T KNOW.....8	YES.....1 NO.....2 → (SKIP TO 462) DON'T KNOW.....8
461	What was given to treat the diarrhoea? Anything else? RECORD ALL MENTIONED.	PILL OR SYRUP.....A INJECTION.....B (I.V.) INTRAVENOUS.....C HOME REMEDIES/ HERBAL MEDICINES.....D OTHER_____ X (SPECIFY)	PILL OR SYRUP.....A INJECTION.....B (I.V.) INTRAVENOUS.....C HOME REMEDIES/ HERBAL MEDICINES.....D OTHER_____ X (SPECIFY)
462	Did you seek advice or treatment for the diarrhoea?	YES.....1 NO.....2 → (SKIP TO 463A)	YES.....1 NO.....2 → (SKIP TO 463A)
463	Where did you seek advice or treatment? Anywhere else? RECORD ALL MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC....D OTHER PVT.HOSP/CLINIC. E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMM. HEALTH WORKER.....I OTHER SOURCE SHOP.....J HERBALIST./TRAD.PRACT..K RELATIVE/FRIEND.....L OTHER_____ X (SPECIFY)	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC....D OTHER PVT.HOSP/CLINIC. E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMM. HEALTH WORKER.....I OTHER SOURCE SHOP.....J HERBALIST./TRAD.PRACT..K RELATIVE/FRIEND.....L OTHER_____ X (SPECIFY)

463A	CHECK 449: FEVER IN LAST TWO WEEKS?	"YES" FEVER ☐ "NO" FEVER ☐ (SKIP TO 464)	"YES" FEVER ☐ "NO" FEVER ☐ (SKIP TO 464)
463B	You said that (NAME) had a fever in the last two weeks. Could you please tell me whether, at the time of that fever, (NAME) experienced any other symptoms or diseases? IF YES, Which symptoms or diseases did (NAME) experience? Any others? RECORD ALL MENTIONED	COUGH.....A DIARRHOEA.....B "MALARIA".....C CONVULSIONS/FITS.....D LOSS OF WEIGHT.....E RASH.....F ANEMIA..... G VOMITING.....H DIFFICULT BREATHING.....I UNCONCIOUS.....J UNABLE TO DRINK.....K STIFF NECK.....L OTHER_____ X (SPECIFY) NO OTHER SYMPTOMS.....Y	COUGH.....A DIARRHOEA.....B "MALARIA".....C CONVULSIONS/FITS.....D LOSS OF WEIGHT.....E RASH.....F ANEMIA..... G VOMITING.....H DIFFICULT BREATHING.....I UNCONCIOUS.....J UNABLE TO DRINK.....K STIFF NECK.....L OTHER_____ X (SPECIFY) NO OTHER SYMPTOMS.....Y
464		GO BACK TO 442 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.	GO BACK TO 442 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 465.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
465	When a child has diarrhoea, should he/she be given less to drink than usual, about the same amount, or more than usual?	LESS TO DRINK.....1 ABOUT SAME AMOUNT TO DRINK.....2 MORE TO DRINK.....3 DON'T KNOW.....8	
466	When a child has diarrhoea, should he/she be given less to eat than usual, about the same amount, or more than usual?	LESS TO EAT.....1 ABOUT SAME AMOUNT TO EAT.....2 MORE TO EAT.....3 DON'T KNOW.....8	
467	When a child is sick with diarrhoea, what signs of illness would tell you that he or she should be taken to a health facility or health worker? RECORD ALL MENTIONED.	REPEATED WATERY STOOLS.....A ANY WATERY STOOLS.....B REPEATED VOMITING.....C ANY VOMITING.....D BLOOD IN STOOLS.....E FEVER.....F MARKED THIRST.....G NOT EATING/NOT DRINKING WELL....H GETTING SICKER/VERY SICK.....I NOT GETTING BETTER.....J OTHER_____ X (SPECIFY) DON'T KNOW.....Z	
468	When a child is sick with a cough, what signs of illness would tell you that he or she should be taken to a health facility or health worker? RECORD ALL MENTIONED.	FAST BREATHING.....A DIFFICULT BREATHING.....B NOISY BREATHING.....C FEVER.....D UNABLE TO DRINK.....E NOT EATING/NOT DRINKING WELL....F GETTING SICKER/VERY SICK.....G NOT GETTING BETTER.....H OTHER_____ X (SPECIFY) DON'T KNOW.....Z	
468a	When a child is sick with a fever, what signs of illness would tell you that he or she should be taken to a health facility or health worker? RECORD ALL MENTIONED.	FEVER INCREASING/VERY HIGH.....A FEVER RECURRENT.....B DIFFICULT BREATHING.....C NOISY BREATHING.....D CONVULSIONS.....E SHIVERING.....F UNABLE TO DRINK.....G NOT EATING/NOT DRINKING WELL....H NOT GETTING BETTER.....I OTHER_____ X (SPECIFY) DON'T KNOW.....Z	
469	CHECK 459, ALL COLUMNS: NO CHILD RECEIVED ORS ☐ ANY CHILD RECEIVED ORS ☐		501
470	Have you ever heard of a special product called ORALITE or ORS you can get for the treatment of diarrhoea?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	PRESENCE OF OTHERS AT THIS POINT.	YES NO CHILDREN UNDER 10.....1 2 HUSBAND/PARTNER.....1 2 OTHER MALES.....1 2 OTHER FEMALES.....1 2	
502	Are you currently married or living with a man?	YES, CURRENTLY MARRIED.....1 YES, LIVING WITH A MAN.....2 → 507 NO, NOT IN UNION.....3	
503	Do you currently have a regular sexual partner, an occasional sexual partner, or no sexual partner at all?	REGULAR SEXUAL PARTNER.....1 OCCASIONAL SEXUAL PARTNER.....2 NO SEXUAL PARTNER.....3	
504	Have you ever been married or lived with a man?	YES, FORMERLY MARRIED.....1 → 506 YES, LIVED WITH A MAN.....2 → 511 NO.....3	
505	ENTER '0' IN COLUMN 3 OF CALENDAR IN THE MONTH OF INTERVIEW, AND IN EACH MONTH BACK TO JANUARY 1993. → 515F		
506	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED.....1 DIVORCED.....2 → 511 SEPARATED.....3	
507	Is your husband/partner living with you now or is he staying elsewhere?	LIVES WITH HER.....1 STAYING ELSEWHERE.....2	
507A	WRITE THE LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE FOR HER HUSBAND. IF HE IS NOT LISTED IN THE HOUSEHOLD, WRITE '00'.	☐☐	
508	Does your husband/partner have any other wives besides yourself?	YES.....1 NO.....2 → 511	
509	How many other wives does he have?	NUMBER..... ☐☐ DON'T KNOW.....98	
511	Have you been married or lived with a man only once, or more than once?	ONCE.....1 MORE THAN ONCE.....2	
512	CHECK 511: MARRIED/LIVED WITH A MAN ONLY ONCE → In what month and year did you start living with your husband/partner? MARRIED/LIVED WITH A MAN MORE THAN ONCE → Now we will talk about your first husband/partner. In what month and year did you start living with him?	MONTH..... ☐☐ DON'T KNOW MONTH.....98 YEAR.....| 1| 9| | | → 514 DON'T KNOW YEAR.....9998	
513	How old were you when you started living with him?	AGE..... ☐☐	
514	DETERMINE MONTHS MARRIED OR IN UNION SINCE JANUARY 1993. ENTER 'X' IN COLUMN 3 OF CALENDAR FOR EACH MONTH MARRIED OR IN UNION, AND ENTER '0' FOR EACH MONTH NOT MARRIED/NOT IN UNION, SINCE JANUARY 1993. FOR WOMEN WITH MORE THAN ONE UNION: PROBE FOR DATE WHEN CURRENT UNION STARTED AND, IF APPROPRIATE, FOR STARTING AND TERMINATION DATES OF ANY PREVIOUS UNIONS. FOR WOMEN NOT CURRENTLY IN UNION: PROBE FOR DATE WHEN LAST UNION STARTED AND FOR TERMINATION DATE AND, IF APPROPRIATE, FOR THE STARTING AND TERMINATION DATES OF ANY PREVIOUS UNIONS.		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
514A	CHECK 502: CURRENTLY MARRIED OR LIVING WITH A MAN	NOT IN UNION	515F
515	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family planning issues. When was the last time you had sexual intercourse with (your husband/the man you are living with)?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 BEFORE LAST BIRTH.....996	
515A	CHECK 301 AND 302: KNOWS CONDOM: The last time you had sex with (your husband/ the man you are living with), was a condom used? DOES NOT KNOW CONDOM: Some men use a condom, which means that they use a rubber sheath on their penis during sexual intercourse. The last time you had sex with (your husband/ the man you are living with), was a condom used?	YES.....1 NO.....2 DOES NOT KNOW.....8	
515B	Have you had sex with anyone other than (your husband/ the man you are living with) in the last 12 months?	YES.....1 NO.....2	517
515C	When was the last time you had sexual intercourse with someone other than (your husband/ the man you are living with)?	DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 BEFORE LAST BIRTH.....996	
515D	Was a condom used that time?	YES.....1 NO.....2 DOES NOT KNOW.....8	
515E	In the last 12 months, how many different persons other than (your husband/the man you are living with) have you had sex with?	NUMBER OF PERSONS..... DOES NOT KNOW.....98	515J
515F	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family planning issues. When was the last time you had sexual intercourse (if ever)?	NEVER.....000 DAYS AGO.....1 WEEKS AGO.....2 MONTHS AGO.....3 YEARS AGO.....4 BEFORE LAST BIRTH.....996	608

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
515G	CHECK 301 AND 302: KNOWS CONDOM ☐ — DOES NOT KNOW CONDOM ☐ The last time you had sex, was a condom used? Some men use a condom, which means that they use a rubber sheath on their penis during sexual intercourse. The last time you had sex, was a condom used?	YES.....1 NO.....2 DOES NOT KNOW.....8	
515H	CHECK 515F: LESS THAN 12 MONTHS SINCE LAST SEX ☐ 12 MONTHS OR LONGER SINCE LAST SEX ☐		515J
515I	In the last 12 months, how many different persons have you had sex with?	NUMBER OF PERSONS..... ☐☐ DOES NOT KNOW.....98	
515J	CHECK 501: CURRENTLY MARRIED OR LIVING WITH A MAN ☐ — NOT CURRENTLY MARRIED AND NOT LIVING WITH A MAN ☐ The last time you had sex, was it with your (husband/man you live with), a regular partner, a casual acquaintance, or someone else? The last time you had sex, was it with a regular partner, a casual acquaintance, or someone else?	HUSBAND/MAN LIVES WITH.....1 REGULAR PARTNER.....2 ACQUAINTANCE.....3 SOMEONE ELSE.....4	
517	Do you know of a place where you can get condoms?	YES.....1 NO.....2	519
518	Where is that? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTRE.....12 GOVERNMENT DISPENSARY.....13 MEDICAL PRIVATE SECTOR MISSION,CHURCH HOSPITAL/CLINIC.21 FPAK HEALTH CENTRE/CLINIC.....22 OTHER NON-GOVERNMENTAL SERVICE.23 PRIVATE HOSPITAL OR CLINIC.....24 PHARMACY.....25 PRIVATE DOCTOR.....26 MOBILE CLINIC.....31 COMMUNITY BASED DISTRIBUTOR.....41 SHOP.....51 FRIENDS/RELATIVES.....61 OTHER_____96 (SPECIFY)	
519	Have you ever heard of a condom called "Trust"?	YES.....1 NO.....2	
519a	Would you be willing to pay for condoms?	YES.....1 NO.....2	520
519b	How much would you be willing to pay for a package of 3 condoms? Would you pay as much as 50 shillings? IF NO: would you pay as much as 25 shillings? IF NO: would you pay as much as 10 shillings? IF NO: would you pay as much as 5 shillings? IF NO: ENTER < 5 SHILLINGS	50 SHILLINGS.....1 25 SHILLINGS.....2 10 SHILLINGS.....3 5 SHILLINGS.....4 < 5 SHILLINGS.....5 DON'T KNOW.....8	
520	How old were you when you first had sexual intercourse?	AGE..... ☐☐ FIRST TIME WHEN MARRIED.....96	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	CHECK 314: NEITHER STERILIZED ☐ — HE OR SHE STERILIZED ☐		612
602	CHECK 227: NOT PREGANT OR UNSURE ☐ — PREGNANT ☐ Now I have some questions about the future. Would you like to have (a/another) child or would you prefer not to have any (more) children? Now I have some questions about the future. After the child you are expecting now, would you like to have another child or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD.....1 NO MORE/NONE.....2 SAYS SHE CAN'T GET PREGNANT.....3 UNDECIDED/DON'T KNOW.....8	 606 604
603	CHECK 227: NOT PREGANT OR UNSURE ☐ — PREGNANT ☐ How long would you like to wait from now before the birth of (a/another) child? After the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ SOON/NOW.....993 SAYS SHE CAN'T GET PREGNANT...994 AFTER MARRIAGE.....995 OTHER_____ 996 (SPECIFY) DON'T KNOW.....998	 606
604	CHECK 227: NOT PREGNANT OR UNSURE ☐ — PREGNANT ☐		607
605	If you became pregnant in the next few weeks, would you be &dDhappy &d@, &dDunhappy &d@, or would it &dDnot matter &d@ very much?	HAPPY.....1 UNHAPPY.....2 WOULD NOT MATTER.....3	
606	CHECK 313: USING A METHOD? NOT ASKED ☐ — NOT CURRENTLY USING ☐ — CURRENTLY USING ☐		612
607	Do you think you will use a method to delay or avoid pregnancy within the next 12 months?	YES.....1 NO.....2 DON'T KNOW.....8	609
608	Do you think you will use a method at any time in the future?	YES.....1 NO.....2 DON'T KNOW.....8	 610
609	Which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 IMPLANTS.....04 DIAPHRAGM/FOAM/JELLY.....05 CONDOM.....06 FEMALE STERILIZATION.....07 MALE STERILIZATION.....08 PERIODIC ABSTINENCE.....09 WITHDRAWAL.....10 OTHER_____ 96 (SPECIFY) UNSURE.....98	612

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
610	What is the main reason that you think you will never use a method?	NOT MARRIED.....11 NOT INTENDING TO MARRY.....12 FERTILITY-RELATED REASONS INFREQUENT SEX.....22 MENOPAUSAL/HYSTERECTOMY.....23 SUBFECUND/INFECUND.....24 WANTS MORE CHILDREN.....26 OPPOSITION TO USE RESPONDENT OPPOSED.....31 HUSBAND OPPOSED.....32 OTHERS OPPOSED.....33 RELIGIOUS PROHIBITION.....34 LACK OF KNOWLEDGE KNOWS NO METHOD.....41 KNOWS NO SOURCE.....42 METHOD-RELATED REASONS HEALTH CONCERNS.....51 FEAR OF SIDE EFFECTS.....52 LACK OF ACCESS/TOO FAR.....53 COST TOO MUCH.....54 INCONVENIENT TO USE.....55 INTERFERES WITH BODY'S NORMAL PROCESSES.....56 OTHER_____ 96 (SPECIFY) DON'T KNOW.....98	612
611	Would you ever use a method if you were married?	YES.....1 NO.....2 DON'T KNOW.....8	
612	CHECK 216: HAS LIVING CHILDREN ☐ — If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN ☐ — If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NUMBER..... ☐☐ OTHER_____ 96 (SPECIFY)	614
613	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter?	BOYS NUMBER..... ☐☐ GIRLS NUMBER..... ☐☐ EITHER NUMBER..... ☐☐ OTHER_____ 999996 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
614	Would you say that you approve or disapprove of couples using a method to avoid getting pregnant?	APPROVE.....1 DISAPPROVE.....2 NO OPINION.....3	
615	Is it acceptable or not acceptable to you for information on family planning to be provided: On the radio? On the television?	ACCEPT-ABLE / NOT ACCEPT-ABLE / DK RADIO.....1 2 8 TELEVISION.....1 2 8	
616	In the last six months have you heard about family planning: On the radio? On the television? In a newspaper or magazine? From a billboard? At a live drama? At a community event?	YES NO RADIO.....1 2 TELEVISION.....1 2 NEWSPAPER OR MAGAZINE.....1 2 BILLBOARD.....1 2 LIVE DRAMA.....1 2 COMMUNITY EVENT.....1 2	
616a	CHECK 616: FAMILY PLANNING ON RADIO? YES ☐ NO ☐		616c
616b	Which programs have you heard? Any others? DO NOT READ CODES TO RESPONDENT. CIRCLE ALL MENTIONED.	UGUA POLE.....A MTU NI AFYA.....B DAKTARI WA RADIO.....C KINGA YASHINDA TIBA.....D TEMBEA NA MAJIRA.....E USIPOZIBA UFA UTAJENGA UKUTA....F HEALTH WATCH.....G HEALTH IS LIFE.....H MAN AND MEDICINE.....I AQUAFRESH HEALTH.....J OTHER_____X (SPECIFY) DOES NOT KNOW/CANNOT REMEMBER...Z	
616c	Do you think that information about family planning should be available for persons under 18 years of age?	YES.....1 NO.....2 DOES NOT KNOW.....8	
616d	Do you think that family planning services should be available for persons under 18 years of age?	YES.....1 NO.....2 DOES NOT KNOW.....8	
618	In the last six months have you discussed the practice of family planning with your friends, neighbors, or relatives?	YES.....1 NO.....2	620
619	With whom? Anyone else? RECORD ALL MENTIONED.	HUSBAND/PARTNER.....A MOTHER.....B FATHER.....C SISTER(S).....D BROTHER(S).....E DAUGHTER.....F MOTHER-IN-LAW.....G FRIENDS/NEIGHBORS.....H OTHER_____ X (SPECIFY)	

620	CHECK 502: YES, CURRENTLY MARRIED → 621 YES, LIVING WITH A MAN → 621 NO, NOT IN UNION → 701	
621	Spouses/partners do not always agree on everything. Now I want to ask you about your husband's/partner's views on family planning. Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 DON'T KNOW.....8
622	How often have you talked to your husband/partner about family planning in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3
623	Do you think your husband/partner wants the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER.....1 MORE CHILDREN.....2 FEWER CHILDREN.....3 DON'T KNOW.....8

&dDSECTION 7. HUSBAND'S BACKGROUND, WOMAN'S WORK AND RESIDENCE &d@

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 502 AND 504: CURRENTLY MARRIED/ LIVING WITH A MAN FORMERLY MARRIED/ LIVED WITH A MAN NEVER MARRIED AND NEVER IN UNION		703 709
702	How old was your husband/partner on his last birthday?	AGE.....	
703	Did your (last) husband/partner ever attend school?	YES.....1 NO.....2	 706
704	What was the highest level of school he attended: primary, secondary, or higher?	PRIMARY .....1 SECONDARY.....2 HIGHER.....3 DON'T KNOW.....8	 706
705	What was the highest (standard/form/year) he completed at that level?	STANDARD/FORM/YEARS..... DON'T KNOW.....98	
706	What is (was) your (last) husband/partner's occupation? That is, what kind of work does (did) he mainly do?	_____ _____ _____	
707	CHECK 706: WORKS (WORKED) IN AGRICULTURE DOES (DID) NOT WORK IN AGRICULTURE		709
708	(Does/did) your husband/partner work mainly on his own land or on family land, or (does/did) he rent land, or (does/did) he work on someone else's land?	HIS LAND.....1 FAMILY LAND.....2 RENTED LAND.....3 SOMEONE ELSE'S LAND.....4	
709	Aside from your own housework, are you currently working?	YES.....1 NO.....2	712
710	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Are you currently doing any of these things or any other work?	YES.....1 NO.....2	712
711	Have you done any work in the last 12 months?	YES.....1 NO.....2	 726
712	What is your occupation, that is, what kind of work do you mainly do?	_____ _____ _____	
713	CHECK 712: WORKS IN AGRICULTURE DOES NOT WORK IN AGRICULTURE		715
714	Do you work mainly on your own land or on family land, or do you rent land, or work on someone else's land?	OWN LAND.....1 FAMILY LAND.....2 RENTED LAND.....3 SOMEONE ELSE'S LAND.....4	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
715	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER.....1 FOR SOMEONE ELSE.....2 SELF-EMPLOYED.....3	
716	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR.....1 SEASONALLY/PART OF THE YEAR.....2 ONCE IN A WHILE.....3	—— 718 —— 719
717	During the last 12 months, how many months did you work?	NUMBER OF MONTHS..... ☐☐	
718	(In the months you worked,) How many days a week did you usually work?	NUMBER OF DAYS..... ☐	—— 720
719	During the last 12 months, approximately how many days did you work?	NUMBER OF DAYS..... ☐☐☐	
720	Do you earn cash for your work? PROBE: Do you make money for working?	YES.....1 NO.....2	—— 723
721	How much do you earn for this work per month? Is it less than 1,000 shillings? 1,000-5,000 shillings? 5,000-10,000 shillings? or more than 10,000 shillings?	LESS THAN 1,000.....1 1,000-5,000.....2 5,000-10,000.....3 MORE THAN 10,000.....4	
722	CHECK 502: YES, CURRENTLY MARRIED YES, LIVING WITH A MAN ☐ — Who mainly decides how the money you earn will be used: you, your husband/partner, you and your husband/partner jointly, or someone else? NO, NOT IN UNION ☐ — Who mainly decides how the money you earn will be used: you, someone else, or you and someone else jointly?	RESPONDENT DECIDES.....1 HUSBAND/PARTNER DECIDES.....2 JOINTLY WITH HUSBAND/PARTNER....3 SOMEONE ELSE DECIDES.....4 JOINTLY WITH SOMEONE ELSE.....5	
723	Do you usually work at home or away from home?	HOME.....1 AWAY.....2	
724	CHECK 217 AND 218: IS A CHILD LIVING AT HOME WHO IS AGE 5 OR LESS? YES ☐ NO ☐		—— 726
725	Who usually takes care of (NAME OF YOUNGEST CHILD AT HOME) while you are working?	RESPONDENT.....01 HUSBAND/PARTNER.....02 OLDER FEMALE CHILD.....03 OLDER MALE CHILD.....04 OTHER RELATIVES.....05 NEIGHBORS.....06 FRIENDS.....07 SERVANTS/HIRED HELP.....08 CHILD IS IN SCHOOL.....09 INSTITUTIONAL CHILDCARE.....10 HAS NOT WORKED SINCE LAST BIRTH.....95 OTHER_____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
726	Have you lived in only one community or in more than one community since January 1993?	ONE COMMUNITY.....1 MORE THAN ONE COMMUNITY.....2	728
727	IN COLUMN 4 OF CALENDAR, ENTER THE APPROPRIATE CODE FOR CURRENT COMMUNITY, ('1' CITY, '2' TOWN, '3' COUNTRYSIDE). BEGIN IN THE MONTH OF INTERVIEW AND CONTINUE WITH ALL PRECEDING MONTHS BACK TO JAN. 1993. THEN SKIP TO		801A
728	In what month and year did you move to (NAME OF COMMUNITY OF INTERVIEW)? IN COLUMN 4 OF CALENDAR, ENTER 'X' IN THE MONTH AND YEAR OF THE MOVE. IN SUBSEQUENT MONTHS ENTER THE APPROPRIATE CODE FOR TYPE OF COMMUNITY, ('1' CITY, '2' TOWN, '3' COUNTRYSIDE). CONTINUE PROBING FOR PREVIOUS COMMUNITIES, AND RECORD MOVES AND TYPES OF COMMUNITIES ACCORDINGLY. ILLUSTRATIVE QUESTIONS: · Where did you live before.....? · In what month and year did you arrive there? · Is that place in a city, a town, or in the countryside?		

&dDSECTION 8. AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES &d@

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801A	Have you heard about diseases that can be transmitted through sex?	YES.....1 NO.....2	→ 801L
801B	Which diseases do you know? RECORD ALL RESPONSES	SYPHILIS.....A GONORRHEA.....B HIV/AIDS.....C GENITAL WARTS .....D UGONGWA ZINAA.....E OTHER_____ W (SPECIFY) OTHER_____ X (SPECIFY) DOES NOT KNOW.....Z	
801C	CHECK 515 AND 515F: HAS HAD SEXUAL INTERCOURSE ☐ HAS NEVER HAD SEXUAL INTERCOURSE ☐		→ 801K
801D	During the last twelve months, did you have any of these diseases?	YES.....1 NO.....2 DOES NOT KNOW.....8	→ 801K
801E	Which of the diseases did you have? RECORD ALL RESPONSES	SYPHILIS.....A GONORRHEA.....B HIV/AIDS.....C GENITAL WARTS.....D UGONGWA ZINAA.....E OTHER_____ W (SPECIFY) OTHER_____ X (SPECIFY) DON'T KNOW.....Z	
801F	The last time you had (DISEASE(S) FROM 801E) did you seek advice or treatment?	YES.....1 NO.....2	→ 801H
801G	Where did you seek advice or treatment? Any other place or person? RECORD ALL MENTIONED	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER.....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC.....D OTHER PVT.HOSP/CLINIC. .....E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMMUNITY BASED DISTRIBUTOR.....I COMM. HEALTH WORKER.....J OTHER SOURCE SHOP.....K HERBALIST./TRAD.PRACT.....L RELATIVE/FRIEND.....M OTHER_____ .....X (SPECIFY) DOES NOT KNOW.....Z	
801H	When you had (DISEASE(S) FROM 801E) did you inform your partner(s)?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801I	When you had (DISEASE(S) FROM 801E) did you do something not to infect your partner(s)?	YES.....1 NO.....2 PARTNER ALREADY INFECTED.....3	801K
801J	What did you do? RECORD ALL MENTIONED	NO SEXUAL INTERCOURSE.....A USED CONDOMS.....B TOOK MEDICINES.....C OTHER_____ X (SPECIFY)	
801K	CHECK 801B DID NOT MENTION 'AIDS' ☐ MENTIONED 'AIDS' ☐		802
801L	Have you ever heard of an illness called AIDS?	YES.....1 NO.....2	811C
802	From which sources of information have you learned most about AIDS? Any other sources? RECORD ALL MENTIONED	RADIO.....A TV.....B NEWSPAPERS/MAGAZINES.....C PAMPLETS/POSTERS.....D HEALTH WORKERS.....E MOSQUES/CHURCHES.....F SCHOOLS/TEACHERS.....G COMMUNITY MEETINGS.....H FRIENDS/RELATIVES.....I WORK PLACE.....J DRAMA/PERFORMANCE.....K OTHER_____X (SPECIFY)	
802B	How can a person get AIDS? Any other ways? RECORD ALL MENTIONED	SEXUAL INTERCOURSE.....A SEXUAL INTERCOURSE WITH MULTIPLE PARTNERS.....B SEX WITH PROSTITUTES.....C NOT USING CONDOM.....D HOMOSEXUAL CONTACT.....E MOTHER TO CHILD.....F BLOOD TRANSFUSION.....G SHARING RAZORS BLADES.....H INJECTIONS.....I KISSING.....J MOSQUITO BITES.....K OTHER_____W (SPECIFY) OTHER_____X (SPECIFY) DOES NOT KNOW.....Z	
803	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES.....1 NO.....2 DOES NOT KNOW.....8	807
804	What can a person do? Any other ways? RECORD ALL MENTIONED	ABSTAIN FROM SEX.....B USE CONDOMS.....C AVOID MULTIPLE SEX PARTNERS.....D AVOID SEX WITH PROSTITUTES.....E AVOID SEX WITH HOMOSEXUALS.....F BE FAITHFUL TO PARTNER.....G AVOID BLOOD TRANSFUSIONS.....H AVOID INJECTIONS.....I AVOID KISSING.....J AVOID MOSQUITO BITES.....K SEEK PROTECTION FROM FROM TRADITIONAL HEALER.....L OTHER_____W (SPECIFY) OTHER_____X (SPECIFY) DOES NOT KNOW.....Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
807	Is it possible for a healthy-looking person to have the AIDS virus?	YES.....1 NO.....2 DOES NOT KNOW.....8	
808	Do you think that persons with AIDS almost never die from the disease, sometimes die or almost always die from the disease?	ALMOST NEVER.....1 SOMETIMES.....2 ALMOST ALWAYS.....3 DOES NOT KNOW.....8	
808A	Can AIDS be cured?	YES.....1 NO.....2 DOES NOT KNOW.....8	
808B	Can AIDS be transmitted from mother to child?	YES.....1 NO.....2 DOES NOT KNOW.....8	
808C	Do you personally know someone who has AIDS or has died of AIDS?	YES.....1 NO.....2 DOES NOT KNOW.....8	
809	Do you think your chances of getting AIDS are small, moderate, great, or no risk at all?	SMALL.....1 MODERATE.....2 GREAT.....3 NO RISK AT ALL.....4 HAS AIDS.....5	 809C 811A
809B	Why do you think that you have (NO RISK/A SMALL CHANCE) of getting AIDS? Any other reasons? RECORD ALL MENTIONED	ABSTAIN FROM SEX.....B USE CONDOMS.....C HAVE ONLY ONE SEX PARTNER.....D LIMITED NUMBER OF SEX PARTNERS..E SPOUSE HAS NO OTHER PARTNER.....G NO HOMOSEXUAL CONTACT.....H NO BLOOD TRANSFUSIONS.....I NO INJECTIONS.....J OTHER_____X (SPECIFY)	811A
809C	Why do you think that you have a (MODERATE/GREAT) chance of getting AIDS? Any other reasons? RECORD ALL MENTIONED	DO NOT USE CONDOMS.....C MORE THAN ONE SEX PARTNER.....D MANY SEX PARTNERS.....E SPOUSE HAS OTHER PARTNER(S).....G HOMOSEXUAL CONTACT.....H HAD BLOOD TRANSFUSION.....I HAD INJECTIONS.....J OTHER_____X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODES	SKIP
811A	Since you heard of AIDS, have you changed your behavior to prevent getting AIDS? IF YES, what did you do? Anything else? RECORD ALL MENTIONED	DIDN'T START SEX.....A STOPPED ALL SEX.....B STARTED USING CONDOMS.....C RESTRICTED SEX TO ONE PARTNER...D REDUCED NUMBER OF PARTNERS.....E ASK SPOUSE TO BE FAITHFUL.....G NO MORE HOMOSEXUAL CONTACTS.....H STOPPED INJECTIONS.....J OTHER_____W (SPECIFY) OTHER_____X (SPECIFY) NO BEHAVIOR CHANGE.....Y	811C
811B	Has your knowledge of AIDS influenced or changed your decisions about having sex or your sexual behavior? IF YES, In what way? RECORD ALL MENTIONED	DIDN'T START SEX.....A STOPPED ALL SEX.....B STARTED USING CONDOMS.....C RESTRICTED SEX TO ONE PARTNER...D REDUCED NUMBER OF PARTNERS.....E NO MORE HOMOSEXUAL CONTACTS.....H OTHER_____X (SPECIFY) NO CHANGE IN SEXUAL BEHAVIOR....Y DOES NOT KNOW.....Z	
811C	Some people use a condom during sexual intercourse to avoid getting AIDS or other sexually transmitted diseases? Have you ever heard of this?	YES.....1 NO.....2	811F
811D	CHECK 515 AND 515F: HAS HAD SEXUAL INTERCOURSE ☐	HAS NEVER HAD SEXUAL INTERCOURSE ☐	812
811E	We may already have talked about this. Have you ever used a condom during sex to avoid getting or transmitting diseases, such as AIDS?	YES.....1 NO.....2	811G
811F	CHECK 515 AND 515F: HAS HAD SEXUAL INTERCOURSE ☐	HAS NEVER HAD SEXUAL INTERCOURSE ☐	812
811G	Have you given or received money, gifts or favours in return for sex at any time in the last 12 months?	YES.....1 NO.....2	

812	CHECK 801B and 801L KNOWS 'AIDS' [ ] DOES NOT KNOW 'AIDS' [ ]		→ 901
813	Have you ever been tested to see if you have the AIDS virus?	YES....1 NO....2 DOES NOT KNOW/NOT SURE....8	1 → 813D
813A	Would you like to be tested for the AIDS virus?	YES....1 NO....2 DOES NOT KNOW/NOT SURE....8	
813B	Do you know a place where you could go to get an AIDS test?	YES....1 NO....2 DOES NOT KNOW/NOT SURE....8	2, 8 → 814
813C	Where could you go?	PUBLIC SECTOR GOVT. HOSPITAL....A GOVT. HEALTH CENTER....B GOVT. DISPENSARY....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC....D OTHER PVT.HOSP/CLINIC. ....E PHARMACY....F PRIVATE DOCTOR....G MOBILE CLINIC....H COMMUNITY BASED DISTRIBUTOR....I COMM. HEALTH WORKER....J OTHER SOURCE SHOP....K HERBALIST./TRAD.PRACT....L RELATIVE/FRIEND....M OTHER______ ....X (SPECIFY) DOES NOT KNOW....Z	
813D	Where did you go?		
814	What do you suggest is the most important thing the government should do for people who have AIDS?	PROVIDE MEDICAL TREATMENT....1 HELP RELATIVES PROVIDE CARE....2 ISOLATE/QUARANTINE/JAIL PEOPLE....3 NOT BE INVOLVED....4 OTHER______6 (SPECIFY)	
815	If a member of your family is suffering from AIDS would you be willing to care for him or her at home?	YES....1 NO....2 DEPENDS....3 NOT SURE/DO NOT KNOW....8	

&dDSECTION 9. MATERNAL MORTALITY &d@

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Now I would like to ask you some questions about your brothers and sisters, that is, all of the children born to your natural mother, including those who are living with you, those living elsewhere and those who have died. How many children did your mother give give birth to, including you?	NUMBER OF BIRTHS TO NATURAL MOTHER.......... [ ][ ]	
902	CHECK 901: TWO OR MORE BIRTHS [ ]	ONLY ONE BIRTH (RESPONDENT ONLY) [ ]	916
903	How many of these births did your mother have before you were born?	NUMBER OF PRECEDING BIRTHS....... [ ][ ]	

	[1]	[2]	[3]	[4]	[5]	[6]
904 What was the name given to your oldest(next oldest) brother or sister?	-------------	-------------	-------------	-------------	-------------	-------------
905 Is (NAME) male or female?	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2
906 Is (NAME) still alive?	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [2]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [3]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [4]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [5]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [6]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [7]
907 How old is (NAME)?	[ ][ ] GO TO [2]	[ ][ ] GO TO [3]	[ ][ ] GO TO [4]	[ ][ ] GO TO [5]	[ ][ ] GO TO [6]	[ ][ ] GO TO [7]
909 How many years ago did (NAME) die?	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]	[ ][ ]
910 How old was (NAME) when she/he died?	[ ][ ] IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [2]	[ ][ ] IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [3]	[ ][ ] IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [4]	[ ][ ] IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [5]	[ ][ ] IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [6]	[ ][ ] IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [7]
911 Was (NAME) pregnant when she died?	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2
912 Did (NAME) die during childbirth?	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2
913 Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2
914 Where did the death of (NAME) take place?	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4
915 How many children did (NAME) give birth to during her lifetime?	[ ][ ] GO TO [2]	[ ][ ] GO TO [3]	[ ][ ] GO TO [4]	[ ][ ] GO TO [5]	[ ][ ] GO TO [6]	[ ][ ] GO TO [7]

916 IF NO MORE BROTHERS OR SISTERS, GO TO NEXT SECTION

	[7]	[8]	[9]	[10]	[11]	[12]
904 What was the name given to your oldest (next oldest) brother or sister?						
905 Is (NAME) male or female?	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2	MALE.......1 FEMALE.....2
906 Is (NAME) still alive?	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [8]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [9]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [10]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [11]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [12]	YES........1 NO.........2 GO TO 909 DK.........8 GO TO [13]
907 How old is (NAME)?	GO TO [8]	GO TO [9]	GO TO [10]	GO TO [11]	GO TO [12]	GO TO [13]
909 How many years ago did (NAME) die?						
910 How old was (NAME) when she/he died?	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [8]	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [9]	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [10]	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [11]	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [12]	IF MALE OR DIED BEFORE 12 YEARS OF AGE GO TO [13]
911 Was (NAME) pregnant when she died?	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2
912 Did (NAME) die during childbirth?	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2	YES........1 GO TO 914 NO.........2
913 Did (NAME) die within two months after the end of a pregnancy or childbirth?	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2	YES........1 NO.........2
914 Where did the death of (NAME) take place?	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4	HOME.......1 ON WAY TO HOSP/CLIN..2 HOSP/CLIN..3 ELSE.......4
915 How many children did (NAME) give birth to during her lifetime?	GO TO [8]	GO TO [9]	GO TO [10]	GO TO [11]	GO TO [12]	GO TO [13]

916 IF NO MORE BROTHERS OR SISTERS, GO TO NEXT SECTION

&dDSECTION 10. FEMALE CIRCUMCISION &d@

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1001	In many communities, girls are introduced to womanhood by participating in some ceremonies and undergoing specific procedures. Now, I want to discuss with you the circumcision of girls. In this community, is female circumcision practiced?	YES.....1 NO.....2	
1002	Are you circumcised?	YES.....1 NO.....2	→ 1004
1003	How old were you when you were circumcised?	AGE IN COMPLETED YEARS..... ☐☐ DOES NOT KNOW.....98	
1004	CHECK 214 AND 217: HAS AT LEAST ONE LIVING DAUGHTER ☐ / HAS NO LIVING DAUGHTER ☐		→ 1012
1005	Is (NAME OF ELDEST DAUGHTER) circumcised?	YES.....1 NO.....2	→ 1007
1006	Do you plan to have (NAME OF ELDEST DAUGHTER) circumcised?	YES.....1 NO.....2	→ 1012
1007	How old was she when she was circumcised?	AGE IN COMPLETED YEARS..... ☐☐ DOES NOT KNOW.....98	
1008	Who performed the circumcision?	DOCTOR.....01 TRAINED NURSE/MIDWIFE.....02 TRADITIONAL MIDWIFE.....03 TRADITIONAL CIRCUMCISER.....04 OTHER _____ 96 (SPECIFY) DOES NOT KNOW.....98	
1009	Where was the circumcision performed?	OWN HOME.....01 ANOTHER'S HOME.....02 HOME OF CIRCUMCISION PRACTITIONER.....03 OTHER _____ 96 (SPECIFY) DOES NOT KNOW.....98	
1009a	Which instruments were used to perform the circumcision?	OWN BLADE/RAZOR.....01 SHARED BLADE/RAZOR.....02 SCALPEL.....03 KNIIFE.....04 OTHER _____ 96 (SPECIFY) DOES NOT KNOW.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1010	During the circumcision of (NAME OF ELDEST DAUGHTER), which parts of the body were removed? RECORD PARTS AS REPORTED ON LINES PROVIDED. LEAVE THE BOX BLANK.	1._____ ☐ 2._____ 3._____ DOES NOT KNOW.....8	
1011	Before (NAME OF ELDEST DAUGHTER) circumcised, was she informed about the details of the circumcision procedures?	YES.....1 NO.....2	
1012	Do you think female circumcision should be continued, or should it be discontinued?	CONTINUED.....1 DISCONTINUED.....2 DOES NOT KNOW.....8	 → 1014 → 1015
1013	Why do you think female circumcision should be continued? Any other reasons? RECORD ALL REASONS MENTIONED.	GOOD TRADITION.....A CUSTOM AND TRADITION.....B RELIGIOUS DEMAND.....C CLEANLINESS.....D BETTER MARRIAGE PROSPECTS.....E BETTER MARRIAGE LIFE.....F GREATER PLEASURE OF HUSBAND.....G PRESERVATION OF VIRGINITY.....H PREVENTION OF IMMORALITY.....I OTHER_____X (SPECIFY) DOES NOT KNOW.....Z	→ 1015
1014	Why do you think female circumcision should be discontinued? Any other reasons? RECORD ALL REASONS MENTIONED.	BAD TRADITION.....A AGAINST RELIGION.....B MEDICAL COMPLICATIONS.....C PAINFUL PERSONAL EXPERIENCE.....D AGAINST DIGNITY OF WOMEN.....E PREVENTS SEXUAL SATISFACTION...F FALSE STATUS/LIMITS EDUCATION...G OTHER_____X (SPECIFY) DOES NOT KNOW.....Z	
1015	In the last 12 months, have you discussed the practice of female circumcision with anyone? IF YES: with whom? RECORD ALL PERSONS MENTIONED.	NO ONE.....A RESPONDENT'S HUSBAND.....B RESPONDENT'S MOTHER.....C RESPONDENT'S MOTHER-IN-LAW.....D OTHER RELATIVE OF RESPONDENT....E OTHER RELATIVE OF HUSBAND.....F OTHER_____X (SPECIFY)	
1016	RECORD THE TIME	HOUR..... ☐☐ MINUTES..... ☐☐	

&dDSECTION 11. HEIGHT AND WEIGHT &d@

1101	CHECK 215:	ONE OR MORE BIRTHS SINCE JAN. 1993 ☐	NO BIRTHS SINCE JAN. 1993 ☐ END

IN 1102 (COLUMNS 2 AND 3) RECORD THE LINE NUMBER FOR EACH CHILD BORN SINCE JANUARY 1993 AND STILL ALIVE. IN 1103 AND1104 RECORD THE NAME AND BIRTH DATE FOR THE RESPONDENT AND FOR ALL LIVING CHILDREN BORN SINCE JANUARY 1993. IN 1106 AND 1108 RECORD HEIGHT AND WEIGHT OF THE RESPONDENT AND THE LIVING CHILDREN. (NOTE: ALL RESPONDENTS WITH ONE OR MORE BIRTHS SINCE JANUARY 1993 SHOULD BE WEIGHED AND MEASURED EVEN IF ALL OF THE CHILDREN HAVE DIED. IF THERE ARE MORE THAN 2 LIVING CHILDREN BORN SINCE JANUARY 1993, USE ADDITIONAL QUESTIONNAIRES).

		1 RESPONDENT	2 YOUNGEST LIVING CHILD	3 NEXT-TO-YOUNGEST LIVING CHILD
1102	LINE NO. FROM Q.212		☐☐	☐☐
1103	NAME FROM Q.212 FOR CHILDREN	(NAME) _____	(NAME) _____	(NAME) _____
1104	DATE OF BIRTH FROM Q.215, AND ASK FOR DAY OF BIRTH		DAY..... ☐☐ MONTH..... ☐☐ YEAR.. ☐☐☐☐	DAY..... ☐☐ MONTH..... ☐☐ YEAR.. ☐☐☐☐
1105	BCG SCAR ON LEFT FOREARM		SCAR SEEN.....1 NO SCAR.....2	SCAR SEEN.....1 NO SCAR.....2
1106	HEIGHT (in centimeters)	☐☐☐.☐	☐☐☐.☐	☐☐☐.☐
1107	WAS LENGTH/HEIGHT OF CHILD MEASURED LYING DOWN OR STANDING UP?		LYING.....1 STANDING.....2	LYING.....1 STANDING.....2
1108	WEIGHT (in kilograms)	☐☐☐.☐	0☐☐.☐	0☐☐.☐
1109	DATE WEIGHED AND MEASURED	DAY..... ☐☐ MONTH..... ☐☐ YEAR.. 1 9 ☐☐	DAY..... ☐☐ MONTH..... ☐☐ YEAR.. 1 9 ☐☐	DAY..... ☐☐ MONTH..... ☐☐ YEAR.. 1 9 ☐☐
1110	RESULT	MEASURED.....1 NOT PRESENT.....3 REFUSED.....4 OTHER.....6 (SPECIFY)	CHILD MEASURED....1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED.....4 MOTHER REFUSED....5 OTHER.....6 (SPECIFY)	CHILD MEASURED....1 CHILD SICK.....2 CHILD NOT PRESENT.....3 CHILD REFUSED.....4 MOTHER REFUSED....5 OTHER.....6 (SPECIFY)
1111	NAME OF MEASURER: _____ ☐☐		NAME OF ASSISTANT: _____ ☐☐	

&dDINTERVIEWER'S OBSERVATIONS &d@
To be filled in after completing interview

Comments
about Respondent: _____

_____

_____

Comments on
Specific Questions: _____

_____

_____

Any Other Comments: _____

_____

_____

&dDSUPERVISOR'S OBSERVATIONS &d@

_____

_____

_____

Name of Supervisor: _____ Date: _____

&dDEDITOR'S OBSERVATIONS &d@

_____

_____

_____

Name of Editor: _____ Date: _____

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INSTRUCTIONS:

ONLY ONE CODE SHOULD APPEAR IN ANY BOX.

FOR COLUMNS 1, 3, AND 4, ALL MONTHS SHOULD BE FILLED IN.

INFORMATION TO BE CODED FOR EACH COLUMN

COL.1: Births, Pregnancies, Contraceptive Use

B BIRTHS

P PREGNANCIES

T TERMINATIONS

0 NO METHOD

1 PILL

2 IUD

3 INJECTIONS

4 IMPLANTS

5 DIAPHRAGM/FOAM/JELLY

6 CONDOM

7 FEMALE STERILISATION

8 MALE STERILISATION

9 NATURAL METHODS

A WITHDRAWAL

X OTHER_____

(SPECIFY)

COL.2: Discontinuation of Contraceptive Use

0 INFREQUENT SEX/HUSBAND AWAY

1 BECAME PREGNANT WHILE USING

2 WANTED TO BECOME PREGNANT

3 HUSBAND DISAPPROVED

4 WANTED MORE EFFECTIVE METHOD

5 HEALTH CONCERNS

6 SIDE EFFECTS

7 LACK OF ACCESS/TOO FAR

8 COST TOO MUCH

9 INCONVENIENT TO USE

F FATALISTIC

A DIFFICULT TO GET PREGNANT/MENOPAUSE

D MARITAL DISSOLUTION/SEPARATION

X OTHER_____

(SPECIFY)

Z DON'T KNOW

COL.3: Marriage/Union

			1	2	3	4			
	12	DEC 01					01	DEC	
	11	NOV 02					02	NOV	
	10	OCT 03					03	OCT	
	09	SEP 04					04	SEP	
1	08	AUG 05					05	AUG	1
9	07	JUL 06					06	JUL	9
9	06	JUN 07					07	JUN	9
8	05	MAY 08					08	MAY	8
	04	APR 09					09	APR	
	03	MAR 10					10	MAR	
	02	FEB 11					11	FEB	
	01	JAN 12					12	JAN	
	12	DEC 13					13	DEC	
	11	NOV 14					14	NOV	
	10	OCT 15					15	OCT	
	09	SEP 16					16	SEP	
1	08	AUG 05					05	AUG	1
9	07	JUL 06					06	JUL	9
9	06	JUN 07					07	JUN	9
7	05	MAY 08					08	MAY	7
	04	APR 21					21	APR	
	03	MAR 22					22	MAR	
	02	FEB 23					23	FEB	
	01	JAN 24					24	JAN	
	12	DEC 25					25	DEC	
	11	NOV 26					26	NOV	
	10	OCT 27					27	OCT	
	09	SEP 28					28	SEP	
1	08	AUG 29					29	AUG	1
9	07	JUL 30					30	JUL	9
9	06	JUN 31					31	JUN	9
6	05	MAY 32					32	MAY	6
	04	APR 33					33	APR	
	03	MAR 34					34	MAR	
	02	FEB 35					35	FEB	
	01	JAN 36					36	JAN	
	12	DEC 37					37	DEC	
	11	NOV 38					38	NOV	
	10	OCT 39					39	OCT	
	09	SEP 40					40	SEP	
1	08	AUG 41					41	AUG	1
9	07	JUL 42					42	JUL	9
9	06	JUN 43					43	JUN	9
5	05	MAY 44					44	MAY	5
	04	APR 45					45	APR	
	03	MAR 46					46	MAR	
	02	FEB 47					47	FEB	

X IN UNION (MARRIED OR LIVING TOGETHER)

0 NOT IN UNION

COL.4: Moves and Types of Communities

X CHANGE OF COMMUNITY

1 CITY

2 TOWN

3 COUNTRYSIDE

	01	JAN	48					48	JAN	
	12	DEC	49					49	DEC	
	11	NOV	50					50	NOV	
	10	OCT	51					51	OCT	
	09	SEP	52					52	SEP	
1	08	AUG	53					53	AUG	1
9	07	JUL	54					54	JUL	9
9	06	JUN	55					55	JUN	9
4	05	MAY	56					56	MAY	4
	04	APR	57					57	APR	
	03	MAR	58					58	MAR	
	02	FEB	59					59	FEB	
	01	JAN	60					60	JAN	
	12	DEC	61					61	DEC	
	11	NOV	62					62	NOV	
	10	OCT	63					63	OCT	
	09	SEP	64					64	SEP	
1	08	AUG	65					65	AUG	1
9	07	JUL	66					66	JUL	9
9	06	JUN	67					67	JUN	9
3	05	MAY	68					68	MAY	3
	04	APR	69					69	APR	
	03	MAR	70					70	MAR	
	02	FEB	71					71	FEB	
	01	JAN	72					72	JAN	

NATIONAL COUNCIL FOR POPULATION AND DEVELOPMENT
CENTRAL BUREAU OF STATISTICS
KENYA DEMOGRAPHIC AND HEALTH SURVEY 3
MAN'S QUESTIONNAIRE

CONFIDENTIAL
Data used for research purposes only

IDENTIFICATION

PROVINCE _____

DISTRICT _____

LOCATION/TOWN _____

SUBLOCATION/WARD _____

NASSEP CLUSTER NUMBER.....

KDHS CLUSTER NUMBER.....

HOUSEHOLD NUMBER.....

NAIROBI/MOMBASA=1, SMALL CITY=2, TOWN=3, RURAL=4...

NAME OF HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF MAN _____

INTERVIEWER VISITS	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY / MONTH / YEAR
INTERVIEWER'S NAME	_____	_____	_____	NAME
RESULT *	_____	_____	_____	RESULT
NEXT VISIT: DATE / TIME	_____ / _____	_____ / _____		TOTAL NUMBER OF VISITS

* RESULT CODES: 1 COMPLETED, 2 NOT AT HOME, 3 POSTPONED, 4 REFUSED, 5 PARTLY COMPLETED, 6 INCAPACITATED, 7 OTHER _____ (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: ENGLISH 1 0

LANGUAGE USED IN INTERVIEW**.....

RESPONDENT'S LOCAL LANGUAGE**.....

TRANSLATOR USED (NOT AT ALL=1; SOMETIMES=2; ALL THE TIME=3).....

** LANGUAGE CODES:
01 KALENJIN, 02 KAMBA, 03 KIKUYU, 04 KISII, 05 LUHYA, 06 LUO, 07 MERU/EMBU, 08 MIJIKENDA, 09 KISWAHILI, 10 ENGLISH, 11 MASAI, 12 OTHER

	FIELD EDITED BY	OFFICE EDITED BY	KEYED BY	KEYED BY
NAME	_____	_____	_____	
DATE	_____	_____	_____	

&l0O &a1L
(s0p16.67h8.5v0s0b0T &l8D

&dDSECTION 1. RESPONDENT'S BACKGROUND &d@

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR..... ☐☐ MINUTES..... ☐☐	
102	First I would like to ask some questions about you and your household. For most of the time until you were 12 years old, did you in Nairobi or Mombasa, in another town or city, or in the countryside?	NAIROBI/MOMBASA.....1 OTHER CITY/TOWN.....2 COUNTRYSIDE.....3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)?	YEARS..... ☐☐ ALWAYS.....95 VISITOR.....96	105
104	Just before you moved here, did you live in Nairobi or Mombasa, in another city or town, or in the countryside?	NAIROBI/MOMBASA.....1 OTHER CITY/TOWN.....2 COUNTRYSIDE.....3	
105	In what month and year were you born?	MONTH..... ☐☐ DOES NOT KNOW MONTH.....98 YEAR..... 1 9 ☐☐ DOES NOT KNOW YEAR.....9998	
106	How old were you at your last birthday? COMPARE AND CORRECT 105 AND/OR 106 IF INCONSISTENT.	AGE IN COMPLETED YEARS..... ☐☐	
107	Have you ever attended school?	YES.....1 NO.....2	111
108	What is the highest level of school you attended: primary, secondary, or higher?	PRIMARY.....1 SECONDARY.....2 HIGHER.....3	
109	What is the highest (standard/form/year) you completed at that level?	STANDARD/FORM/YEARS..... ☐☐	
110	CHECK 108: PRIMARY ☐ SECONDARY OR HIGHER ☐		112
111	Can you read and understand a letter or newspaper easily, with difficulty, or not at all?	EASILY.....1 WITH DIFFICULTY.....2 NOT AT ALL.....3	113
112	Do you usually read a newspaper or magazine at least once a week?	YES.....1 NO.....2	
113	Do you usually listen to a radio every day?	YES.....1 NO.....2	
114	Do you usually watch television at least once a week?	YES.....1 NO.....2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
115	Are you currently working?	YES.....1 NO.....2	→ 117
116	Have you done any work in the last 12 months?	YES.....1 NO.....2	→ 124
117	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
118	CHECK 117: WORKS IN AGRICULTURE ☐ DOES NOT WORK IN AGRICULTURE ☐		→ 120
119	Do you work mainly on your own land or on family land, or do you rent land, or work on someone else's land?	OWN LAND.....1 FAMILY LAND.....2 RENTED LAND.....3 SOMEONE ELSE'S LAND.....4	
120	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER.....1 FOR SOMEONE ELSE.....2 SELF-EMPLOYED.....3	
121	Do you usually work at this job throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR.....1 SEASONALLY/PART OF THE YEAR.....2 ONCE IN A WHILE.....3	→ 123
122	During the last 12 months, how many months did you work at this job?	NUMBER OF MONTHS..... ☐☐	
123	How much do you earn for this work per month? Is it less than 1,000 shillings? 1,000-5,000 shillings? 5,000-10,000 shillings? or more than 10,000 shillings?	LESS THAN 1,000.....1 1,000-5,000.....2 5,000-10,000.....3 MORE THAN 10,000.....4	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
124	What is your religion?	CATHOLIC.....1 PROTESTANT/OTHER CHRISTIAN.....2 MUSLIM.....3 NO RELIGION.....4 OTHER_____6 (SPECIFY)	
125	What is your ethnic group/tribe?	KALENJIN.....01 KAMBA.....02 KIKUYU.....03 KISII.....04 LUHYA.....05 LUO.....06 MASAI.....07 MERU/EMBU.....08 MIJIKENDA/SWAHILI.....09 SOMALI.....10 TAITA/TAVETA.....11 OTHER_____96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about your children. I am interested only in the children that are biologically yours. Have you ever had children?	YES.....1 NO.....2	206
202	Do you have any sons or daughters who are now living with you?	YES.....1 NO.....2	204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME..... DAUGHTERS AT HOME.....	
204	Do you have any sons or daughters who are alive but do not live with you?	YES.....1 NO.....2	206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE..... DAUGHTERS ELSEWHERE.....	
206	Sometimes it happens that children die. It may be very painful to talk about and I am sorry to ask you about painful memories, but it is important to get the right information. Have you ever given had a boy or girl who was born alive but later died? IF NO: PROBE: Any baby who cried or showed signs of life but survived only a few hours or days?	YES.....1 NO.....2	208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL.....	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ____ children during your life. Is that correct? YES ☐ NO ☐	PROBE AND CORRECT 201-208 AS NECESSARY.	
210	CHECK 208: HAS HAD CHILDREN ☐	HAS NEVER HAD CHILDREN (NONE) ☐	301
210A	In what month and year was your last child born?	MONTH..... YEAR.....	
210B	CHECK 210A, LAST CHILD: BORN SINCE JANUARY 1995 ☐	BEFORE JANUARY 1995 ☐	301
211	When you were expecting your lastborn child, did you want to have the child then, did you want to wait until later, or did you not want to have any (more) children at all?	THEN.....1 LATER.....2 NOT AT ALL.....3	

&dDSECTION 3. CONTRACEPTION &d@

Now I would like to talk about family planning---the various ways or methods that a couple can use to delay or avoid a pregnancy.

CIRCLE CODE 1 IN 301 FOR EACH METHOD MENTIONED SPONTANEOUSLY.
THEN PROCEED DOWN COLUMN 302, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY.
CIRCLE CODE 2 IF METHOD IS RECOGNIZED, AND CODE 3 IF NOT RECOGNIZED.
THEN, FOR EACH METHOD WITH CODE 1 OR 2 CIRCLED IN 301 OR 302, ASK 303.

	301 Which ways or methods have you heard of?	302 Have you ever heard of (METHOD)? PROBED		303 Have you ever used (METHOD)?
	SPONTANEOUS YES	YES	NO	
01	PILL Women can take a pill every day.	1	2 → 3	YES.....1 NO.....2
02	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	1	2 → 3	YES.....1 NO.....2
03	INJECTIONS Women can have an injection by a doctor or nurse which stops them from becoming pregnant for several months.	1	2 → 3	YES.....1 NO.....2
04	NORPLANT Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for several years.	1	2 → 3	YES.....1 NO.....2
05	DIAPHRAGM,FOAM,JELLY Women can place a sponge, suppository, diaphragm, jelly, or cream inside themselves before intercourse.	1	2 → 3	YES.....1 NO.....2
06	CONDOM Men can use a rubber sheath on their penis during sexual intercourse.	1	2 → 3	YES.....1 NO.....2
07	FEMALE STERILISATION Women can have an operation to avoid having any more children.	1	2 → 3	Have you ever had a partner who had an operation to avoid having children? YES.....1 NO.....2
08	MALE STERILISATION Men can have an operation to avoid having any more children.	1	2 → 3	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2
09	NATURAL METHODS Every month that a woman is sexually active she can avoid having sexual intercourse on the days of the month she is is most likely to get pregnant.	1	2 → 3	YES.....1 NO.....2
10	WITHDRAWAL Men can be careful and pull out before the fluids come out.	1	2 → 3	YES.....1 NO.....2
11	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	1 _____ (SPECIFY) _____ (SPECIFY)	3	YES.....1 NO.....2 YES.....1 NO.....2

304 CHECK 303:

NOT A SINGLE "YES" (NEVER USED) → AT LEAST ONE "YES" (EVER USED) → SKIP TO 307

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
305	Have you or any of your partners ever used anything or tried in any way to delay or avoid pregnancy?	YES.....1 NO.....2	309
306	What have you used or done? CORRECT 303 AND 304 (AND 302 IF NECESSARY).		
307	Are you or your partner doing something or using a method to delay or avoid a pregnancy?	YES.....1 NO.....2	309
308	Which method are you using?	PILL.....01 IUD.....02 INJECTIONS.....03 IMPLANTS.....04 DIAPHRAGM/FOAM/JELLY.....05 CONDOM.....06 FEMALE STERILISATION.....07 MALE STERILISATION.....08 NATURAL METHODS.....09 WITHDRAWAL.....10 OTHER_____ 96 (SPECIFY)	401
309	What is the main reason you are not using a method of contraception to avoid pregnancy?	NOT MARRIED.....11 NOT INTENDING TO MARRY.....12 FERTILITY-RELATED REASONS NOT HAVING SEX.....21 INFREQUENT SEX.....22 WIFE MENOPAUSAL/HYSTERECTOMY.23 WIFE SUBFECUND/INFECUND.....24 POSTPARTUM/BREASTFEEDING.....25 WANTS (MORE) CHILDREN.....26 WIFE PREGNANT.....27 OPPOSITION TO USE RESPONDENT OPPOSED.....31 WIFE/PARTNER OPPOSED.....32 OTHERS OPPOSED.....33 RELIGIOUS PROHIBITION.....34 LACK OF KNOWLEDGE KNOWS NO METHOD.....41 KNOWS NO SOURCE.....42 METHOD-RELATED REASONS HEALTH CONCERNS.....51 FEAR OF SIDE EFFECTS.....52 LACK OF ACCESS/TOO FAR.....53 COST TOO MUCH.....54 INCONVENIENT TO USE.....55 INTERFERES WITH BODY'S NORMAL PROCESSES.....56 UP TO THE WOMAN TO USE.....61 OTHER_____ 96 (SPECIFY) DOES NOT KNOW.....98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
401	Are you currently married or living with a woman?	YES, CURRENTLY MARRIED.....1 YES, LIVING WITH A WOMAN.....2 NO, NOT IN UNION.....3	 — 402A — 404
402 402A	How many wives do you have? How many women are you living with as if you are married?	NUMBER OF WIVES..... ☐☐	
403	WRITE THE LINE NUMBERS FROM THE HOUSEHOLD QUESTIONNAIRE FOR HIS WIFE/WIVES. IF A WIFE DOES NOT LIVE IN THE HOUSEHOLD, WRITE '00'. THE NUMBER OF BOXES FILLED MUST EQUAL THE NUMBER OF WIVES.	☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐ ☐☐	— 407
404	Do you currently have a regular sexual partner, an occasional sexual partner or no sexual partner at all?	REGULAR SEXUAL PARTNER.....1 OCCASIONAL SEXUAL PARTNER.....2 NO SEXUAL PARTNER.....3	
405	Have you ever been married or lived with a woman?	YES, FORMERLY MARRIED.....1 YES, LIVED WITH A WOMAN.....2 NO.....3	 — 407 — 410F
406	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED.....1 DIVORCED.....2 SEPARATED.....3	
407	Have you been married or lived with a woman only once, or more than one?	ONCE.....1 MORE THAN ONCE.....2	
408	CHECK 407: MARRIED/LIVED WITH A WOMAN ONLY ONCE ☐ → In what month and year did you start living with your wife/woman? MARRIED/LIVED WITH A WOMAN MORE THAN ONCE ☐ → Now we will talk about your first wife/woman you lived with. In what month and year did you start living with her?	MONTH..... ☐☐ DOES NOT KNOW MONTH.....98 YEAR.....| 1| 9| | | — 409A DOES NOT KNOW YEAR.....9998	
409	How old were you when you started living with her?	AGE..... ☐☐	
409A	CHECK 401: CURRENTLY MARRIED OR LIVING WITH A WOMAN ☐	NOT IN UNION ☐	— 410F
410	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family planning issues. When was the last time you had sexual intercourse with (your wife/the woman you are living with)?	DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO.....4 ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
410A	CHECK 301 AND 302: KNOWS CONDOM ☐ — DOES NOT KNOW CONDOM ☐ The last time you had sex with (your wife/ the woman you are living with), did you use a condom? Some men use a condom, which means that they use a rubber sheath on their penis during sexual intercourse. The last time you had sex with (your wife/the woman you are living with) did you use a condom?	YES.....1 NO.....2 DOES NOT KNOW/NOT SURE.....8	
410B	Have you had sex with anyone other than (your wife/ the woman you are living with) in the last 12 months?	YES.....1 NO.....2	→ 413
410C	When was the last time you had sexual intercourse with someone other than (your wife/the woman you are living with)?	DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO.....4 ☐☐	
410D	Did you use a condom that time?	YES.....1 NO.....2 DOES NOT KNOW/NOT SURE.....8	
410E	In the last 12 months, how many different persons other than (your wife/the woman you are living with) have you had sex with?	NUMBER OF PERSONS..... ☐☐ DOES NOT KNOW.....98	→ 410J
410F	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family planning issues. When was the last time you had sexual intercourse (if ever)?	NEVER.....000 DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO.....4 ☐☐	→ 509

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
410G	CHECK 301 AND 302: KNOWS CONDOM ☐ — The last time you had sex, did you use a condom? DOES NOT KNOW CONDOM ☐ — Some men use a condom, which means that they use a rubber sheath on their penis during sexual intercourse. The last time you had sex, did you use a condom?	YES.....1 NO.....2 DOES NOT KNOW.....8	
410H	CHECK 410F: LESS THAN 12 MONTHS SINCE LAST SEX ☐ 12 MONTHS OR LONGER SINCE LAST SEX ☐		410J
410I	In the last 12 months, how many different persons have you had sex with?	NUMBER OF PERSONS..... ☐☐ DOES NOT KNOW.....98	
410J	CHECK 401: CURRENTLY MARRIED OR LIVING WITH A WOMAN ☐ — The last time you had sex, was it with your (wife/the woman you live with), a regular partner, an acquaintance, someone you paid for sex, or someone else? NOT CURRENTLY MARRIED AND NOT LIVING WITH A WOMAN ☐ — The last time you had sex, was it with a regular partner, an acquaintance, someone you paid for sex, or someone else?	WIFE/WOMAN LIVES WITH.....1 REGULAR PARTNER.....2 ACQUAINTANCE.....3 SOMEONE HE PAID FOR SEX.....4 SOMEONE ELSE.....5	
413	Do you know of a place where you can get condoms?	YES.....1 NO.....2	415
414	Where is that? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PUBLIC SECTOR GOVERNMENT HOSPITAL.....11 GOVERNMENT HEALTH CENTRE.....12 GOVERNMENT DISPENSARY.....13 MEDICAL PRIVATE SECTOR MISSION,CHURCH HOSPITAL/CLINIC.21 FPAK HEALTH CENTRE/CLINIC.....22 OTHER NON-GOVERNMENTAL SERVICE.23 PRIVATE HOSPITAL OR CLINIC.....24 PHARMACY.....25 PRIVATE DOCTOR.....26 MOBILE CLINIC.....31 COMMUNITY BASED DISTRIBUTOR.....41 SHOP.....51 FRIENDS/RELATIVES.....61 OTHER_____96 (SPECIFY)	
415	Have you ever heard of a condom called "Trust"?	YES.....1 NO.....2	
415a	Would you be willing to pay for condoms?	YES.....1 NO.....2	416

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
415b	How much would you be willing to pay for a package of 3 condoms? Would you pay as much as 50 shillings? IF NO: would you pay as much as 25 shillings? IF NO: would you pay as much as 10 shillings? IF NO: would you pay as much as 5 shillings? IF NO: ENTER < 5 SHILLINGS	50 SHILLINGS.....1 25 SHILLINGS.....2 10 SHILLINGS.....3 5 SHILLINGS.....4 < 5 SHILLINGS.....5 DON'T KNOW.....8	
416	How old were you when you first had sexual intercourse?	AGE..... ☐☐ FIRST TIME WHEN MARRIED.....96	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	CHECK 401: NOT IN UNION ☐ — CURRENTLY MARRIED OR LIVING WITH A WOMAN ☐		503
502	CHECK 404: REGULAR SEXUAL PARTNER ☐ — OCCASIONAL SEXUAL PARTNER ☐ — NO SEXUAL PARTNER ☐		505A
503	Is your wife (or one of your wives)/partner pregnant now?	YES.....1 NO.....2 UNSURE.....8	505A
504	When she became pregnant, did you want her to become pregnant then, did you want her to wait until later, or did you not want this pregnancy at all?	THEN.....1 LATER.....2 NOT AT ALL.....3	505B
505	CHECK 503: A) WIFE/PARTNER NOT PREGNANT OR UNSURE OR NO WIFE/PARTNER ☐ Now I have some questions about the future. Would you like to have (a/another) child or would you prefer not to have any (more) children? B) WIFE/PARTNER PREGNANT ☐ Now I have some questions about the future. After the child your wife/partner is expecting, would you like to have another child or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD.....1 NO MORE/NONE.....2 SAYS WIFE CAN'T GET PREGNANT....3 SAYS HE CAN'T HAVE ONE ANY MORE.4 UNDECIDED/DOES NOT KNOW.....8	507
506	CHECK 503: WIFE/PARTNER NOT PREGNANT OR UNSURE OR NO WIFE/PARTNER ☐ How long would you like to wait from now before the birth of (a/another) child? WIFE/PARTNER PREGNANT ☐ After the child your wife/partner is expecting, how long would you like to wait before the birth of another child?	MONTHS.....1 ☐☐ YEARS.....2 ☐☐ SOON/NOW.....993 SAYS WIFE CAN'T GET PREGNANT..994 AFTER MARRIAGE.....995 OTHER_____ 996 (SPECIFY) DOES NOT KNOW.....998	
507	CHECK 308: USING A METHOD? NOT ASKED ☐ — NOT CURRENTLY USING ☐ — CURRENTLY USING ☐		512
508	Do you think you will use a method to delay or avoid pregnancy within the next 12 months?	YES.....1 NO.....2 DOES NOT KNOW.....8	510
509	Do you think you will use a method at any time in the future?	YES.....1 NO.....2 DOES NOT KNOW.....8	511

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
510	Which method would you prefer to use?	PILL.....01 IUD.....02 INJECTIONS.....03 IMPLANTS.....04 DIAPHRAGM/FOAM/JELLY.....05 CONDOM.....06 FEMALE STERILISATION.....07 MALE STERILISATION.....08 NATURAL METHODS.....09 WITHDRAWAL.....10 OTHER_____ 96 (SPECIFY) UNSURE.....98	512
511	What is the main reason that you think you will never use a method?	NOT MARRIED.....11 NOT INTENDING TO MARRY.....12 FERTILITY-RELATED REASONS INFREQUENT SEX.....22 WIFE MENOPAUSAL/HYSTERECTOMY..23 WIFE SUBFECUND/INFECUND.....24 WANTS MORE CHILDREN.....26 OPPOSITION TO USE RESPONDENT OPPOSED.....31 WIFE OPPOSED.....32 OTHERS OPPOSED.....33 RELIGIOUS PROHIBITION.....34 LACK OF KNOWLEDGE KNOWS NO METHOD.....41 KNOWS NO SOURCE.....42 METHOD-RELATED REASONS HEALTH CONCERNS.....51 FEAR OF SIDE EFFECTS.....52 LACK OF ACCESS/TOO FAR.....53 COST TOO MUCH.....54 INCONVENIENT TO USE.....55 INTERFERES WITH BODY'S NORMAL PROCESSES.....56 UP TO THE WOMAN TO USE.....61 OTHER_____ 96 (SPECIFY) DOES NOT KNOW.....98	
512	CHECK 202 AND 204: HAS LIVING CHILDREN ☐ — If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN ☐ — If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NUMBER..... ☐☐ OTHER_____ 96 (SPECIFY)	514
513	How many of these children would you like to be boys, how many would you like to be ? girls and for how many would it not matter?	BOYS NUMBER..... ☐☐ GIRLS NUMBER..... ☐☐ EITHER NUMBER..... ☐☐ OTHER_____999996 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
514	Would you say that you approve or disapprove of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 NO OPINION.....3	
515	Is it acceptable or not acceptable to you for information on family planning to be provided: On the radio? On the television?	ACCEPT-ABLE / NOT ACCEPT-ABLE / DO NOT KNOW RADIO.....1 2 8 TELEVISION.....1 2 8	
516	In the last six months have you heard about family planning: On the radio? On the television? In a newspaper or magazine? From a billboard? At a live drama? At a community event?	YES NO RADIO.....1 2 TELEVISION.....1 2 NEWSPAPER OR MAGAZINE.....1 2 BILLBOARD.....1 2 LIVE DRAMA.....1 2 COMMUNITY EVENT.....1 2	
516a	CHECK 516: FAMILY PLANNING ON RADIO? YES ☐ NO ☐		516C
516b	Which programs have you heard? Any others? DO NOT READ CODES TO RESPONDENT. CIRCLE ALL MENTIONED.	UGUA POLE.....A MTU NI AFYA.....B DAKTARI WA RADIO.....C KINGA YASHINDA TIBA.....D TEMBEA NA MAJIRA.....E USIPOZIBA UFA UTAJENGA UKUTA....F HEALTH WATCH.....G HEALTH IS LIFE.....H MAN AND MEDICINE.....I AQUAFRESH HEALTH.....J OTHER_____X (SPECIFY) DOES NOT KNOW/CANNOT REMEMBER...Z	
516c	Do you think that information about family planning should be available for persons under 18 years of age?	YES.....1 NO.....2 DOES NOT KNOW.....8	
516d	Do you think that family planning services should be available for persons under 18 years of age?	YES.....1 NO.....2 DOES NOT KNOW.....8	
518	In the last six months have you discussed family planning with your friends, neighbors, or relatives?	YES.....1 NO.....2	520
519	With whom? Anyone else? RECORD ALL MENTIONED.	WIFE/PARTNER.....A MOTHER.....B FATHER.....C SISTER(S).....D BROTHER(S).....E DAUGHTER.....F MOTHER-IN-LAW.....G FRIENDS/NEIGHBORS.....H OTHER_____ X (SPECIFY)	

520	CHECK 401: CURRENTLY MARRIED ☐ — LIVING WITH A WOMAN ☐ — NOT IN UNION ☐ — 601A	
521	Spouses do not always agree on everything. Now I want to ask you about your wife's/the woman you live with's views on family planning. Do you think that your wife/the woman you live with approves or disapproves of couples using a method to avoid pregnancy?	APPROVES.....1 DISAPPROVES.....2 DOES NOT KNOW.....8
522	How often have you talked to your wife/the woman you live with about family planning in the past year?	NEVER.....1 ONCE OR TWICE.....2 MORE OFTEN.....3
523	Do you think your wife/the woman you live with wants the same number of children that you want, or does she want more, or fewer than you want?	SAME NUMBER.....1 MORE CHILDREN.....2 FEWER CHILDREN.....3 DON'T KNOW.....8

&dDSECTION 6. AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES &d@

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601A	Have you heard about diseases that can be transmitted through sex?	YES.....1 NO.....2	601F
601B	Which diseases do you know? RECORD ALL RESPONSES	SYPHILIS.....A GONORRHEA.....B AIDS.....C GENITAL WARTS.....D UGONGWA ZINAA.....E OTHER_____ W (SPECIFY) OTHER_____ X (SPECIFY) DOES NOT KNOW.....Z	
601C	CHECK 410 AND 410F: HAS HAD SEXUAL INTERCOURSE ☐ HAS NEVER HAD SEXUAL INTERCOURSE ☐		601F
601D	During the last twelve months, did you have any of these diseases?	YES.....1 NO.....2 DOES NOT KNOW.....8	601F
601E	Which of the diseases did you have? RECORD ALL RESPONSES	SYPHILIS.....A GONORRHEA.....B AIDS.....C GENITAL WARTS.....D UGONGWA ZINAA.....E OTHER_____ W (SPECIFY) OTHER_____ X (SPECIFY) DOES NOT KNOW.....Z	
601F	During the last twelve months, did you have a discharge from your penis?	YES.....1 NO.....2 DOES NOT KNOW.....8	
601G	During the last twelve months, did you have a sore or ulcer on your penis?	YES.....1 NO.....2 DOES NOT KNOW.....8	
601H	CHECK 601E, 601F AND 601G HAD ONE OR MORE DISEASES ☐ NONE OF THE DISEASES ☐		601N
601I	The last time you had (DISEASE FROM 601E/DISCHARGE/SORE) did you seek advice or treatment?	YES.....1 NO.....2	601JA
601J	Where did you seek advice or treatment? Any other place or person? RECORD ALL MENTIONED	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER.....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC.....D OTHER PVT.HOSP/CLINIC. .....E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMMUNITY BASED DISTRIBUTOR.....I COMM. HEALTH WORKER.....J OTHER SOURCE SHOP.....K HERBALIST./TRAD.PRACT.....L RELATIVE/FRIEND.....M OTHER_____ .....X (SPECIFY) DOES NOT KNOW.....Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601JA	CHECK 410 AND 410F: HAS HAD SEXUAL INTERCOURSE ☐ HAS NEVER HAD SEXUAL INTERCOURSE ☐		601N
601K	When you had (DISEASE FROM 601E/DISCHARGE/SORE) did you inform your partner(s)?	YES.....1 NO.....2	
601L	When you had (DISEASE FROM 601E/DISCHARGE/SORE) did you do something not to infect your partner(s)?	YES.....1 NO.....2 PARTNER ALREADY INFECTED.....3	601N
601M	What did you do? RECORD ALL MENTIONED	NO SEXUAL INTERCOURSE.....A USED CONDOMS.....B TOOK MEDICINES.....C OTHER_____ X (SPECIFY)	
601N	CHECK 601B DID NOT MENTION 'AIDS' ☐ MENTIONED 'AIDS' ☐		602
601O	Have you ever heard of an illness called AIDS?	YES.....1 NO.....2	611C
602	From which sources of information have you learned most about AIDS? Any other sources? RECORD ALL MENTIONED	RADIO.....A TV.....B NEWSPAPERS/MAGAZINES.....C PAMPLETS/POSTERS.....D HEALTH WORKERS.....E MOSQUES/CHURCHES.....F SCHOOLS/TEACHERS.....G COMMUNITY MEETINGS.....H FRIENDS/RELATIVES.....I WORK PLACE.....J DRAMA/PERFORMANCE.....K OTHER_____X (SPECIFY)	
602B	How can a person get AIDS? Any other ways? RECORD ALL MENTIONED	SEXUAL INTERCOURSE.....A SEXUAL INTERCOURSE WITH MULTIPLE PARTNERS.....B SEX WITH PROSTITUTES.....C NOT USING CONDOM.....D HOMOSEXUAL CONTACT.....E MOTHER TO CHILD.....F BLOOD TRANSFUSION.....G SHARING RAZOR BLADES.....H INJECTIONS.....I KISSING.....J MOSQUITO BITES.....K OTHER_____W (SPECIFY) OTHER_____X (SPECIFY) DOES NOT KNOW.....Z	
603	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES.....1 NO.....2 DOES NOT KNOW.....8	607

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
604	What can a person do? Any other ways? RECORD ALL MENTIONED	ABSTAIN FROM SEX.....B USE CONDOMS.....C AVOID MULTIPLE SEX PARTNERS.....D AVOID SEX WITH PROSTITUTES.....E AVOID SEX WITH HOMOSEXUALS.....F BE FAITHFUL TO PARTNER.....G AVOID BLOOD TRANSFUSIONS.....H AVOID INJECTIONS.....I AVOID KISSING.....J AVOID MOSQUITO BITES.....K SEEK PROTECTION FROM FROM TRADITIONAL HEALER.....L OTHER_____W (SPECIFY) OTHER_____X (SPECIFY) DOES NOT KNOW.....Z	
607	Is it possible for a healthy-looking person to have the AIDS virus?	YES.....1 NO.....2 DOES NOT KNOW.....8	
608	Do you think that persons with AIDS almost never die from the disease, sometimes die, or almost always die from the disease?	ALMOST NEVER.....1 SOMETIMES.....2 ALMOST ALWAYS.....3 DOES NOT KNOW.....8	
608A	Can AIDS be cured?	YES.....1 NO.....2 DOES NOT KNOW.....8	
608B	Can AIDS be transmitted from mother to child?	YES.....1 NO.....2 DOES NOT KNOW.....8	
608C	Do you personally know someone who has AIDS or has died of AIDS?	YES.....1 NO.....2 DOES NOT KNOW.....8	
609	Do you think your chances of getting AIDS are small, moderate, great, or no risk at all?	SMALL.....1 MODERATE.....2 GREAT.....3 NO RISK AT ALL.....4 HAS AIDS.....5	 609C 611A
609B	Why do you think that you have (NO RISK/A SMALL CHANCE) of getting AIDS? Any other reasons? RECORD ALL MENTIONED	ABSTAIN FROM SEX.....B USE CONDOMS.....C HAVE ONLY ONE SEX PARTNER.....D LIMITED NUMBER OF SEX PARTNERS..E AVOID SEX WITH PROSTITUTES.....F SPOUSE HAS NO OTHER PARTNER.....G NO HOMOSEXUAL CONTACT.....H NO BLOOD TRANSFUSIONS.....I NO INJECTIONS.....J OTHER_____X (SPECIFY)	 611A

NO.	QUESTIONS AND FILTERS	CODES	SKIP
609C	Why do you think that you have a (MODERATE/GREAT) chance of getting AIDS? Any other reasons? RECORD ALL MENTIONED	DO NOT USE CONDOMS.....C MORE THAN ONE SEX PARTNER.....D MANY SEX PARTNERS.....E SEX WITH PROSTITUTES.....F SPOUSE HAS OTHER PARTNER(S).....G HOMOSEXUAL CONTACT.....H HAD BLOOD TRANSFUSION.....I HAD INJECTIONS.....J OTHER_____X (SPECIFY)	
611A	Since you heard of AIDS, have you changed your behavior to prevent getting AIDS? IF YES, what did you do? Anything else? RECORD ALL MENTIONED	DIDN'T START SEX.....A STOPPED ALL SEX.....B STARTED USING CONDOMS.....C RESTRICTED SEX TO ONE PARTNER...D REDUCED NUMBER OF PARTNERS.....E AVOID SEX WITH PROSTITUTES.....F ASK SPOUSE TO BE FAITHFUL.....G NO MORE HOMOSEXUAL CONTACTS.....H STOPPED INJECTIONS.....J OTHER_____W (SPECIFY) OTHER_____X (SPECIFY) NO BEHAVIOR CHANGE.....Y	611C
611B	Has your knowledge of AIDS influenced or changed your decisions about having sex or your sexual behavior? IF YES, In what way? RECORD ALL MENTIONED	DIDN'T START SEX.....A STOPPED ALL SEX.....B STARTED USING CONDOMS.....C RESTRICTED SEX TO ONE PARTNER...D REDUCED NUMBER OF PARTNERS.....E AVOID SEX WITH PROSTITUTES.....F NO MORE HOMOSEXUAL CONTACTS.....H OTHER_____X (SPECIFY) NO CHANGE IN SEXUAL BEHAVIOR....Y DOES NOT KNOW.....Z	
611C	Some people use a condom during sexual intercourse to avoid getting AIDS or other sexually transmitted diseases? Have you ever heard of this?	YES.....1 NO.....2	611F
611D	CHECK 410 AND 410F: HAS HAD SEXUAL INTERCOURSE ☐	HAS NEVER HAD SEXUAL INTERCOURSE ☐	613
611E	We may already have talked about this. Have you ever used a condom during sex to avoid getting or transmitting diseases, such as AIDS?	YES.....1 NO.....2	611G
611F	CHECK 410 AND 410F: HAS HAD SEXUAL INTERCOURSE ☐	HAS NEVER HAD SEXUAL INTERCOURSE ☐	612
611G	Have you given or received money, gifts or favours in return for sex at any time in the last 12 months?	YES.....1 NO.....2	

612	CHECK 601B and 601O KNOWS 'AIDS' ☐ DOES NOT KNOW 'AIDS' ☐ → 616	
613	Have you ever been tested to see if you have the AIDS virus?	YES.....1 → 613D NO.....2 DOES NOT KNOW/NOT SURE.....8
613A	Would you like to be tested for the AIDS virus?	YES.....1 NO.....2 DOES NOT KNOW/NOT SURE.....8
613B	Do you know a place where you could go to get an AIDS test?	YES.....1 NO.....2 DOES NOT KNOW/NOT SURE.....8 → 614
613C 613D	Where could you go? Where did you go?	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT. HEALTH CENTER.....B GOVT. DISPENSARY.....C PRIVATE MEDICAL SECTOR MISSION HOSP/CLINIC.....D OTHER PVT.HOSP/CLINIC. .....E PHARMACY.....F PRIVATE DOCTOR.....G MOBILE CLINIC.....H COMMUNITY BASED DISTRIBUTOR.....I COMM. HEALTH WORKER.....J OTHER SOURCE SHOP.....K HERBALIST./TRAD.PRACT.....L RELATIVE/FRIEND.....M OTHER_____ .....X (SPECIFY) DOES NOT KNOW.....Z
614	What do you suggest is the most important thing the government should do for people who have AIDS?	PROVIDE MEDICAL TREATMENT.....1 HELP RELATIVES PROVIDE CARE.....2 ISOLATE/QUARANTINE/JAIL PEOPLE.....3 NOT BE INVOLVED.....4 OTHER_____6 (SPECIFY)
615	If a member of your family is suffering from AIDS would you be willing to care for him or her at home?	YES.....1 NO.....2 DEPENDS.....3 NOT SURE/DO NOT KNOW.....8
616	RECORD THE TIME.	HOUR..... ☐☐ MINUTES..... ☐☐

To be filled in after completing interview

Comments about Respondent: _____

_____

_____

Comments on Specific Questions: _____

_____

_____

Any Other Comments: _____

_____

_____

&dDSUPERVISOR'S OBSERVATIONS &d@

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Name of Supervisor: _____ Date: _____

&dDEDITOR'S OBSERVATIONS &d@

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Name of Editor: _____ Date: _____

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