Rwanda 2005

Rwanda

Demographic and Health Survey

2005

Demographic and Health Survey

REPUBLIC OF RWANDA

Rwanda
Demographic and Health Survey
2005

Institut National de la Statistique
Ministère des Finances et de la Planification Économique
Kigali, Rwanda

ORC Macro
Calverton, Maryland, USA

July 2006

The following people participated in data analysis and the preparation of this report:

Jean Philippe Gatarayiha, Apolline Mukanyonga, Dr Eugénie Kayirangwa, Adeline Kabeja, Alphonse Rukundo, Athanasie Kabagwira, Gafishi N. Philippe, Rwabikumba Dévote, Rwakayiro Ignace, Muhoza Ananie, Kalinda Charles, Kayibanda Françoise, Fern Greenwell, Noah Bartlett, Mohamed Ayad, and Monique Barrère.

This report presents the findings of the 2005 Rwanda Demographic and Health Survey (RDHS-III), carried out from February to July 2005 by the *Direction de la Statistique* (renamed *Institut National de la Statistique du Rwanda* in September 2005).

Funding for the RDHS-III was provided by USAID, the *Commission Nationale de Lutte contre le SIDA* (CNLS) through the World Bank's Multi-County AIDS Program (MAP), Unicef, UNFPA, DFID and GTZ. Assistance was also provided by other national organizations, such as the Treatment and Research AIDS Center (TRAC), the *Laboratoire National de Référence* and the *Service National de Recensement* (SNR). Technical assistance was provided by ORC Macro as part of the Demographic and Health Surveys project (MEASURE DHS). The objective of the MEASURE DHS project is to collect, analyze and disseminate demographic data, especially those related to fertility, family planning, maternal and child health, and HIV/AIDS. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID or other cooperating organizations.

Additional information about the survey can be obtained from the *Institut National de la Statistique du Rwanda* (INSR), BP 6139, Kigali, Rwanda (Telephone: (250) 55104164; e-mail: snr@rwanda1.com).

Additional information about the MEASURE DHS project can be obtained from ORC Macro, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, USA. Telephone: 301-572-0200; Fax: 301-572-0999; e-mail: reports@orcmacro.com; Internet: http://www.measuredhs.com).

Recommended citation:

Institut National de la Statistique du Rwanda (INSR) and ORC Macro. 2006. *Rwanda Demographic and Health Survey 2005*. Calverton, Maryland, U.S.A.: INSR and ORC Macro.

CONTENTS

CHAPTER 3 CHARACTERISTICS OF SURVEY RESPONDENTS

CHAPTER 4 FERTILITY

CHAPTER 5 FAMILY PLANNING

CHAPTER 6 OTHER PROXIMATE DETERMINANTS OF FERTILITY

CHAPTER 7 FERTILITY PREFERENCES

CHAPTER 8 MOTHER AND CHILD HEALTH

CHAPTER 9 MALARIA

CHAPTER 10 BREASTFEEDING AND NUTRITION OF MOTHERS AND CHILDREN

CHAPTER 11 INFANT AND CHILD MORTALITY

TABLES AND FIGURES

CHAPTER 9 MALARIA

CHAPTER 10 BREASTFEEDING AND NUTRITION OF MOTHERS AND CHILDREN

CHAPTER 11 INFANT AND CHILD MORTALITY

CHAPTER 15 HIV PREVALENCE AND ASSOCIATED FACTORS

CHAPTER 16 ORPHANED AND VULNERABLE CHILDREN

APPENDIX A SAMPLE IMPLEMENTATION

APPENDIX B ESTIMATES OF SAMPLING ERRORS

APPENDIX C DATA QUALITY TABLES

APPENDIX D RESULTS ACCORDING TO OLD PROVINCES

FOREWORD

In the context of its desire to obtain a database designed to provide reliable indicators to monitor and assess the implementation of the country's sector programs and policies, the Poverty Reduction Strategy, Vision 2020 and the commitments it has undertaken at the international level, in particular the Millennium Development Goals, the Government of Rwanda has just completed the Third Demographic and Health Survey (EDSR-III 2005).

EDSR-III follows the surveys that were successfully conducted in 1992 and 2000, and is part of a broad, worldwide program of socio-demographic and health Surveys conducted in developing countries since the mid-1980's. In addition to the indicators on fertility, family planning, and maternal and child health which the Survey normally provides, the main innovation of EDSR-III was the integration of a survey module on the seroprevalence of HIV and anemia as well as a module on domestic violence. As such, for the first time, the survey allowed us to determine the prevalence of HIV at the national level.

Using this report, the reader will be better able to delineate the socio-demographic challenges the country faces and that it will have to meet, in particular: a maternal and infant mortality rate which remains high despite being in decline, poor utilization of childbirth and post-natal services, a continually high fertility rate, which places pressure on social costs and slows the pace of development, poor utilization of modern contraceptive methods, as well as an alarming nutritional status, above all among children under five years of age and their mothers. The reader could also be alerted to the fact that certain population groups are particularly impacted by a high prevalence of anemia or HIV. Most of these indicators can be improved by increased awareness and heightened responsibility within a couple or among individuals. Without this, the State's investments would have limited impact.

This Survey also draws attention to indicators of an appreciable level that will require strengthening of sustained efforts to maintain, if not to improve, trends. This is particularly the case with regard to the high level of breastfeeding, prenatal visits, vaccination rates of children under five years of age (except for the city of Kigali), and the use of iodized salt.

The results of EDSR-III 2005 are thus extremely important because they allow us to assess the progress made in meeting the challenges mentioned above. The results also make it possible to readjust intermediate objectives, identify areas requiring priority attention, and even make projections of future socio-demographic development. The same results represent a daunting challenge to entities providing development financing and call for integrated financing approaches involving multiple sectors of socio-economic life.

Accordingly, the Government of Rwanda and in particular the Ministry of Finance and Economic Planning is pleased to provide reliable results to policymakers, planners, and other users in both the public and private sector, based on the current context of the country. May this document be a source of valuable and useful information to all those individuals and organizations active in development who will use it to contribute to an improved quality of life for Rwanda's population.

Signed in Kigali on May 12, 2006

Monique Nsanzabaganwa
Minister of State in Charge of Economic Planning
at the Ministry of Finance and Economic Planning

ACKNOWLEDGMENTS

This report would not have materialized without the participation of a large number of individuals and organizations. We would like to express our profound thanks to them.

First, we extend our thanks to the men and women who generously agreed to respond to all of the questions submitted to them. There was a high response rate both from men (99.2%) and women (98.1%).

We would like to express our sincere appreciation to the various Ministries for facilitating the implementation of the Survey. We offer our profound gratitude to the Ministry of Health for its cooperation during the preparation and completion of the survey. We also offer our sincere thanks to the Ministry of Local Government, Good Governance, Community Development and Social Affairs as well as to all of the provincial and district authorities for their assistance and their contribution to the smooth implementation of the Survey. Certainly, without the ongoing support of these various authorities, EDSR-III 2005 could not have been achieved.

We also express our gratitude to the International Organizations for their vital financial assistance. Financial contributions from the United States Agency for International Development (USAID/Rwanda), the World Bank through the Support for the Multisectoral AIDS Project (MAP) and through the National AIDS Control Commission (CNLS), the Department For International Development (DFID), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), and the German Technical Cooperation enterprises (GTZ) to the EDSR-III budget were of immense significance to the effective accomplishment of the survey.

We hereby express our profound gratitude to the team from ORC Macro, in particular Mr. Mohamed Ayad, responsible for drafting the project and technical coordination, Mrs. Fern Greenwell, ORC Macro Technical Advisor to EDSR-III 2005, Mr. Noah Bartlett, technical advisor for drafting the reports, and the other ORC Macro officers who contributed to the success of EDSR-III 2005 for their much appreciated technical assistance. The high quality of the analyses presented in this report is evidence of their support.

We deeply appreciate the specific technical support of the CNLS, the Treatment and Research Aids Center (TRAC), and the National Reference Laboratory (LNR). Their active participation throughout the conduct of the survey demonstrated the effectiveness of the excellent collaboration between the country's various institutions.

The Third Demographic and Health Survey would not have been accomplished without the unfailing participation of the officers from the National Institute of Statistics who were relentlessly involved, in particular Mr. Philippe Gafishi Ngango, National Director of EDSR-III 2005, Mrs. Apolline Mukanyonga, Technical Director, and Mrs. Athanasie Kabagwira, Associate Technical Director, who, in cooperation with supervisors and administrative support personnel, supplied pertinent technical supervision and contributed to the analysis of the results.

We warmly congratulate the cartographers, team leaders, monitors, and the men and women who conducted the surveys, as well as the drivers who were able to overcome the challenges and fatigue inherent in this type of operation.

We wish to reiterate our sincere thanks to all those, far and wide, who contributed to the completion of this Survey.

Lastly, we offer our profound appreciation to the men and women who will use this document, as they have understood the ultimate aim of the production of this valuable report.

Dr. Ir. Louis Munyakazi

Directeur Général de l'Institut National
de la Statistique du Rwanda

Managing Director of the National Institute of Statistics of Rwanda

ABBREVIATIONS

AD	Age at death
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
AQ	Amodiaquine
ARI	Acute Respiratory Infection
ASFR	Age-specific Fertility Rate
BCG	Bacillus of Calmette and Guérin (vaccine against tuberculosis)
BMI	Body Mass Index
CBR	Crude Birth Rate
CDC	Centers for Disease Control and Prevention
CNLS	Commission Nationale de Lutte contre le Sida
CSPro	Census and Survey Processing
CTS	Conflict Tactics Scale
DFID	Department For International Development
DHS	Demographic and Health Surveys
DPT	Diphtheria-Pertussis-Tetanus vaccine
EA	Enumeration area
EDSC	Cameroon Demographic and Health Survey
EDSBF	Burkina Faso Demographic and Health Survey
ENF	Enquête Nationale sur la Fécondité (National Fertility Survey)
EPI	Expanded Program of Immunization
ESD	Enquête sociodémographique (Sociodemographic Survey)
FP	Family Planning
FRw	Rwandan Franc
GAR	Gross Attendance Ratio
GDP	Gross Domestic Product
GFR	General Fertility Rate
GPI	Gender Parity Index
GTZ	German Technical Cooperation
HIV	Human Immunodeficiency Virus
IEC	Information/Education/Communication
INSR	Institut National de la Statistique du Rwanda
IPT	Intermittent Preventive Treatment
ITN	Insecticide-Treated Mosquito Net
IUD	Intra Uterine Device

LAM	Lactational Amenorrhea Method
LNR	National Reference Laboratory
MAP	Multi-country AIDS Program
MDG	Millennium Development Goals
MMR	Maternal Mortality Ratio
NAR	Net Attendance Ratio
NCHS	National Center for Health Statistics
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
OVC	Orphaned and Vulnerable Children
PNILP	Programme National Intégré de Lutte contre le Paludisme (National Malaria Control Program)
PRSP	Poverty Reduction Strategy Papers
PSU	Primary Sampling Units
RBM	Roll Back Malaria
RDHS-I	First Rwanda Demographic and Health Survey, 1992
RDHS-II	Second Rwanda Demographic and Health Survey, 2000
RDHS-III	Third Rwanda Demographic and Health Survey, 2005
RGPH	Recensement Général de la Population et de l'Habitat (General Population and Housing Census)
RHF	Recommended Home Fluids
SDM	Standard Days Method
SP	Sulfadoxine-Pyrimethamine
STI	Sexually Transmitted Infection
TFR	Total Fertility Rate
TRAC	Treatment and Research AIDS Center
TWFR	Total Wanted Fertility Rate
UNFPA	United Nations Population Fund
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USD	United States Dollars
VCT	Voluntary Counseling and Testing Center
VIP	Ventilation-Improved Pit Latrine
WHO	World Health Organization
YSD	Years since death

SUMMARY OF FINDINGS

A total of 10,644 households were selected in the sample for the third Rwandan Demographic and Health survey (RDHS-III), and 10,307 of these were contacted at the time of the survey. The survey teams were able to interview individuals in 10,272 households, for a response rate of nearly 100 percent. In the 10,272 households surveyed, 11,539 women between 15 and 49 years of age were considered eligible for individual interviews and 11,321 were successfully interviewed. Thus the response rate for women was 98 percent. The male survey was conducted in one out of every two households. A total of 4,959 men between 15 and 59 years of age were identified in the sub-sample of households. Among the 4,959 men slated for individual interviews, 4,820 were successfully interviewed, for a response rate of 97 percent among men.

The survey results show that 44 percent of the women interviewed were between 15 and 24 years at the time of the survey and 43 percent of men were in that age group. Two out of every five women and about one out of two men were never-married. These data indicate that the Rwanda's population is generally young, a fact that needs to be drawn to the attention of policymakers in designing national development programs. The proportion of women with no formal education (23 percent) is higher than that of men (17 percent). Only 10 percent of women and 12 percent of men have at least a secondary level of education. The proportion of men and women who do not know how to read is 22 percent and 29 percent, respectively. Also noteworthy is that on the national level, more than two out of five women (44 percent) and about one out of five men (19 percent) do not have access to any media. Only 8 percent of women and 10 percent of men read a newspaper at least once a week.

Very few Rwandan households have electricity (5 percent). In rural areas less than 2 percent of households have electricity, compared to 25 percent in urban areas. In regards to drinking water, 39 percent of urban households and 71 percent of rural households do not have reliably clean, potable water (tap water, boreholes, or protected wells). Concerning toilets, two out of three households (67 percent) use uncovered latrines. A total of 5 percent have no toilet facilities.

FERTILITY

Analysis of the 2005 RDHS-III data indicates that the fertility rate of Rwandan women remains high. The Total Fertility Rate (TFR) is 6.1 children for all women, 4.9 for urban women, and 6.3 for rural women.

The level of education, urban-rural residence, marital status, and household wealth are the main variables for which differences are seen in the fertility rates of Rwandan women. Among the provinces, North and West provinces show the highest fertility rates and South province the lowest.

Fertility among adolescent women is negligible, accounting for only 3 percent of national fertility. Women older than age 40 account for 12 percent of fertility. The mean number of children ever-born (CEB) among all women between 40-49 is 6.6 children per woman. Among urban residents of this age-group, the mean number of CEB is 5.8; among rural residents of this age group it is 6.7.

As for fertility trends, the youngest and oldest age groups surveyed (15-19 and 40-49 years) show a decline from one survey to the next. It is women from 20 to 39 years old who account for the largest increase in fertility. A comparison of TFR across past and current surveys indicates that the fertility stabilized in 1992 at about 6 children per woman.

FAMILY PLANNING

Knowledge of contraception. Although almost all married women are aware of contraception, and of modern methods, in particular (98 percent in 2005, compared to 97 percent in 2000), relatively few women use them.

Knowledge of contraception among men is also almost universal: 98 percent of male respondents declared they knew of at least one modern contraceptive method and 77 percent said they knew of traditional methods.

Contraceptive prevalence. Contraceptive prevalence among currently-married women is only 17 percent, with 10 percent using modern methods. However, the proportion of married women using contraception has increased in the five years since the RDHS-II, rising from 13 percent in 2000 to 17 percent in 2005 for all methods and from 4 percent in 2000 to 10 percent in 2005 for modern methods. The modern methods most often used are injectables (5 percent) and pills (2 percent). The survey results show that contraceptive use is lowest among the youngest and oldest age groups: 7 percent for women 15-24 years old and 10 percent for women 45-49 years old.

MARRIAGE

Among women age 15-49, 49 percent declared they were in a union at the time of the survey. The proportion of never-married women decreases as age increases and it is rare to find a woman over 45 years old who has never been married (2 percent). Therefore, marriage, which remains practically the sole context of procreation in Rwanda, is very common. In addition, 12 percent of Rwandan women live in polygamous households. Rwandan women tend to marry late: only 19 percent of those between the ages of 25 and 49 had married before they were 18 years old. For women, the median age of first union is 20.7 years; the median age of first sex is 20.3 years.

Men tend to marry at an older age than women. The median age for the first marriage is 25.0 years; the median age of first sex is 20.8 years.

FERTILITY PREFERENCES

In regards to fertility preferences, 42 percent of women declared they did not wish to have any more children, while over half (52 percent) wished for more. Among the latter group, 12 percent wanted to have the next child within two years, 39 percent wanted a child sometime later (after two years), and 2 percent wished for another child without specifying the time. The percentage of men (44 percent) who do not want any more children is similar to that of women. Forty percent declared they wished to wait two or more years for another child.

The average ideal family size for all women, as well as for married women, is about 4 children. This ideal family size is less than the TFR of 6.1, a finding which partially explains the percentage of women not wanting to have more children.

MATERNAL AND CHILD HEALTH

Antenatal Care. The vast majority of expectant mothers receive some antenatal care (94 percent). However, only 13 percent go for at least four visits, as recommended by the WHO and the Rwandan government. The first antenatal care visit tends to be late in the pregnancy: the median time of the first visit is 6.4 months into the pregnancy.

During these consultations, women are rarely informed of any signs of complications that could occur during their pregnancy (6 percent). Most often women were weighed (94 percent) and blood pressure was measured (71 percent). Over half the women (56 percent) said their height was taken. However, routine tests of blood and urine were rare. A small percentage of women took iron supplements (28 percent) or anti-malaria medication (6 percent).

Delivery Care. A high number of Rwandan women give birth at home (70 percent). Six out of ten were not assisted by trained health providers; 43 percent were assisted by untrained traditional birth attendants. Overall, 17 percent of Rwandan women report giving birth without any assistance.

Vaccination Coverage. The objective of Rwanda's Expanded Program on Immunization—to vaccinate all children within their first 12 months of life—has not yet been met. Only 75 percent of children age 12-23 months have been given all recommended vaccinations. Among these children, only 69 percent had received all vaccinations before the age of one year. The drop-out rate between the first and third rounds of DPT was 10 percent and for the polio vaccine it was 13 percent.

Childhood Illness. The RDHS-III showed that, during the two weeks preceding the survey, 17 percent of children under 5 years of age had suf-

fered from an acute respiratory infection (ARI), that 26 percent had had a fever, and that 14 percent had experienced diarrhea.

Medical treatment or advice had been sought for 27 percent of the children with ARI or a fever. For those who had experienced diarrhea, only 14 percent received medical treatment.

The great majority of mothers (87 percent) know about oral rehydration salt (ORS) treatment for diarrhea. However, during the last episode of diarrhea, only 32 percent of children received either ORS, recommended home fluids, or had received an increase in fluids. A similar proportion of children had been treated with traditional remedies. It is, however, disturbing that 33 percent of children with diarrhea had received no treatment at all.

NUTRITION

Breastfeeding Practices. In Rwanda breastfeeding is nearly universal and of relatively long in duration. Results show that virtually all children under six months are breastfed and that 97 percent of those age 10-11 months are still breastfed. The recommendation of exclusive breastfeeding for children up to six months old is followed by nine out of ten mothers (88 percent). The median duration of breastfeeding is 24.9 months.

It is very unusual to see other liquids or complementary food introduced before the age of two months (5 percent). However, the recommended introduction of solid foods at six months is not generally followed: only 69 percent of children age 6-9 months had received complementary foods

Nutritional Status. Overall, more than four out of ten children under age five (45 percent) suffer from chronic malnutrition and nearly one out of five (19 percent) suffer from its most severe form. Levels of stunting rapidly increase with age; the highest proportion is found among children age 12-23 months (55 percent), but remains fairly high (51 to 53 percent) among older children. The rate of stunting is highest in the North province (52 percent). Stunting tends to be lower among children of mothers with more education: 50 percent among those with no education, 44 percent among those with primary education, and 43 percent among those of at least secondary level.

The results show that 4 percent of children are wasted and 1 percent are severely wasted. In other words, these children suffer from acute malnutrition. The highest prevalence of these cases (9 percent) is found among children age 12-23 months. This corresponds to the period during which the child is most likely to be weaned and vulnerable to illnesses (such as those linked to the introduction of contaminated foods or those picked up as the child crawls around and explores the environment). Interestingly, rates of wasting in the City of Kigali (8 percent) are higher than in the other areas surveyed.

Findings show that 22 percent of children in Rwanda are underweight and 4 percent are severely underweight. These figures indicate either chronic or acute malnutrition.

On the national level, 56 percent of children age 6-59 months are anemic: 20 percent are mildly anemic, 27 percent are moderately anemic, and 9 percent are severely anemic. In general, children in urban and rural areas have similar anemia rates, although the prevalence of severe anemia is higher in urban areas than in rural areas (13 percent versus 8 percent). Children in the City of Kigali suffer more from anemia—particularly in its severest form— than elsewhere.

Women in Rwanda are less afflicted with anemia than the children. Nationally, 33 percent of women suffer from anemia: 19 percent have mild cases, 11 percent have moderate cases, and 3 percent have severe cases. Similarly to the children's rates, the cases of anemia occur equally in urban or rural areas; however, women of the City of Kigali have a higher prevalence of moderate and severe anemia than elsewhere.

Vitamin supplements. Survey results showed that 84 percent of last-born children age 0-3 years had received vitamin A supplements. However, only 33 percent of mothers received vitamin A within the two months following delivery of the baby. Also, 71 percent of women did not receive any iron supplements during their pregnancy and 24 percent received supplements for no more than 3 months.

Nearly nine out of ten women and children live in households with sufficiently-iodized salt.

MALARIA

Possession of Mosquito Nets. In Rwanda, 18 percent of households own at least one mosquito net. Urban residents, especially in the City of Kigali, show a higher rate (40 percent) of households with at least one net than do rural residents. The percentage is highest among the wealthier households (45 percent versus 6 percent among the poorest). However, only 6 percent of the total of households own more than one mosquito net.

Overall, almost all households with a least one mosquito net had an ever treated net. However, there is a discrepancy between those possessing at least one net and those using insecticide-treated mosquito nets (ITNs) at the time of the survey (18 percent versus 15 percent). The same gap is observed among the households with more than one net (6 percent) and those with more than one ITN (4 percent).

Mosquito Net Usage: Only 16 percent of children under the age of five slept under a mosquito net the night preceding the survey interview. Among pregnant women, 20 percent declared they had slept under a net the night preceding their interview.

INFANT AND CHILD MORTALITY

Childhood mortality remains high at the national level. In the most recent five-year period before the survey, for every 1,000 live births, 86 die before their first birthday (37 between birth and 1 month and 49 between 1 and 12 months). Currently, out of 1,000 one-year old children, 72 do not reach their fifth birthday. Overall, the mortality risk between birth and five years is 152 per 1,000 children born.

The RDHS-III results indicate a significant decline in infant and child mortality since the 2000 RDHS-II. However, comparison with the RDHS-I shows that the 2005 infant and under-five mortality rates have returned to the same levels as 1992.

MATERNAL MORTALITY

Maternal mortality remains high in Rwanda. According to the RDHS-III, the rate of maternal mortality is about 750 deaths for every 100,000 live births. This total has declined considerably since the 2000 RDHS which found a maternal mortality rate of 1,071 between 1995 and 1999.

DOMESTIC VIOLENCE

About one third of women interviewed (31 percent) declared they had been victims of physical violence at least once since they were 15 years old, and 19 percent were subject to violence during the last twelve months preceding the survey. Most often, it is the husband or partner who is responsible for the violence. Whether physical or sexual, the violence results in serious consequences for the woman: in the past 12 months, in 22 percent of cases the women suffered bruises or wounds, and, in 14 percent, bone fractures. In 7 percent of the cases, women had to be treated by a doctor or at a health care facility.

STI AND HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES AND BEHAVIORS

Almost all respondents declared that had heard of HIV/AIDS, but only 54 percent of women and 58 percent of men had a comprehensive knowledge of the disease.

The level of knowledge regarding the means of HIV/AIDS prevention is insufficient: 73 percent of women and 80 percent of men knew one can reduce the risk of getting the AIDS virus by using condoms and by limiting sex to only one faithful and uninfected partner.

Only 51 percent of men and 46 percent of women expressed positive attitudes towards people living with HIV/AIDS, indicating that the level of stigmatization and discrimination remain high in Rwanda.

The survey also shows that 8 percent of women and 14 percent of men declared having had higher-risk sex (intercourse with a partner who is neither a spouse, nor living with the respondent), but only 20 percent of these women and 41 percent of these men had used condoms during the last higher-risk sex.

Among pregnant women, only 22 percent declared they had received counseling on HIV/AIDS during their antenatal care visits or having tested for HIV and received their results.

The survey data also shows that among youth age 15-24 year olds, 51 percent of women and 54 percent of men had a comprehensive knowledge of HIV/AIDS and that 12 percent of men and 7 percent of women used a condom during their first sexual intercourse.

HIV PREVALENCE

HIV Testing Coverage Rates. Overall, 97 percent of eligible respondents provided blood for HIV testing. The coverage rate was 94 percent in urban areas and 97 percent in rural areas.

HIV Prevalence Rates. Survey results indicate that 3 percent of adults age 15-49 are infected with HIV. The prevalence rate is higher among women than among men; the ratio of women to men is 1.6.

HIV prevalence is significantly higher in urban areas than in rural areas. The City of Kigali shows the highest HIV prevalence in the 15-49 year-old population (6.7 percent). Among 15-24 year-olds, the prevalence in Kigali is 3.4 percent. The North province has the lowest HIV prevalence (2 percent).

According to classification by age and sex, the prevalence is highest among men between 40 and 44 years old (7.1 percent) and among women between 35 to 39 (6.9 percent).

HIV and Associated Factors. HIV prevalence is very high among respondents who declared having contracted a sexually transmitted infection in the 12 months prior to the survey (15.7 percent). Prevalence is also high among widowed women (15.9 percent) and divorced or separated women (10.9 percent).

The survey shows that 56 percent of men and 64 percent of women who tested seropositive at the time of the survey had never undergone an HIV test previously.

CARE AND SUPPORT FOR VULNERABLE PERSONS

Approximately one child out of five under the age of 18 years is an orphan: 4 percent have lost both parents, 13 percent their father, and 3 percent their mother.

Around 11 percent of children in Rwanda are considered to be *vulnerable*. Overall, 29 percent of children under age 18 can be classified as orphans or vulnerable children (OVC). The highest proportion of OVC is in the City of Kigali (35 percent) and the lowest is in the North province (25 percent).

RDHS results have shown that parental survival status influences school attendance of children age 10-14. When both parents are alive and the child lives with at least one parent, 91 percent attend school. In contrast, this proportion drops to 75 percent when both parents are deceased.

In Rwanda, OVC do not seem to suffer more from malnutrition than other children, regardless of age or sex. A ratio of less than 1.0 (0.92) indicates that non-OVC are slightly more likely to be undernourished than OVC.

Early sexual relations seem to be slightly more frequent among OVC (6 percent among girls and 15 percent among boys) than among other children (5 percent among girls and 14 percent among boys).

Very few Rwandan households have received assistance to care for sick family members. Only for 12 percent of sick people did the household receive assistance, whether medical, social, material or emotional. Less than 1 percent of the households received all of these forms of assistance.

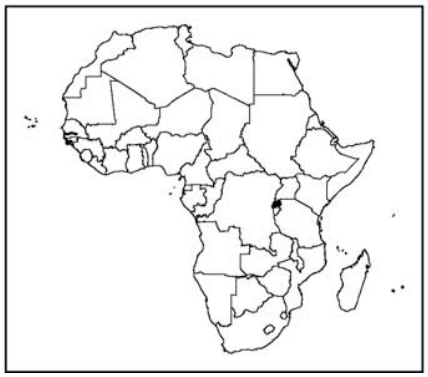
In 87 percent of cases, households in Rwanda received no external support in caring for OVC. The external assistance that is provided tends to be toward paying school fees (9 percent of households). Other types of support are virtually non-existent.

Millennium Development Goal Indicators, Rwanda 2005			
Goal	Indicator	Value	
1. Eradicate extreme poverty and hunger	Prevalence of underweight children under five years of age	Male: 22.9 % Female: 22.1 %	Total: 22.5 %
2. Achieve universal primary education	Net enrolment ratio in primary education[1]	Male: 73.8 % Female: 76.6 %	Total: 75.2 %
	Percent of pupils starting grade 1 who reach grade 5[1]	Male: 9.6 % Female: 10.3 %	Total: 10.0 %
	Literacy rate of 15-24 year-olds[2]	Male: 67.8 % Female: 65.2 %	Total: 66.0 %
3. Promote gender equality and empower women	Ratio of girls to boys in primary and secondary education	Primary: 1.03 Secondary: 0.81	
	Ratio of literate women to men, 15-24 years old[2]		0.96
	Share of women in wage employment in the non-agricultural sector[3]		8.8 %
4. Reduce child mortality	Under-five mortality rate (per 1,000 live births)		152 per 1,000
	Infant mortality rate (per 1,000 live births)		86 per 1,000
	Percent of 1 year-old children immunized against measles	Male: 84.9 % Female: 86.4 %	Total: 85.6 %
5. Improve maternal health	Maternal mortality ratio (per 100,000 live births)		750 per 100,000
	Percent of births attended by skilled health personnel		38.6 %
6. Combat HIV/AIDS, malaria and other diseases	Condom use to overall modern contraceptive use among currently married women age 15-49		9.2 %
	Condom use at last higher-risk sex (population age 15-24)[4]	Male: 39.5 % Female: 26.0 %	
	Percentage of population age 15-24 with comprehensive correct knowledge of HIV/AIDS[5]	Male: 53.6 % Female: 50.9 %	
	Contraceptive prevalence rate (any modern method, currently married women age 15-49)		10.3 %
	Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years		0.82
7. Ensure environmental sustainability	Percent of population using solid fuels[6]	Urban: 98.3 % Rural: 99.8 %	Total: 99.6 %
	Percent of population with sustainable access to an improved water source[7], urban and rural	Urban: 55.0 % Rural: 22.4 %	Total: 27.4 %
	Percent of population with access to improved sanitation[8], urban and rural	Urban: 97.2 % Rural: 96.5 %	Total: 96.6 %

[1] Excludes children with parental status missing.
[2] Refers to respondents who attended secondary school or higher and women who can read a whole sentence.
[3] Wage employment includes respondents who receive wages in cash or in cash and kind.
[4] Higher risk refers to sexual intercourse with a partner who neither was a spouse nor who lived with the respondent; time frame is 12 months preceding the survey.
[5] A person is considered to have a comprehensive knowledge about AIDS when they say that use of condoms for every sexual intercourse and having just one uninfected and faithful partner can reduce the chance of getting the AIDS virus, that a healthy-looking person can have the AIDS virus, and when they reject the two most common local misconceptions. The most common misconceptions in Rwanda are that AIDS can be transmitted through mosquito bites and that a person can become infected with the AIDS virus by sharing food with someone who is infected.
[6] Charcoal, firewood, or sawdust.
[7] Improved water sources are: household connection (piped), public standpipe, borehole, or protected dug well.
[8] Improved sanitation technologies are: flush toilet, traditional pit latrine, or ventilated improved pit latrine.

RWANDA


Uganda
Democratic
Republic
of the Congo
North
East
West
City of
Kigali
Lake
Kivu
South
Tanzania
Burundi
0
25
50 Kilometers
N



COUNTRY PROFILE AND SURVEY INTRODUCTION 1

1.1 COUNTRY PROFILE

1.1.1 Geography

The country of Rwanda is situated in central Africa immediately south of the equator between 1°4' and 2°51' south latitude and 28°63' and 30°54' east longitude. Its total area of 26,338 square kilometers is bordered by Uganda to the north, Tanzania to the east, the Democratic Republic of the Congo to the west, and Burundi to the south. Landlocked, Rwanda lies 1,200 kilometers from the Indian Ocean and 2,000 kilometers from the Atlantic Ocean.

Rwanda forms part of the highlands of eastern and central Africa, with mountainous relief and an average elevation of 1,700 meters. However, there are three distinct geographical regions.

Western and north-central Rwanda is made up of the mountains and foothills of the Congo-Nile Divide, the Virunga volcano range, and the northern highlands. This region is characterized by rugged mountains intercut by steep valleys, with elevations generally exceeding 2,000 meters. The Divide itself rises to 3,000 meters at its highest point but is dwarfed by the volcano range, whose highest peak, Kalisimbi, reaches 4,507 meters. The Congo-Nile Divide slopes westward to Lake Kivu, which lies 1,460 meters above sea level in the Rift Valley trough.

In Rwanda's center, mountainous terrain gives way to the rolling hills that give the country its nickname, "Land of a Thousand Hills." Here the average elevation varies between 1,500 and 2,000 meters. This area is also referred to as the central plateau.

Further east lies a vast region known as the "eastern plateaus," where the hills level gradually into flat lowlands interspersed with a few hills and lake-filled valleys. The elevation of this region generally falls below 1,500 meters.

Due to its elevation, Rwanda enjoys a temperate, sub-equatorial climate with average yearly temperatures of around 18.5°C. The average annual rainfall is 1,250 millimeters and occurs in two rainy seasons of differing lengths, alternating with one long and one short dry season. The climate varies somewhat from region to region, depending on the altitude, the volcano range and northern highlands being generally cooler and wetter, with average temperatures of 16°C, and average rainfall of above 1,300 millimeters. The maximum rainfall is 1,600 millimeters, above the Divide and the volcanic range. The hilly central region receives an average of between 1,000 and 1,300 millimeters of rain per year, while rainfall on the eastern plateau, whose climate is relatively warmer and drier, generally falls below 1,000 millimeters and can be as low as 800 millimeters. Although Rwanda enjoys more or less constant temperatures, the climate is known to vary from year to year, with extreme variations in rainfall sometimes resulting in flooding or, more often, drought. These extremes have a profound impact on agricultural production, which sometimes falls into recession.

Rwanda has a dense network of rivers and streams, draining into the Congo River on the western slope of the Congo-Nile Divide, and into the Nile in the rest of the country via the Akagera River, which

receives all the streams of this watershed. Water resources also include several lakes surrounded by wetlands.

Deforestation due primarily to land clearing for agricultural expansion has resulted in mostly anthropic vegetation with only a few small areas of natural forestland (representing 7 percent of the country) remaining on the Congo-Nile Divide and the slopes of the volcanic range.

It should be noted that at the time the survey was conducted in 2005, the country was divided into 11 provinces and the City of Kigali, with the provinces being further subdivided into districts, sectors and cells. Since then, the country's administrative structure and associated terminology have changed: there are now four geographically-based provinces (North, South, East, and West) and the City of Kigali, these being further subdivided into 30 districts, 415 sectors, cells and, finally, villages (Imidugudu).

This report is based on the new administrative divisions (four provinces and the City of Kigali) but also includes the former names (11 provinces and the City of Kigali) for purposes of clarity in referring to the sample and to assist readers as yet unfamiliar with the new administrative entities.

1.1.2 Economy

Although regular efforts have been made to develop the service sector and stimulate investment in the industrial sector, the Rwandan economy remains dominated by agriculture. According to the 2002 General Population and Housing Census (RGPH), more than 8 out of 10 people are employed in agriculture, including 81 percent of men and 93 percent of women. However, the agricultural sector is facing major problems: a production system dominated by small farming operations of less than one hectare, rudimentary techniques, and a low rate of investment. Agrarian reforms are being gradually introduced to address these problems, in particular through population resettlement and labor quality improvements focusing on specialized training mainly for women. Efforts are also underway to regionalize crops and fully expand the use of farm inputs.

Agriculture accounts for the largest share of Rwanda's Gross Domestic Product (GDP),[1] roughly 45 percent in 2003, followed by services at 36 percent and industry at 19 percent at constant 1995 prices.

Nevertheless, agricultural production declined by 4 percent in 2003 in relation to 2002, essentially due to poor rainfall during the two growing seasons. As a direct result, production dropped for grains (-3.4 percent), legumes (-1 percent), tubers (-10.7 percent), and bananas (-13.4 percent) over that of 2002. Among the export crops, coffee production alone dropped by 29 percent in relation to 2002.

In 2003, industry value added grew by 7 percent, while mining value added declined significantly (-8.6 percent).[2] At the same time, services value added increased by 4 percent in 2003 over the previous year. Financial institutions, transport and communications services, and hotels and restaurants were the main contributors to the increase in value added.

The per capita GDP at constant 1995 prices was FRw 76,089 in 2003 compared with FRw 77,631 in 2002. The value added of final consumption expenditure dropped by 0.98 percent due to a decrease in private consumption expenditure, which in 2003 fell from FRw 558,293 million to FRw 537,746 million at constant 1995 francs, a decline of 3.78 percent over 2002. Government consumption expenditure increased by 10.6 percent in 2003 in relation to 2002 (Department of Statistics, 2004).

[1] Republic of Rwanda, Ministery of Finances and Economic Planning, Department of Statistics: Rwanda Development Indicators 2004

[2] Rwanda Development Indicators 2004

Finally, because of the failure of most development strategies based on structural adjustment programs focusing on growth measured in terms of per capita GDP, the overwhelming majority of development partners are recognizing the need to incorporate social factors into development strategies. Therefore, new initiatives are geared toward pro-poor economic growth and poverty reduction to revive the economies of developing nations. Rwanda has also adopted this new orientation.

1.1.3 Population

According to the 2002 Rwanda General Population and Housing Census (RGPH), the country's population numbers 8,128,553 people. Although Rwanda suffered a major loss of human life (more than one million people) in the 1994 genocide, the population remains essentially the same because more than one million former refugees who had been living for years in exile returned at the end of the war and genocide.

The population of Rwanda has increased steadily and rapidly from more than 2,000,000 in 1952, to 7,666,000 in 1996, to 8,128,553 in 2002. The increase is essentially due to rapid demographic growth. The 2002 RGPH estimated the natural growth rate at 2.6 percent and the fertility rate at 5.9. The rate of increase declined significantly to 1.2 percent between 1991 and 2002, compared with 3.1 percent between 1978 and 1991.

Population density is high across the country and is increasing steadily: 321 inhabitants per square kilometer in 2002, compared with 283 in 1991 and 191 in 1978. The population is essentially young, with 67 percent of all Rwandans under the age of 20. In terms of gender, the 2002 RGPH shows females to be in the majority (52 percent) while males make up 48 percent of the population.

The illiteracy rate remains fairly high: 36 percent of Rwandans age 15 years and older do not know how to read or write and only 4 percent of women are able to read. Sixty percent of the total population is considered literate. The education level of Rwandans age 6 years and above is also low. According to the 2002 RGPH, one in three people is completely uneducated (34 percent) and nearly 60 percent of all Rwandans have received no education beyond primary school. Only 5.8 percent have reached the secondary school level, while those receiving education beyond the secondary level make up less than 1 percent of the population.

Under Article 33 of Rwanda's current Constitution (adopted in 2003), "Freedom of thought, opinion, conscience, religion, worship, and the public manifestation thereof is guaranteed by the State in accordance with conditions determined by law." Although numerous religions are practiced in Rwanda, Christianity is by far the dominant faith, practiced in some form by 93 percent of the resident population, the majority of whom are Catholic. In the 1991 Census, 90 percent of the resident population identified themselves as Christian. Their number has increased at the expense of those professing no religion, who have declined from 6.8 percent in 1991 to 3.6 percent in 2002. The number of Muslim adherents has risen slightly, from 1.2 percent of the population in the 1991 Census to 1.8 percent in 2002.

Nearly all Rwandans speak the same language, Kinyarwanda (spoken by over 99 percent of the population), which is the country's first official language, followed by French and English. Kiswahili, the third relatively common foreign language, is generally spoken in urban areas and in the provinces bordering on countries where this language is widely spoken (Democratic Republic of the Congo, Tanzania).

1.1.4 Population Policy

Out of concern for improving the country's quality of life, the Rwandan government has developed various strategies over the years to ensure an acceptable balance between demographic growth and available resources, particularly since the 1980s.

A family planning initiative developed in 1982 provided for training, improved access to family planning services and, in particular, the promotion of family planning through trained communicators known as Abakangurambaga ("Awakeners of the People"). A subsequent policy was adopted in 1990 aimed at curbing demographic growth and reducing fertility through family planning. To create an environment favorable to behavioral changes that result in lower fertility rates, other elements were included in the plan such as increased production, public health improvements, land use planning, training of communicators, the promotion of education and school attendance, and the employment and advancement of women.

Following the 1994 genocide, population problems were seen in a new light with respect to both quality of life and population growth. A new national population policy was developed and issued to all development agents in 2003. This policy emphasizes quality of life by providing objectives and strategies used to affect both demographic (fertility, mortality) and socioeconomic factors. Concretely, it emphasizes: slowing demographic growth, managing natural resources sustainability, food safety, access to primary and secondary education for all children—with a focus on technical and vocational instruction and information technologies—good governance, equal opportunity, and participation in development by both men and women.

1.1.5 Public Health Policy

The Ministry of Health, in collaboration with its partners, has just developed a policy aimed at the entire health sector. Special emphasis is placed on priority reproductive health issues such as making pregnancy safer, children's health, family planning, sexually transmitted infections (STIs), HIV/AIDS, teenage reproductive health, prevention and response to sexual violence, and social changes aimed at increasing women's decisionmaking power. Health indicators have shown clear improvement: the proportion of the population covered by health mutual schemes increased from 4 percent to 7 percent in one year, and the number of doctors and nurses rose by 10 percent and 7 percent, respectively. In addition, the Ministry of Health is developing incentives to encourage highly qualified medical personnel to serve in rural areas.

HIV/AIDS is a major problem in Rwanda; for this reason, HIV/AIDS testing was included in the survey. HIV/AIDS affects all population strata, especially young women, sex workers, orphans, prisoners and truck drivers. The price of antiretroviral drugs continues to decline, and the prevention of mother-to-child transmission ((PMTCT) program launched in 2001 has been implemented in all provinces.

Government budget allocations for health have increased substantially—by 185 percent between 2002 and 2004 (Finance Law of 2002 and 2004, Government of Rwanda). In 2004, the government allocated 6.1 percent of its budget to health (Department of Statistics, 2004).

1.2 Objectives and Methodology of the Survey

The Rwanda Demographic and Health Survey (RDHS-III, 2005) is the third of its kind, following surveys conducted in 1992 and 2000. Ordered by the Ministry of Finances and Economic Planning, it was carried out by the Department of Statistics (now known as the National Institute of Statistics of Rwanda)

with the technical assistance of ORC Macro, an American company that supervises the international Demographic and Health Surveys program through the MEASURE DHS project. Financial support for the survey was provided by the United States Agency for International Development (USAID/Rwanda), the United Nations Population Fund (UNFPA), the United Nations Children's Fund (UNICEF), the Commission Nationale de Lutte contre le SIDA (CNLS) through the World Bank's Multi-country AIDS Program (MAP), the British Department for International Development (DFID), and the German Technical Cooperation (GTZ). It was conducted on a representative sample of women between the ages of 15 and 49 and men between the ages of 15 and 59.

1.2.1 Objectives of the Survey

The main objectives of the RDHS-III were:

- At the national level, gather data to determine demographic rates, particularly fertility and infant and child mortality rates, and analyze the direct and indirect factors that determine fertility and child mortality rates and trends.
- Evaluate the level of knowledge and use of contraceptives among women and men.
- Gather data concerning family health: vaccinations; prevalence and treatment of diarrhea, acute respiratory infections (ARI), and fever in children under the age of five; antenatal care visits; and assistance during childbirth.
- Gather data concerning the prevention and treatment of malaria, particularly the possession and use of mosquito nets, and the prevention of malaria in pregnant women.
- Gather data concerning child feeding practices, including breastfeeding and, in half the households surveyed, collect anthropometric measurements to evaluate the nutritional status of women and children, and test for anemia in children under the age of five, women between the ages of 15 and 49, and men between the ages of 15 and 59.
- Gather data concerning knowledge and attitudes of women and men about STIs and AIDS, and evaluate recent changes in behavior with respect to the use of condoms.
- Gather data to determine adult mortality levels at the national level.
- Gather quality data concerning domestic violence.
- Gather data concerning the types of care and support received by those under the age of 60 who died in the 12 months preceding the survey.
- Collect blood samples in half of the households surveyed to estimate the prevalence of HIV in the adult population of reproductive age—anonymous HIV testing of women age 15 to 49 and men age 15 to 59.

1.2.2 Questionnaires

Three questionnaires were used in the RDHS-III: the Household Questionnaire, the Women's Questionnaire, and the Men's Questionnaire. The content of these questionnaires was based on model questionnaires developed by the MEASURE DHS project. Technical meetings between experts and representatives of the Rwandan government and national and international organizations were held beginning in June 2004 to discuss the content of the questionnaires. The inputs generated by these meetings were used to modify the model questionnaires to reflect the needs of users and the relevant population, family planning, HIV/AIDS, and other health issues in Rwanda. The final questionnaires were

then translated from French into English and Kinyarwanda. These questionnaires were further refined and then finalized in December 2004 after pretesting and training of field staff.

The Household Questionnaire was used to list all of the usual members and visitors in the selected households. Some basic information was collected on the characteristics of each person listed, including age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify women and men who were eligible for the individual interview. The Household Questionnaire also collected information on characteristics of the household's dwelling unit such as the main source of drinking water, type of toilet facilities, materials used for the floor of the house, the main energy source used for cooking, ownership of various durable goods, ownership and use of mosquito nets, and the type of salt used for cooking. In addition, questions were asked about the type of assistance or support received by vulnerable members of the population such as the very ill, and orphaned or otherwise vulnerable children. The questionnaire was also used to register people eligible for anthropometric (height and weight) measurements and the collection of samples for hemoglobin and HIV testing.

The Women's Questionnaire was used to collect information on all women of reproductive age (15-49 years) and covered a wide variety of topics, including:

- Background characteristics
- Reproductive history
- Knowledge and use of contraceptive methods
- Fertility preferences
- Antenatal, childbirth, and postpartum care
- Breastfeeding and child feeding practices
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Women's work and husband's background characteristics
- AIDS and other sexually transmitted infections
- Adult mortality
- Domestic violence

The Men's Questionnaire was administered to all men age 15-59 years living in every second household of the RDHS-III sample. The Men's Questionnaire collected information similar to that of the Women's Questionnaire, but was shorter because it did not contain questions on reproductive history, maternal and child health, or nutrition.

All aspects of RDHS-III data collection, including anemia and HIV testing procedures, were pre-tested between 19 November and 15 December 2004. The 30 team members recruited received four weeks of training on the questionnaires and procedures for collecting blood samples for the anemia and HIV tests. Training in blood sample collection was provided by the Department of Statistics technical team and a representative of the National Reference Laboratory, with the assistance of ORC Macro. The training included a theory section and a practicum section both in the classroom and at health facilities in the city of Kigali. During the pilot survey, approximately 150 households were visited in urban and semi-urban clusters in the city of Kigali and Kigali Ngari. The blood sample collection acceptance rate was sufficiently high during the pretest (over 85 percent for women and men) to indicate the feasibility of conducting such samples during the survey itself. The lessons learned during this pretest were used to finalize the survey instruments and logistical arrangements.

1.2.3 Sample Design

The sample for the RDHS-III survey covered the population residing in ordinary households across the country. A national sample of 10,644 households was selected. The sample was first stratified to provide adequate representation of urban and rural areas as well as all 12 provinces including the "City of Kigali," the nation's capital. Decentralization reforms were introduced after this sample was drawn, resulting in new geographically-based divisions that regroup the former districts into five new provinces. However, the sample used posed no obstacle to adequate representation of the new provinces and the data in this report present key indicators corresponding to the five recently created provinces (South, West, North, East, and the City of Kigali).

The survey used a two-stage sample design. The first stage involved selecting primary sampling units (PSUs) based on the list of enumeration areas covered in 2002 General Population and Housing Census (RGPH) prepared by the National Census Bureau. These enumeration areas provided the master frame for the drawing of 462 clusters (351 rural and 111 urban), selected with a representative probability proportional to their size. A strictly proportional sample allocation would have resulted in a very low number of urban households in certain provinces such as Umutara. It was therefore necessary to slightly over-sample urban areas in order to survey a sufficient number of households to produce reliable estimates for urban areas. The second stage involved selecting a sample of households in these enumeration areas. In order to adequately guarantee the accuracy of the indicators, it was necessary to control the total size of the households drawn by setting the number of households to be surveyed at 20 in urban clusters and 24 in rural clusters. Because of the nonproportional distribution of the sample among the different strata and the fact that the number of households was set for each cluster, weighting was used to ensure the validity of the sample at both national and regional levels.

All women age 15-49 years who were either usual residents of the selected household or visitors present in the household on the night before the survey were eligible to be interviewed (approximately 11,500 women). In addition, in a subsample of every second household selected for the survey, a sample of 5,000 men age 15-59 years was selected to be interviewed. In this subsample, all men and women eligible for the individual survey were also eligible for the HIV test. In addition, in this subsample of households, all women eligible for the survey and all children under the age of five were eligible for the anemia test. Finally, in this same subsample of households, all women eligible for the survey and all children under the age of five were eligible for height and weight measurements to determine their nutritional status.

1.2.4 Sample Coverage

All of the 462 clusters selected for the sample were able to be surveyed for the RDHS-III. A total of 10,644 households were selected, of which 10,307 households were identified and occupied at the time of the survey. Among these households, 10,272 completed the Household Questionnaire, yielding a response rate of nearly 100 percent (Table 1.1).

In the 10,272 households surveyed, 11,539 women age 15-49 years were identified as being eligible for the individual interview; interviews were completed with 11,321 of these women, yielding a response rate of 98 percent. Male interviews were conducted in every second household. A total of 4,959 men age 15-59 years were identified in the subsample of households. Of these 4,959 men, 4,820 completed the individual interviews, yielding a response rate of 97 percent.

The response rates were slightly higher in rural areas for both men and women.

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence, Rwanda 2005

Result	Residence		Total
	Urban	Rural	
WOMEN			
Household interviews			
Households selected	2,220	8,424	10,644
Households occupied	2,122	8,185	10,307
Households interviewed	2,107	8,165	10,272
Household	99.3	99.8,	99.7
Interviews with women			
Number of eligible women	2,689	8,850	11,539
Number of eligible women interviewed	2,616	8,705	11,321
Eligible woman response rate	97.3	98.4	98.1
MEN			
Household interviews			
Households selected	1,110	4,212	5,322
Households occupied	1,061	4,095	5,156
Households interviewed	1,053	4,083	5,136
Household response rate	99.2	99.7	99.6
Interviews with men			
Number of eligible men	1,183	3,776	4,959
Number of eligible men interviewed	1,130	3,690	4,820
Eligible man response rate	95.5	97.7	97.2

1.2.5 Hemoglobin and HIV Testing

In every second household, women age 15-49 years, men age 15-59 years, and children under the age of five were eligible for the anemia test. These men and women were also eligible for the HIV test. The anemia and HIV test protocols were approved by the ORC Macro Internal Review Board in Calverton and the National Ethics Committee of Rwanda.

Hemoglobin test

Checking hemoglobin levels is the primary way of diagnosing anemia. This test is performed with the HemoCue system. An informed consent form is read to the eligible person or parent/responsible adult of the child or teenager between the ages of 15 and 17 years. This consent form explains the objectives of the test, informs the eligible individual (or parent/responsible adult) that the results will be communicated immediately after the test, and asks permission to conduct the test.

Before collecting the blood, the finger is cleaned with a swab dipped in alcohol and allowed to air dry. Then the tip of the finger (or heel, for children under 6 months, or under one year if very thin) is pricked with a sterile, single-use retractable blood lancet. One drop of blood was collected in a microcuvette and then introduced into the HemoCue photometer, which indicated the level of hemoglobin. These results were recorded on the Household Questionnaire and communicated to the person tested, or to the parent/responsible adult, with an explanation of their meaning. If the person presented severe anemia (hemoglobin below 7 g/dl, or 9 g/dl for pregnant women), the survey conductor provided a reference explaining how and where to seek treatment at a medical facility.

HIV test

The HIV test was given in the subsample of households selected for the men's survey. Blood samples were collected from all eligible men and women who volunteered to be tested in these households. The HIV test protocol is based on the anonymous linked protocol developed by the DHS (Demographic and Health Surveys) program and approved by ORC Macro's Internal Review Board. According to this protocol, names and other personal or geographic information that might identify an individual may not be linked to the blood sample. The anonymous linked protocol was also approved by the National Ethics Committee of Rwanda specifically for the RDHS-III. Because HIV tests are strictly anonymous, it was not possible and will not be possible to inform those surveyed of their test results. All persons eligible for the survey, whether or not they agreed to be HIV tested, received a card allowing them to obtain, if desired, counseling and free testing at a voluntary counseling and testing center (VCT). The card contained a list of 77 VCTs located throughout the country that offer free services to those who present the card.

For the purposes of blood sample collection, two "survey technicians" were included on each field team to be specifically responsible for collecting blood samples. In addition to training in conducting the survey, these technicians received special training covering all aspects of the anemia and HIV test protocols. After explaining blood collection procedures, data confidentiality, and test anonymity, the technician sought to obtain the informed consent of each person eligible for the test. At that time, the eligible person was given a voucher for counseling and free testing at a VCT center. For men and women who consented to be tested, the technician collected drops of blood on a filter paper, observing all safety and hygienic precautions. In most cases, the drops of blood were collected from the same finger prick as for the anemia test. A barcode label was attached to each filter paper containing the blood sample. A duplicate label was attached to the Household Questionnaire on the line showing consent for that respondent and a third copy of the same barcode label was affixed to the Blood Sample Transmittal Form. The drops of blood on the filter paper were dried for a minimum of 24 hours in a drying box containing dessicants to absorb moisture. The next day, each dried sample was placed in a waterproof plastic Ziploc bag with a dessicant and moisture indicator for preservation. This kept the individual bags dry during transmittal from the field to the central office of the National Institute of Statistics in Kigali, where they were immediately verified and placed in a dry place prior to being logged and sent on to the National Reference Laboratory.

Testing for the HIV antibody and compilation of results were performed by the National Reference Laboratory (LNR) in Kigali. The LNR undergoes rigorous internal quality audits on a regular basis as well as external quality audits.

1.2.6 Training and Data Collection

Staff responsible for the survey at the National Institute of Statistics, in collaboration with the technical team, recruited approximately 95 people to participate in data collection during the main survey, 33 of whom were medically qualified to take blood samples. Four weeks of training were provided, from

21 January to 21 February, followed by three days of practicum in urban and rural areas not selected for the main survey.

After the training, the field agents were divided into 15 teams, each of which contained a team leader, a supervisor, three female interviewers and one male interviewer. One of the three female interviewers and the male interviewer also served as medical technicians.

Data collection began on 28 February 2005 in the City of Kigali. This location made it possible to closely monitor the teams before they were dispatched to more distant areas. After two weeks, all teams, except for those remaining to complete the work in the City of Kigali, were deployed to their respective work zones. Data collection was completed on 13 July 2005.

1.2.7 Data Processing

Data entry on personal computers began on 23 March 2005, three weeks after the survey was launched in the field. Data were entered by a team of eight data processing personnel recruited and trained for this task, assisted during these operations by 4 others. Completed questionnaires were periodically brought in from the field to the National Institute of Statistics in Kigali, where assigned agents checked them and coded the open-ended questions. Next, the questionnaires were sent to the data entry facility and the blood samples were sent to the National Reference Laboratory to be screened for HIV. Data were entered using CSPro, a program developed jointly by the United States Census Bureau, the ORC Macro MEASURE *DHS*+ program, and Serpro S.A. All questionnaires were entered twice to eliminate as many data entry errors as possible. In addition, a quality control program was used to detect some of the main data collection errors for each team. This information was shared with field teams during supervisory visits to improve data quality. The data entry and internal consistency verification phase of the survey was completed in October 2005.

HOUSEHOLD CHARACTERISTICS 2

This chapter presents information on the social, economic, and demographic characteristics of the households sampled, focusing on such background characteristics as age, sex, school attendance, and the educational attainment of the respondents, as well as the physical features of their dwellings and ownership of durable goods. The purpose of this chapter is to present a profile of the households and socioeconomic conditions in which the men, women, and children targeted by this survey live. Such descriptions are essential because socioeconomic and environmental factors are major determinants of the health status and overall living conditions of a country's population.

2.1 HOUSEHOLD POPULATION BY AGE AND SEX

Table 2.1 shows the distribution by age and sex of the household population surveyed, according to urban-rural residence. The household survey involved 46,490 respondents, of which 39,352, or 85 percent, live in rural areas and 7,139, or 15 percent, live in urban areas.

Table 2.1 Household population by age, sex, and residence

Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Rwanda 2005

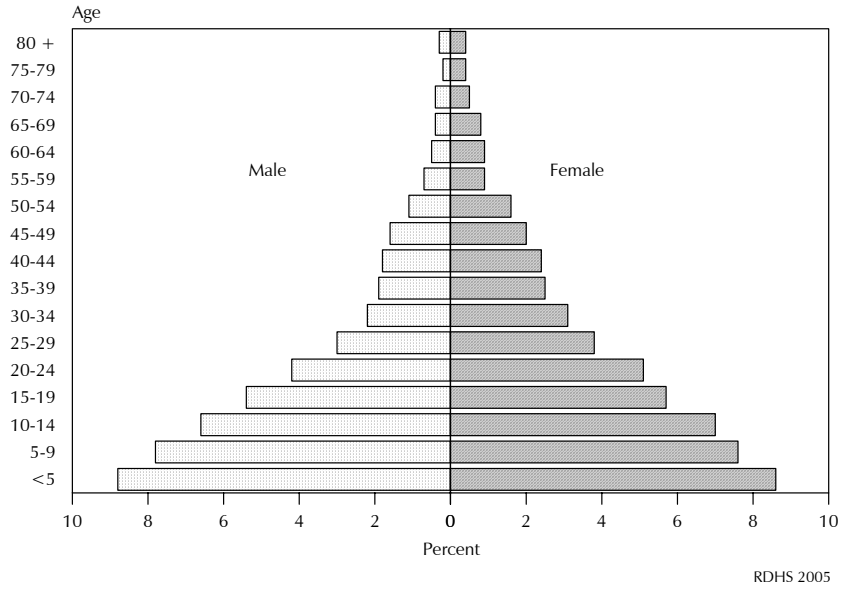
	Urban			Rural			Total		
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	17.3	15.7	16.4	19.1	16.3	17.6	18.8	16.2	17.4
5-9	14.6	13.7	14.1	17.0	14.4	15.6	16.6	14.3	15.4
10-14	12.9	11.9	12.4	14.2	13.3	13.7	14.0	13.1	13.5
15-19	10.4	12.4	11.5	11.6	10.4	11.0	11.4	10.7	11.0
20-24	11.8	11.5	11.6	8.5	9.3	8.9	9.0	9.6	9.4
25-29	8.6	8.4	8.5	5.9	6.9	6.4	6.3	7.1	6.7
30-34	6.5	6.3	6.4	4.4	5.8	5.2	4.8	5.9	5.4
35-39	4.8	5.2	5.0	3.8	4.5	4.2	4.0	4.6	4.3
40-44	4.1	4.3	4.2	3.9	4.6	4.3	3.9	4.6	4.3
45-49	3.0	2.8	2.9	3.5	3.9	3.7	3.4	3.7	3.6
50-54	1.9	2.7	2.3	2.5	3.2	2.9	2.4	3.1	2.8
55-59	1.3	1.4	1.3	1.6	1.7	1.7	1.5	1.7	1.6
60-64	0.9	1.4	1.2	1.1	1.7	1.4	1.0	1.6	1.3
65-69	0.7	1.0	0.9	0.9	1.5	1.2	0.8	1.4	1.1
70-74	0.4	0.6	0.5	0.9	0.9	0.9	0.8	0.9	0.9
75-79	0.3	0.4	0.4	0.5	0.7	0.6	0.5	0.7	0.6
80 +	0.4	0.4	0.4	0.6	0.8	0.7	0.6	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	3,316	3,822	7,139	18,446	20,906	39,352	21,762	24,727	46,490

Table 2.1 shows the distribution by age and sex of the household population as depicted by the age pyramid in Figure 2.1. The age pyramid is wide at the base, narrowing rapidly as it reaches the upper age limits, an indication of a population with high fertility and even higher mortality. In addition, there is a notable gender imbalance: 88 males for every 100 females in the total population. Further analysis reveals structural elements peculiar to the Rwandan population. First, the number of men drops off significantly in the 30-34 and 45-49 age groups, resulting in a shortage of males. The same trend occurs among females, but to a significantly lesser degree. The shortage of men and women may be attributed to the excess mortality caused by the 1994 genocide. Moreover, there is significant falloff in the 10-14 year

age group, a direct effect of the low birth rate during the years surrounding 1994. The higher proportion of children age 0-4 years reflects the return of fertility rates to their 1992 levels (6.2 compared with 6.1 in 2005).

The overrepresentation of women overall is noted in both urban and rural areas. In rural areas, males predominate among those age 0 to 19 years. From age 20-24 on, however, the situation begins to reverse and the gap narrows. In urban areas, males age 0-4 and 10-14 outnumber females, but beginning at age 35-39, the proportion of females is slightly larger.

Figure 2.1 **Population Pyramid**



2.2 HOUSEHOLD SIZE AND COMPOSITION

Table 2.2 shows that the mean size of a Rwandan household is 4.6 persons. This mean size varies somewhat: 4.5 in rural areas and 4.8 in urban areas. It is identical to the mean household size of 4.6 found in the previous survey, with variations of 4.5 in rural areas and 5.0 in urban areas. In addition, the results presented in Table 2.2 show that 66 percent of Rwandan households are headed by men. Female-headed households represent 34 percent of households in rural areas and nearly the same percentage in urban areas (33 percent). The percentage of female-headed households increased significantly from 21 percent to 36 percent between 1992 and 2000, but dropped again in 2005 (34 percent).

Approximately half of all households contain 3 to 5 people. One-person households make up only 7 percent of the population. Only one in ten households (10 percent) contains 8 or more people.

Table 2.2 Household composition

Percent distribution of households by sex of head of household and household size, according to residence, Rwanda 2005

Characteristic	Residence		Total
	Urban	Rural	
Sex of head of household			
Male	67.2	66.0	66.1
Female	32.8	34.0	33.9
Total	100.0	100.0	100.0
Number of usual members			
1	8.8	6.2	6.5
2	10.1	11.3	11.1
3	13.1	17.4	16.7
4	17.7	18.4	18.3
5	14.6	16.1	15.9
6	13.5	12.8	12.9
7	9.4	8.1	8.3
8	5.3	5.3	5.3
9+	7.6	4.4	4.9
Total	100.0	100.0	100.0
Number of households	1,510	8,762	10,272
Mean size	4.8	4.5	4.6

Note: Table is based on de jure members, i.e., usual residents.

2.3 SCHOOL ATTENDANCE AND EDUCATIONAL ATTAINMENT

Tables 2.3.1 and 2.3.2 show the percent distribution of the male and female household population according to highest level of educationa attained, by age, residence, province, and household wealth quintile. Educational attainment is important; it contributes to improved living conditions not only for the individual household but for society as a whole. Reproductive behavior, the use of contraception, health habits, school attendance of household members, and habits relating to hygiene and nutrition are all influenced by educational attainment.

The data in these two tables show that 29 percent of women and 22 percent of men have never attended school. The percentage of men and women who have completed primary school is nearly identical (8 percent for men, 7 percent for women). As educational attainment increases, the percentage of both men and women in these categories decreases: only 2 percent of men and 1 percent of women have completed secondary level education; less than 1 percent of men and women have attended any education beyond the secondary level.

Table 2.3.1 Educational attainment of household population: female

Percent distribution of the de facto female household population age six and over by highest level of education attended or completed, according to background characteristics, Rwanda 2005

Background characteristic	No education	Primary	Primary complete [1]	Secondary incomplete	Secondary complete[2]	Superior	Total	Number
Age								
6-9	35.7	63.3	0.0	0.0	0.0	0.0	100.0	2,746
10-14	6.3	92.2	0.6	0.5	0.0	0.0	100.0	3,232
15-19	9.3	75.5	8.5	6.1	0.3	0.0	100.0	2,647
20-24	17.7	57.4	14.1	6.6	3.5	0.7	100.0	2,382
25-29	18.0	53.1	16.5	6.9	3.5	1.6	100.0	1,759
30-34	24.9	53.8	8.9	8.9	2.4	0.7	100.0	1,464
35-39	36.2	44.6	7.0	9.1	2.2	0.7	100.0	1,141
40-44	42.7	38.9	11.0	5.6	1.5	0.2	100.0	1,136
45-49	48.9	37.4	8.7	3.8	0.6	0.3	100.0	921
50-54	65.9	26.6	3.5	2.8	0.8	0.4	100.0	762
55-59	70.7	22.3	3.1	2.3	0.3	0.0	100.0	417
60-64	77.6	18.6	1.8	0.8	0.7	0.0	100.0	403
65+	87.4	9.8	0.7	0.1	0.0	0.0	100.0	914
Residence								
Urban	19.4	52.3	9.4	11.5	4.5	2.2	100.0	3,103
Rural	30.9	59.1	6.2	2.8	0.6	0.0	100.0	16,823
Province								
Kigali city	17.1	49.4	10.9	13.3	5.2	3.1	100.0	1,683
South	27.3	59.4	7.9	3.6	1.2	0.1	100.0	5,261
West	31.6	58.6	5.7	2.7	0.7	0.2	100.0	5,132
North	30.5	58.9	5.1	4.2	1.1	0.1	100.0	3,782
East	32.0	58.2	6.3	2.7	0.6	0.0	100.0	4,069
Wealth quintile								
Lowest	36.3	57.6	4.8	1.0	0.1	0.0	100.0	4,243
Second	30.0	61.4	6.6	1.6	0.1	0.0	100.0	3,878
Middle	31.8	59.9	5.5	2.0	0.3	0.0	100.0	3,932
Fourth	29.6	59.3	7.1	2.9	0.4	0.0	100.0	3,958
Highest	17.2	51.9	9.8	13.3	5.4	1.8	100.0	3,916
Total	29.1	58.0	6.7	4.1	1.2	0.4	100.0	19,927

[1] Completed 6 grades at the primary level
[2] Completed 6 grades at the secondary level

A comparison of these proportions to those of the previous survey shows no significant improvement, although at the time of the previous survey, 35 percent of women and 28 percent of men had no education at all, compared with 29 percent and 22 percent, respectively, in the current survey. The percentage of men and women who have completed primary school has declined, from 12 percent to 8 percent for men, and from 10 percent to 7 percent for women. However, when compared with previous generations, the figures show significant gains: the proportion of females with no education at all has dropped from 87 percent for women 65 and over to 6 percent for girls between the ages of 10 and 14. The percentage for males in these age groups has dropped from 57 percent to 7 percent. In addition, the gap in educational attainment between the sexes seems to be narrowing in the younger age groups. The percentage of women having completed primary school is the same or close to that of men for all ages up to age 34: 9 percent of women between the ages of 15 and 19 said they had completed primary school, compared with 7 percent of men. This narrowing of the gap in educational attainment between the sexes is also seen at the secondary level: between the ages of 20 and 24, 3 percent of men and 4 percent of women have completed secondary school. This contrasts with the common situation of previous generations, when the proportion of women between the ages of 45 and 49 who had completed primary school was 9 percent, while that of men was 19 percent.

Table 2.3.2 Educational attainment of household population: male

Percent distribution of the de facto male household population age six and over by highest level of education attended or completed, according to background characteristics, Rwanda 2005

Background characteristic	No education	Primary	Primary complete [1]	Secondary incomplete	Secondary complete[2]	Superior	Total	Number
Age								
6-9	37.1	62.3	0.0	0.1	0.0	0.0	100.0	2,835
10-14	7.4	91.0	0.7	0.4	0.0	0.0	100.0	3,053
15-19	8.7	76.6	6.7	7.3	0.2	0.1	100.0	2,489
20-24	15.4	56.2	14.8	9.2	3.4	0.4	100.0	1,967
25-29	15.8	48.8	19.4	9.4	4.0	2.3	100.0	1,376
30-34	19.4	50.9	9.2	13.5	3.8	2.9	100.0	1,036
35-39	24.1	48.7	8.0	13.3	3.0	2.2	100.0	861
40-44	31.8	39.8	16.1	7.6	2.7	1.4	100.0	847
45-49	29.4	43.8	18.9	5.0	1.9	1.1	100.0	742
50-54	33.4	44.3	14.4	4.9	1.5	0.7	100.0	525
55-59	32.1	46.9	13.6	3.1	2.1	1.4	100.0	336
60-64	41.2	39.8	11.0	4.9	1.4	0.5	100.0	224
65+	56.7	36.3	4.0	1.0	0.4	0.2	100.0	595
Residence								
Urban	15.4	52.0	10.0	13.2	4.6	3.6	100.0	2,660
Rural	22.6	64.3	7.7	4.0	0.9	0.2	100.0	14,231
Province								
Kigali city	13.6	47.1	11.7	16.0	5.3	4.7	100.0	1,536
South	20.8	65.0	8.1	4.4	1.0	0.4	100.0	4,436
West	21.6	63.7	7.8	4.3	1.5	0.4	100.0	4,185
North	21.8	64.3	6.5	5.2	1.2	0.4	100.0	3,137
East	25.2	62.2	8.0	3.6	0.6	0.1	100.0	3,596
Wealth quintile								
Lowest	27.6	64.9	4.9	2.2	0.1	0.0	100.0	3,226
Second	24.2	65.5	7.2	2.8	0.2	0.0	100.0	3,054
Middle	21.7	66.6	7.4	3.2	0.5	0.0	100.0	3,519
Fourth	22.4	62.5	8.9	4.9	0.7	0.1	100.0	3,477
Highest	12.6	53.1	11.2	13.2	5.5	3.3	100.0	3,614
Total	21.5	62.3	8.0	5.4	1.5	0.7	100.0	16,890

[1] Completed 6 grades at the primary level
[2] Completed 6 grades at the secondary level

By residence, the data show significant gaps in educational attainment. In rural areas, 23 percent of men and 31 percent of women have no education at all, compared with 15 percent of men and 19 percent of women in urban areas.

There are also variations between provinces. The City of Kigali has the lowest percentage of residents with no education (17 percent of women and 14 percent of men). Conversely, the East region has the highest percentage of men and women with no education (25 percent and 32 percent, respectively). As the level of educational attainment increases, the gaps between the provinces widen: in the City of Kigali, 5 percent have completed secondary school, compared with 2 percent, at most, for men and 1 percent for women in the other provinces.

Results by wealth quintile show that the proportion of both men and women with no education decreases as the household standard of living increases. Conversely, the proportion of people having attained education at any given level increases with household wealth. The data also show that in households in the highest wealth quintile there is practically no gap in educational attainment between males and females, up to the secondary level.

The level of school attendance of school-age children is the primary indicator of a population's access to education and, indirectly, the socioeconomic development of the area in which the population lives. The 2005 RDHS-III asked questions concerning school attendance of all respondents between the ages of 5 and 24. Table 2.4 shows net attendance ratios (NAR) and gross attendance ratios (GAR) by sex, residence, and province, by level of educational attainment.

Table 2.4 School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de jure household population by level of schooling and sex, according to background characteristics, Rwanda 2005

Background characteristic	Net attendance ratio[1]			Gross attendance ratio[2]			Gender parity index[3]
	Male	Female	Total	Male	Female	Total	
PRIMARY SCHOOL							
Residence							
Urban	79.4	81.6	80.5	134.3	133.6	133.9	0.99
Rural	72.9	75.7	74.3	132.7	138.1	135.4	1.04
Province							
Kigali city	80.5	82.0	81.2	134.7	133.3	134.0	0.99
South	73.1	75.6	74.4	129.3	132.9	131.0	1.03
West	74.2	76.2	75.2	138.8	142.3	140.6	1.03
North	75.9	78.9	77.4	125.6	127.6	126.6	1.02
East	69.8	74.1	71.9	136.8	148.6	142.5	1.09
Total	73.8	76.6	75.2	132.9	137.5	135.2	1.03
SECONDARY SCHOOL							
Residence							
Urban	11.1	12.3	11.8	20.6	20.8	20.7	1.01
Rural	3.3	2.2	2.7	5.6	3.5	4.5	0.62
Province							
Kigali city	12.8	14.4	13.7	23.7	26.1	25.0	1.10
South	2.9	3.5	3.2	4.8	5.2	5.0	1.08
West	3.4	2.4	2.9	7.3	4.1	5.6	0.56
North	5.3	3.6	4.4	8.4	4.2	6.2	0.50
East	3.7	2.0	2.8	5.5	4.0	4.8	0.72
Total	4.4	3.8	4.1	7.7	6.2	6.9	0.81

[1] The NAR for primary school is the percentage of the primary-school-age (6-11 years) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school-age (12-18 years) population that is attending secondary school. By definition the NAR cannot exceed 100 percent.
[2] The GAR for primary school is the total number of primary school students, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of over-age and underage students at a given level of schooling, the GAR can exceed 100 percent.
[3] The Gender Parity Index for primary school is the ratio of the primary school GAR for females to the GAR for males. The Gender Parity Index for secondary school is the ratio of the secondary school GAR for females to the GAR for males.

Net school attendance ratios (NAR) measure school attendance in children who have reached the official school age. For primary school, the NAR is the percentage of the primary-school-age population (age 7-12 in Rwanda) that is actually attending primary school. This table shows that the primary level NAR is 75 percent for Rwanda, which means that three-quarters of the population between the ages of 7 and 12 are attending primary school. The ratio is higher for urban areas than for rural areas (81 percent compared with 74 percent). In the provinces, the ratio ranges from a high of 81 percent in the City of

Kigali to a low of 72 percent in the East province. The NAR is also higher for women (77 percent) than for men (74 percent), regardless of residence and province.

At the secondary level, which concerns the population between the ages of 13 and 19, the NAR is much lower (4 percent), which means that only 4 percent of the official secondary-school-age population are actually attending school. There is practically no gap between the sexes. However, it is much higher in urban areas than in rural areas (12 percent compared with 3 percent), which may explain the major gap between the City of Kigali, with an NAR of 14 percent, and the other provinces, whose NARs are between 3 percent and 4 percent.

Table 2.4 also shows gross school attendance ratios (GAR). Unlike the NAR, the GAR measures school attendance in young people regardless of age. The GAR for primary school is the total number of students of any age attending primary school, expressed as a percentage of the official primary-school-age population, which is 7 to 12 years in Rwanda. Unless there are significant numbers of over-age and under-age students at a given level of schooling, the GAR is always higher than the NAR and can, in some cases, exceed 100 percent. In Rwanda, the GAR is 135 percent, which means that a significant proportion of children who do not fall into the official primary-school-age category are attending school at the primary level. These are likely to be children over the age of 12 who are still attending primary school; in fact, a program exists to reintegrate children who dropped out of primary school for any reason. In addition, the GAR is higher for girls than for boys (138 percent for girls compared with 133 percent for boys). Moreover, there is practically no difference by residence.

At the secondary level, the NAR is very low. Only 4 percent of all children of official secondary school age are actually attending school. The ratio is nearly the same for girls and boys. However, it is higher in urban areas than in rural areas (12 percent compared with 3 percent). The GAR is also very low (7 percent), either because official secondary-school-age children are still in primary school, or because they have dropped out of secondary school or have never attended at all. Students who do not pass the national exam at the end of primary school are not allowed to attend state or state-subsidized secondary schools, which are less expensive than private schools. In addition, the GAR for boys is very similar to that of girls, but there is a pronounced difference by residence (21 percent for urban areas compared with 5 percent for rural areas). At 25 percent, the GAR for the City of Kigali stands out from the other provinces, where the GAR is very low (a maximum of 6 percent in the North province).

The table includes a third school attendance indicator: the gender parity index (GPI), which is the ratio of the GAR for females to the GAR for males. The narrower the gap between the sexes, the closer the index is to 1.

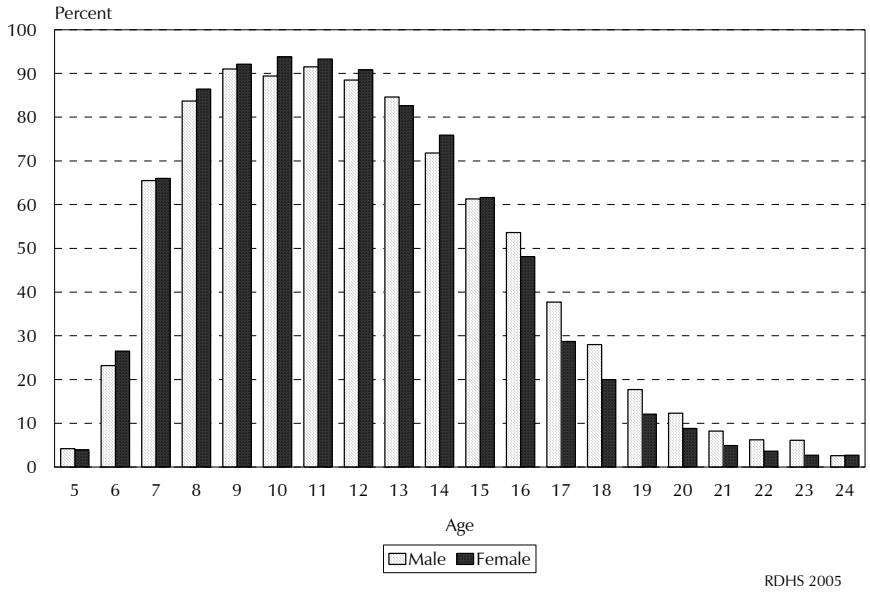
Table 2.4 shows a GPI for primary school of just above 1, which indicates an absence of disparity between the sexes. Curiously, only urban areas, in particular the City of Kigali, show a GPI of slightly below 1.

The GPI for secondary school is below one (0.81); this indicates that girls are educationally disadvantaged at this level. The inequality is more pronounced in rural areas, which have a GPI of only 0.62, and in the West (0.56) and North (0.50) provinces. The City of Kigali has the highest GPI (1.10).

Figure 2.2 shows that the rate of school attendance, which is low at ages 5 and 6, begins to increase at age 7, the official age for entering primary school. It reaches high levels between the ages of 8 and 13. This period corresponds to the primary school years for children in the normal primary cycle. After age 13, the curve declines steadily, reaching its lowest point at the age of 20. After the age of 13, school attendance rates approaching or exceeding 50 percent do not indicate high school attendance at the secondary level but, rather, that a majority of children are beginning primary school late.

Figure 2.2 **Age-specific Attendance Rates**

(Percentage of the population age 5-24 years attending school, by age and sex)



It should also be noted that the proportion of women is higher between the ages of 6 and 12 everywhere, while the situation reverses itself after this up to age 23, although, paradoxically, the balance is restored at age 24.

2.4 LIVING CONDITIONS

The household survey gathered information on certain housing characteristics (access to electricity, drinking water source, type of toilet facilities, roofing and flooring materials). Information was also sought concerning ownership of various modern durable goods (radio, television, refrigerator, bicycle, motorcycle/scooter, car/truck). These characteristics are used to evaluate the socioeconomic conditions of the household.

Table 2.5 shows that, at the national level, very few households have access to electricity (5 percent). The situation has not changed much compared with 2000, when the proportion was 6 percent. The results show large disparities between urban and rural areas. In rural areas, only around 1 percent of households have electricity, compared with 25 percent in urban areas.

With respect to drinking water, at the national level, almost 33 percent of households use spring water and one-quarter of households use a public tap; 14 percent of households use uncovered public wells as a source of drinking water and 22 percent consume water from a public tap. Overall, 19 percent of households use water that is considered unhealthy, leaving the population open to increased risk of contracting diseases related to unclean drinking water.

The proportion of households with access to running water in their dwelling or courtyard remains low, approximately 3 percent. In rural areas, more than half of the households use unsafe drinking water because 55 percent draw their water from springs (35 percent), rivers/streams (12 percent), or ponds/lakes (8 percent).

Table 2.5 Housing characteristics

Percent distribution of households by housing characteristics, according to residence, Rwanda 2005

Housing characteristic	Residence		Total
	Urban	Rural	
Electricity			
Yes	25.1	1.3	4.8
No	74.7	98.6	95.1
Total	100.0	100.0	100.0
Source of drinking water			
Piped into dwelling/compound/plot	14.1	0.5	2.5
Public tap	41.3	22.1	24.9
Open well in compound/plot	0.5	0.1	0.1
Open public well	12.0	13.8	13.5
Covered well in compound/plot	0.1	0.0	0.0
Covered public well	5.2	6.3	6.2
Spring	18.5	35.2	32.7
River, stream	4.9	12.2	11.2
Pond, lake	1.5	8.0	7.1
Dam	0.4	0.9	0.9
Rainwater	0.1	0.3	0.3
Tanker truck	0.1	0.0	0.0
Bottled water	0.1	0.0	0.0
Other	1.2	0.5	0.6
Total	100.0	100.0	100.0
Time to water source			
Percentage < 15 minutes	47.9	27.0	30.1
Median time to source (in minutes)	14.3	28.0	24.4
Sanitation facility			
Flush toilet	5.4	0.2	1.0
Traditional pit toilet	44.0	70.8	66.9
Ventilated improved pit (VIP) latrine	47.1	24.1	27.5
No facility, bush, field	3.4	4.8	4.6
Other	0.1	0.1	0.1
Total	100.0	100.0	100.0
Flooring material			
Earth, mud, sand	51.8	92.1	86.2
Dung	0.5	0.9	0.8
Parquet, polished wood	0.0	0.0	0.0
Vinyl, asphalt strips	0.0	0.0	0.0
Ceramic tiles	1.0	0.0	0.2
Cement	46.5	6.9	12.7
Carpet	0.2	0.0	0.0
Other	0.1	0.1	0.1
Total	100.0	100.0	100.0
Number of households	1,510	8,762	10,272

In urban areas, public taps constitute the main water source and are used by 41 percent of the households surveyed. 19 percent of urban households use spring water and 14 percent have running water in their dwellings or courtyards. Finally, 12 percent draw water from uncovered public wells.

The situation has not improved since 2000. The proportion of households that have running water in their dwelling units has decreased by 3 percent. The number of households using water from a public tap has dropped by 4 percent.

Table 2.5 shows that 30 percent of households are within 15 minutes of their water source. This proportion is lower in rural areas (27 percent) than in urban areas (48 percent). The median time to drinking water source is 24 minutes for the country as a whole, 28 minutes for rural areas and 14 minutes for urban areas.

Compared with 2000, the proportion of households less than 15 minutes from their water source has increased by 5 percent (from 25 percent to 30 percent). However, the change is insignificant in terms of the median time to drinking water source, which was 26 minutes in 2000 and is 24 minutes now.

With respect to type of toilet facilities, Table 2.5 shows a high proportion of households with access only to open pits or uncovered latrines (67 percent); 28 percent of households use covered latrines. In the country as a whole, rural areas have more rudimentary latrines (71 percent) than ventilated improved pit (VIP) latrines (24 percent), while in urban areas the proportion of VIP latrines (47 percent) and rudimentary latrines (44 percent) are similar to one another. Very few households have flush toilets: 1 percent in the country as a whole, 5 percent in urban areas, and an insignificant percentage in rural areas. It should also be noted that 5 percent of households have no toilet facilities at all. Compared with the previous survey, the proportion of households using VIP latrines has increased significantly, from 7 percent to approximately 28 percent. The proportion of households with no facilities at all has remained the same.

The type of material used for flooring is extremely important because some materials are a propagation factor for certain disease-causing germs and parasites. The great majority of Rwandan households use earth/sand/dung flooring (86 percent). The proportion is higher in rural areas (92 percent) than in urban areas (52 percent). It should also be noted that 13 percent of households have cement floors. However, this type of flooring occurs much more frequently in urban than in rural areas (47 percent compared with 7 percent).

To evaluate households' socioeconomic level, the survey gathered information about ownership of certain durable goods considered indicative of higher socioeconomic living standards. Table 2.6, shows that half of Rwandan households own none of the goods listed. The proportion is higher in rural areas than in urban areas (56 percent for rural, 32 percent for urban). However, it has declined in relation to 2000, when 63 percent of households owned none of the goods listed. Overall, the most frequently owned durable good is a radio (46 percent), which is found more often in urban households than in rural areas (65 percent compared with 43 percent). The proportion of households owning radios has increased overall in relation to 2000, when only 35 percent of households owned a radio. Bicycles are used as a means of transportation in 11 percent of households in both rural and urban areas. In addition, in urban areas, 24 percent of households own a mobile telephone, and 14 percent own a television; in rural areas, these goods are more or less nonexistent.

Table 2.6 Household durable goods

Percentage of households possessing various durable consumer goods, by residence, Rwanda 2005

Durable consumer good	Residence		Total
	Urban	Rural	
Radio	65.2	42.5	45.8
Television	14.0	0.3	2.3
Mobile telephone	24.1	1.3	4.6
Non-mobile telephone	4.8	0.1	0.8
Refrigerator	7.7	0.1	1.2
Bicycle	10.5	11.1	11.0
Motorcycle/scooter	1.8	0.3	0.5
Car, truck	4.2	0.1	0.7
None of the above	31.7	55.5	52.0
Number of households	1,510	8,762	10,272

Table 2.7 shows the percent distribution of households by wealth quintile. The wealth index was developed on the basis of household goods data, using principal components analysis. The information on household goods comes from responses to questions about ownership of certain durable goods (television, radio, car, etc.) and questions about certain housing characteristics such as access to electricity, source of drinking water, type of toilet facilities, type of flooring material, number of rooms used for sleeping, type of cooking fuel, etc. The index was developed as follows:

- Each durable good or housing characteristic is assigned a weight (score or coefficient) generated by principal components analysis.

- The resulting scores for durable goods are standardized according to a normal distribution assuming a mean of 0 and a standard deviation of 1 (Gwatkin et al., 2000).
- Each household is assigned a score for each durable good and these scores are added together to obtain a total for each household.
- The households are classified in increasing order of total score and divided into 5 equal categories, quintiles. This yields a scale from 1 (poorest quintile) to 5 (richest quintile).
- The score for each household is assigned to the individuals in that household. The individuals are thus distributed among the categories.

The results show that in urban areas, 60 percent of households fall into the richest quintile, while in rural areas only 12 percent fall into this quintile. The proportion of rich households is highest in the City of Kigali (69 percent). Conversely, in urban areas, only 6 percent of households fall into the poorest quintile. In fact, the preceding tables showing ownership of durable goods, housing characteristics, and source of drinking water have already established that the population of Rwanda is generally poor. Table 2.7 only confirms the previous results and explains the relative lack of variation between provinces.

Table 2.7 Wealth quintiles

Percent distribution of households by wealth quintile, according to residence and province, Rwanda 2005

Residence/ province	Wealth quintile					Total	Number
	Lowest	Second	Middle	Fourth	Highest		
Residence							
Urban	6.1	7.7	11.6	14.8	59.7	100.0	1,510
Rural	24.2	20.4	22.2	21.5	11.7	100.0	8,762
Province							
Kigali city	6.4	4.4	10.8	9.8	68.5	100.0	864
South	21.4	20.8	19.0	22.4	16.5	100.0	2,722
West	23.5	15.3	21.6	24.5	15.1	100.0	2,522
North	27.3	19.5	22.6	18.6	12.0	100.0	1,946
East	20.5	24.2	23.6	19.5	12.2	100.0	2,218
Total	21.6	18.6	20.6	20.5	18.7	100.0	10,272

2.5 BIRTH REGISTRATION WITH CIVIL AUTHORITIES

Registering a child with civil authorities establishes the child's legal family ties and his or her right to a name and nationality prior to the age of majority. It confers on the child the right to be recognized by his or her parents and the right to state protection if his or her rights are abused by the parents. It gives the child access to social assistance through the parents, including health insurance, and establishes family lineage. It is therefore an essential formality.

Registration of a child with civil authorities, if performed correctly, also provides a reliable source of sociodemographic statistics. For this reason, the survey asked whether children had been registered with the civil authorities. Table 2.8 shows that a majority of children have been registered with the civil authorities (82 percent); only 18 percent of children (less than one in five) have not been registered. Of those children declared with the civil authorities, 78 percent possess birth certificates. Children's age and sex have little to do with whether or not they are registered with the civil authorities. Also, the level of wealth does not seem to influence the prevalence of birth registration. Children in the second and middle wealth quintiles showed the highest levels of registration (84 percent in both of these quintiles). There is some discrepancy by residence with, curiously, rural areas showing a higher percentage of birth registrations (83 percent compared with 79 percent in urban areas). Results by province show that households in the North and South provinces are the most likely to have declared their children with the civil authorities (85 percent and 89 percent, respectively).

Table 2.8 Birth registration of children under age five

Percentage of de jure children under five years of age whose births are registered with the civil authorities, according to background characteristics, Rwanda 2005

Background characteristic	Percentage of children whose births are registered: Had a birth certificate	Did not have a birth certificate	Total registered	Number of children
Age				
<2	79.6	2.8	82.4	3,411
2-4	76.6	5.7	82.3	4,711
Sex				
Male	77.3	4.5	81.8	4,103
Female	78.5	4.5	82.9	4,019
Residence				
Urban	74.0	4.6	78.6	1,170
Rural	78.5	4.5	83.0	6,952
Province				
Kigali city	74.1	5.2	79.2	596
South	81.7	3.2	84.9	2,013
West	73.8	5.0	78.8	2,166
North	83.8	5.2	89.0	1,622
East	74.4	4.5	78.8	1,725
Wealth quintile				
Lowest	76.9	4.9	81.8	1,687
Second	80.1	4.0	84.1	1,640
Middle	79.9	4.4	84.2	1,697
Fourth	76.0	4.7	80.7	1,623
Highest	76.3	4.5	80.9	1,475
Total	77.9	4.5	82.4	8,123

CHARACTERISTICS OF SURVEY RESPONDENTS 3

The purpose of this chapter is to provide a sociodemographic profile of the women age 15-49 and men age 15-59 who responded to this survey. This information is important for understanding the behavior of the population with respect to contraception, STIs, HIV/AIDS, and fertility preferences. Like the household questionnaire, the individual questionnaires gathered information concerning respondents' age, place of residence, marital status, and educational attainment. This chapter will also analyze results with respect to literacy, exposure to mass media, and employment of the men and women surveyed. These characteristics will be used to interpret findings in the rest of the report.

3.1 BACKGROUND CHARACTERISTICS OF RESPONDENTS

Given the importance of age in analyzing demographic phenomena, special attention was paid to making sure this statistic was accurately recorded in the survey. Prior to taking down any information, the interviewer asked respondents to gather all official documents providing information about themselves and other members of the household. If no official documents were available, the interviewer confirmed the age information provided by the respondent through reference to major life events (age at the time of marriage, age of first child, etc.) or well-known national or regional events.

Table 3.1 shows no major disparities in the distribution of women age 15-49 and men age 15-59 grouped by five-year age increments. Proportions decline with increasing age. For women, the percentages range from 23 percent for the 15-19 age group, to 8 percent for the 45-49 age group. For men, the percentages range from 23 percent for ages 15-19, to 3 percent for ages 55-59.

Table 3.1 Age of respondents

Percent distribution of women and men by age, Rwanda 2005

	Women			Men		
Age	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
15-19	22.8	2,585	2,595	22.9	1,102	1,079
20-24	20.8	2,354	2,356	19.6	946	951
25-29	15.4	1,738	1,745	13.1	632	647
30-34	12.9	1,466	1,460	10.6	509	515
35-39	10.0	1,134	1,133	9.2	442	435
40-44	10.0	1,135	1,127	8.4	404	408
45-49	8.0	910	905	7.8	378	378
50-54	na	na	na	5.4	260	261
55-59	na	na	na	3.1	147	146
Total 15-49	100.0	11,321	11,321	91.5	4,413	4,413
Total 15-59	na	na	na	100.0	4,820	4,820

na = Not applicable

All men and women in the sample were asked their marital status. For the RDHS-III, all men and women were considered "married" if they were in union with a partner, whether the union was formal (legally married) or informal ("living together"). According to this definition, Table 3.2 shows that more than 4 in 10 women (44 percent) had never been married at the time of the survey, and more than half of the women (54 percent) were married. Nearly five in ten men were single (46 percent) and more than half of the men (52 percent) were married. In addition, 2 percent of the women were divorced, separated or widowed at the time of the survey, compared with 3 percent of the men.

Table 3.2 Background characteristics of respondents

Percent distribution of women and men by selected background characteristics, Rwanda 2005

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Marital status						
Never married	44.0	4,983	4,961	45.6	2,196	2,214
Married	54.1	6,126	6,138	51.9	2,500	2,478
Divorced/separated	1.4	158	167	1.9	89	92
Widowed	0.5	54	55	0.7	35	36
Residence						
Urban	17.0	1,921	2,616	17.4	840	1,130
Rural	83.0	9,400	8,705	82.6	3,980	3,690
Old province						
Kigali	8.0	900	1,085	8.8	426	511
Kigali Ngali	9.9	1,118	945	9.3	449	387
Gitarama	10.8	1,219	930	10.8	522	400
Butare	9.6	1,090	945	9.4	452	381
Gikongoro	5.7	650	885	5.7	275	371
Cyangugu	7.5	852	1,010	8.0	386	461
Kibuye	5.7	649	921	5.1	244	344
Gisenyi	10.4	1,179	938	10.1	488	385
Ruhengeri	10.4	1,180	940	9.9	478	376
Byumba	7.7	873	893	8.2	395	398
Umutara	4.9	554	897	5.6	271	425
Kibungo	9.3	1,057	932	9.0	433	381
Province						
Kigali city	10.0	1,127	1,329	10.8	523	619
South	26.1	2,958	2,760	25.9	1,250	1,152
West	24.9	2,824	2,971	24.6	1,185	1,237
North	18.2	2,063	1,821	17.5	845	746
East	20.7	2,348	2,440	21.1	1,017	1,066
Education						
No education	23.4	2,646	2,603	17.4	839	819
Primary	67.1	7,591	7,497	70.3	3,389	3,357
Secondary	9.0	1,018	1,134	10.9	526	566
More than secondary	0.6	66	87	1.4	66	78
Wealth quintile						
Lowest	21.4	2,421	2,327	18.0	867	826
Second	20.5	2,325	2,195	18.3	884	819
Middle	18.5	2,099	1,988	20.3	978	927
Fourth	18.8	2,133	2,151	20.8	1,004	1,012
Highest	20.7	2,342	2,660	22.6	1,087	1,236
Religion						
Catholic	45.3	5,126	4,975	51.5	2,482	2,416
Protestant	37.5	4,247	4,382	31.9	1,539	1,586
Adventist	13.2	1,498	1,490	12.0	578	585
Muslim	1.8	207	234	2.0	96	112
Other	0.9	97	97	-	0	0
No religion	1.3	146	143	2.6	126	121
Total	100.0	11,321	11,321	100.0	4,820	4,820

The distribution of respondents by residence shows that the majority of the Rwandan population is living in rural areas (83 percent of women and men). Similarly, the data by province shows a relatively uniform distribution, with no significant disparities between men and women.

The tabulation of respondents by religion indicates a majority of Catholic adherents (45 percent of women and 52 percent of men), with Protestant religions coming in second (38 percent of women and 32 percent of men). The Adventist faith is the next most common religion (13 percent of women and 12 percent of men), followed by the Muslim faith (2 percent of women and 2 percent of men). Table 3.2 also shows the distribution of men and women according to household wealth quintile. The development of this index is explained in Chapter 2.

Table 3.2 provides educational attainment data for the respondents. The proportion of women with no education is significantly higher than that of men (23 percent for women, 17 percent for men). However, the gap between males and females is not very wide at the primary and secondary levels.

3.2 EDUCATIONAL ATTAINMENT

Tables 3.3.1 and 3.3.2 show the distribution of respondents by highest level of education attained. The proportions of educated men are only slightly higher than those of women: 70 percent have completed primary school, compared with 67 percent of women. At the secondary level, the proportions are 11 percent for men and 9 percent for women. It should be noted that proportions for both men and women drop significantly from the primary to secondary and secondary to post-secondary levels.

Table 3.3.1 Educational attainment by background characteristics: women

Percent distribution of women by highest level of schooling attended or completed, according to background characteristics, Rwanda 2005

Background characteristic	Highest level of schooling attended or completed				Total	Number of women
	No education	Primary	Secondary	More than secondary		
Age						
15-19	8.6	84.4	7.0	0.0	100.0	2,585
20-24	17.5	71.6	10.2	0.8	100.0	2,354
25-29	17.8	69.9	10.9	1.5	100.0	1,738
30-34	24.6	63.5	11.3	0.6	100.0	1,466
35-39	36.4	51.7	11.1	0.8	100.0	1,134
40-44	41.8	50.7	7.2	0.2	100.0	1,135
45-49	50.0	45.8	4.0	0.2	100.0	910
Residence						
Urban	13.5	58.9	24.3	3.4	100.0	1,921
Rural	25.4	68.7	5.9	0.0	100.0	9,400
Province						
Kigali city	11.3	58.6	26.0	4.1	100.0	1,127
South	20.3	71.4	8.0	0.3	100.0	2,958
West	28.1	65.7	5.9	0.3	100.0	2,824
North	25.4	65.2	9.3	0.1	100.0	2,063
East	25.5	68.9	5.5	0.1	100.0	2,348
Wealth quintile						
Lowest	32.3	65.7	2.0	0.0	100.0	2,421
Second	25.9	71.3	2.7	0.0	100.0	2,325
Middle	25.6	70.2	4.2	0.0	100.0	2,099
Fourth	22.5	71.2	6.3	0.0	100.0	2,133
Highest	10.4	57.6	29.2	2.8	100.0	2,342
Total	23.4	67.1	9.0	0.6	100.0	11,321

Table 3.3.2 Educational attainment by background characteristics: men

Percent distribution of men by highest level of schooling attended or completed, according to background characteristics, Rwanda 2005

Background characteristic	Highest level of schooling attended or completed				Total	Number of men
	No education	Primary	Secondary	More than secondary		
Age						
15-19	6.8	86.2	7.0	0.0	100.0	1,102
20-24	12.8	74.5	12.2	0.6	100.0	946
25-29	15.9	68.2	13.4	2.5	100.0	632
30-34	20.3	60.6	16.3	2.9	100.0	509
35-39	22.9	57.9	15.7	3.5	100.0	442
40-44	29.7	56.7	11.6	1.9	100.0	404
45-49	25.9	67.1	5.9	1.1	100.0	378
50-54	29.6	62.9	6.6	0.9	100.0	260
55-59	29.5	62.9	6.6	1.0	100.0	147
Residence						
Urban	9.5	59.5	24.9	6.2	100.0	840
Rural	19.1	72.6	8.0	0.4	100.0	3,980
Province						
Kigali city	9.9	56.3	26.4	7.4	100.0	523
South	16.4	73.1	9.8	0.6	100.0	1,250
West	17.8	71.6	9.8	0.7	100.0	1,185
North	20.1	70.2	8.7	1.0	100.0	845
East	19.8	72.6	7.3	0.3	100.0	1,017
Wealth quintile						
Lowest	25.5	71.6	2.9	0.0	100.0	867
Second	22.3	72.3	5.4	0.0	100.0	884
Middle	18.1	76.0	5.9	0.0	100.0	978
Fourth	16.0	73.8	10.1	0.1	100.0	1,004
Highest	7.7	59.3	27.0	6.0	100.0	1,087
Total	17.4	70.3	10.9	1.4	100.0	4,820

The data by age show that the proportion of men and women with no education has decreased significantly from previous generations. For men, this proportion has dropped from 30 percent in the 55-59 age group to 7 percent in the 15-19 age group. For women, the proportions for these age groups are 50 percent and 9 percent, respectively. The gap between men and women in the previous generations has narrowed significantly: among men age 45 to 49 years, 26 percent have no education, compared with 50 percent for women in the same age group. For those age 15-19 years, the proportions are 7 percent for men and 9 percent for women. Similarly, in the 15-19 age group, the proportion of girls who have completed primary school is not significantly different from that of boys (84 percent for girls, 86 percent for boys), although the percentage of boys is still slightly higher. In addition, 11 percent of young men have completed secondary school, compared with 9 percent of young women. The gaps are due to early marriage and pregnancy, which often prevent girls from pursuing a regular course of education.

The educational attainment of respondents varies by residence. The proportion of men and women with no education is higher in rural areas (19 percent for men, 25 percent for women) than in urban areas (10 percent for men, 14 percent for women). Urban areas also have the highest proportion of men and women at every level of education except primary.

Results by province show a wide gap between the City of Kigali and the rest of the country. In the City of Kigali, 11 percent of women and 10 percent of men have no education; in the other provinces the

proportions are nearly twice as high. The West province has the highest percentage of women with no education (28 percent); the North and East provinces have the highest proportion of uneducated men (20 percent each).

The data in this table show a positive relationship between educational attainment and household wealth: the proportion of men and women with no education decrease as household wealth increases.

3.3 LITERACY

For this survey, literacy was established by asking respondents who reported not having attended school and or having attended only primary school to read a sentence that was presented to them. Respondents were then classified into one of the following three levels: cannot read at all; can read part of a sentence; can read a whole sentence. The test was given only to men and women who had less than a secondary education; those with secondary or postsecondary educations (10 percent of women and 12 percent of men) were considered literate.

Tables 3.4.1 and 3.4.2 show that a higher proportion of women than men cannot read (29 percent of women; 22 percent of men). Conversely, 78 percent of men and 70 percent of women are considered literate; that is, they have attended secondary school or, if they have attended only primary school, they are able to read all or part of a sentence.

Table 3.4.1 Literacy: women

Percent distribution of women by level of schooling attended and by level of literacy, and percent literate, according to background characteristics, Rwanda 2005

Background characteristic	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	Total[1]	Number of women	Percent literate[2]
Age							
15-19	7.0	60.3	12.2	20.2	100.0	2,585	79.6
20-24	11.0	51.6	12.1	25.1	100.0	2,354	74.6
25-29	12.4	55.0	11.1	21.4	100.0	1,738	78.4
30-34	11.9	50.7	9.8	27.1	100.0	1,466	72.4
35-39	11.9	41.7	10.0	36.0	100.0	1,134	63.6
40-44	7.4	33.8	11.7	46.5	100.0	1,135	52.9
45-49	4.2	30.9	9.2	55.0	100.0	910	44.3
Residence							
Urban	27.7	48.3	7.8	15.6	100.0	1,921	83.8
Rural	5.9	49.8	11.9	32.1	100.0	9,400	67.6
Province							
Kigali city	30.1	47.5	7.4	14.7	100.0	1,127	85.0
South	8.3	55.9	8.6	26.8	100.0	2,958	72.8
West	6.2	47.0	12.6	33.8	100.0	2,824	65.8
North	9.4	45.7	14.4	30.3	100.0	2,063	69.5
East	5.5	49.0	11.7	33.3	100.0	2,348	66.2
Wealth quintile							
Lowest	2.0	44.6	13.3	39.9	100.0	2,421	59.8
Second	2.7	51.2	12.8	32.9	100.0	2,325	66.8
Middle	4.2	51.2	12.2	32.0	100.0	2,099	67.7
Fourth	6.3	54.1	10.6	28.7	100.0	2,133	71.0
Highest	32.0	47.5	7.0	13.1	100.0	2,342	86.5
Total	9.6	49.6	11.2	29.3	100.0	11,321	70.3

[1] Includes those with missing information
[2] Refers to women who attended secondary school or higher and women who can read a whole sentence or part of a sentence.

Table 3.4.2 Literacy: men

Percent distribution of men by level of schooling attended and by level of literacy, and percent literate, according to background characteristics, Rwanda 2005

Background characteristic	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	Total[1]	Number of men	Percent literate[2]
Age							
15-19	7.0	60.6	13.0	19.0	100.0	1,102	80.7
20-24	12.7	54.7	11.3	20.9	100.0	946	78.8
25-29	15.9	57.4	9.5	17.2	100.0	632	82.8
30-34	19.2	50.1	9.4	21.0	100.0	509	78.7
35-39	19.2	51.1	9.3	20.4	100.0	442	79.6
40-44	13.5	49.9	7.8	28.4	100.0	404	71.2
45-49	7.0	51.3	9.9	30.7	100.0	378	68.1
50-54	7.5	51.8	9.8	29.7	100.0	260	69.1
55-59	7.6	49.2	13.8	28.0	100.0	147	70.6
Residence							
Urban	31.0	47.3	7.6	13.3	100.0	840	86.0
Rural	8.3	56.1	11.3	23.9	100.0	3,980	75.8
Province							
Kigali city	33.8	44.4	7.8	13.6	100.0	523	86.0
South	10.5	53.7	10.4	24.9	100.0	1,250	74.6
West	10.6	56.3	10.4	22.2	100.0	1,185	77.3
North	9.7	54.1	12.2	23.7	100.0	845	76.0
East	7.5	59.3	11.5	21.4	100.0	1,017	78.4
Wealth quintile							
Lowest	2.9	52.9	12.7	31.1	100.0	867	68.5
Second	5.4	53.6	12.5	27.9	100.0	884	71.5
Middle	5.9	57.7	12.4	23.6	100.0	978	76.1
Fourth	10.2	59.1	10.5	19.9	100.0	1,004	79.8
Highest	33.0	49.7	6.2	10.6	100.0	1,087	88.9
Total	12.3	54.6	10.7	22.0	100.0	4,820	77.5

[1] Includes those with missing information
[2] Refers to men who attended secondary school or higher and women who can read a whole sentence or part of a sentence.

The level of illiteracy varies appreciably by residence. Illiteracy is higher in rural areas than in urban areas. The results by province show a gap between the City of Kigali and the rest of the country: in Kigali, 86 percent of men and 85 percent of women are literate, compared with a maximum of 78 percent of men in the East province and 73 percent of women in the South province. In addition, results by wealth quintile show that the level of illiteracy decreases considerably from the poorest to the richest quintile, dropping for women from 40 percent in the lowest quintile to 13 percent in the highest quintile and for men from 31 percent in the lowest quintile to 11 percent in the highest quintile.

3.4 EXPOSURE TO MASS MEDIA

Data on the exposure of men and women to mass media are especially important to the development of education programs and the dissemination of all types information, particularly information about health and family planning. Tables 3.5.1 and 3.5.2 present data on the exposure of men and women to mass media (print or broadcast). It should be stated at the outset that it is not necessary for a household to own a radio or television or to buy a newspaper in order to have access to these media because many people listen to the radio or watch television at the homes of friends and neighbors.

Table 3.5.1 Exposure to mass media: women

Percentage of women who usually read a newspaper at least once a week, watch television at least once a week, and listen to the radio at least once a week, by background characteristics, Rwanda 2005

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	All three media	No media	Number of women
Age						
15-19	11.2	6.9	56.7	1.5	39.7	2,585
20-24	8.6	6.7	57.0	1.9	40.4	2,354
25-29	8.8	5.2	56.0	1.8	42.3	1,738
30-34	7.5	4.2	53.7	1.2	44.4	1,466
35-39	6.8	4.2	50.0	1.3	47.5	1,134
40-44	6.7	2.6	48.6	0.7	49.9	1,135
45-49	3.6	2.6	48.2	0.8	50.7	910
Residence						
Urban	15.4	22.9	73.5	6.7	23.5	1,921
Rural	6.9	1.6	50.2	0.4	47.7	9,400
Province						
Kigali city	15.4	30.2	76.6	7.5	19.9	1,127
South	8.7	2.8	57.5	1.2	40.9	2,958
West	10.5	2.9	42.4	1.0	53.8	2,824
North	7.6	2.7	50.3	0.6	47.6	2,063
East	2.4	1.2	56.6	0.1	42.4	2,348
Education						
No education	0.8	1.1	37.7	0.1	61.5	2,646
Primary	8.1	3.3	55.6	0.5	41.7	7,591
Secondary or higher	28.2	28.2	83.5	11.3	12.7	1,084
Wealth quintile						
Lowest	4.1	0.4	22.6	0.0	75.1	2,421
Second	5.2	1.0	54.3	0.0	43.5	2,325
Middle	6.3	1.0	52.4	0.0	45.7	2,099
Fourth	7.1	1.6	63.4	0.2	34.8	2,133
Highest	18.7	21.3	79.6	6.7	17.0	2,342
Total	8.3	5.2	54.1	1.4	43.6	11,321

Table 3.5.1 shows that, at the national level, more than two in five women (44 percent) and approximately one in five men (19 percent) are not exposed to any media. However, there has been a significant improvement since the 2000 RDHS-II, which reported that 59 percent of women and 35 percent of men were not exposed to any media. Radio is the most common form of media exposure: more than half of the women (54 percent) and four out of five of the men (80 percent) reported listening to the radio at least once a week. One in twenty women (5 percent) and one in ten men (11 percent) watch television at least once a week. Men also reported reading a newspaper a little more frequently than women: only 8 percent of women, compared with 10 percent of men, reported reading a newspaper at least once a week. The proportions of men and women who are exposed to all three media are very low: only 1 percent of women and 4 percent of men.

The data by age show that the younger generations are relatively more exposed to mass media than older people. In fact, the proportions of women who are not exposed to any media vary from 40 percent for women age 15-19 to 51 percent for women age 45-49. For men, the age differences are narrow and uneven.

Table 3.5.2 Exposure to mass media: men

Percentage of men who usually read a newspaper at least once a week, watch television at least once a week, and listen to the radio at least once a week, by background characteristics, Rwanda 2005

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	All three media	No media	Number of men
Age						
15-19	6.5	11.1	77.5	2.3	21.3	1,102
20-24	10.7	14.3	84.0	5.4	15.0	946
25-29	14.4	13.2	81.4	6.5	16.7	632
30-34	12.5	14.1	79.2	7.8	19.8	509
35-39	12.6	8.7	80.1	5.1	18.8	442
40-44	9.1	6.2	77.3	2.7	21.8	404
45-49	9.3	6.3	76.4	2.5	22.3	378
50-54	7.9	6.4	77.4	3.0	21.0	260
55-59	6.9	3.7	78.4	2.2	21.6	147
Residence						
Urban	27.3	37.5	89.8	19.2	9.3	840
Rural	6.5	5.2	77.5	1.3	21.3	3,980
Province						
Kigali city	33.4	47.6	89.2	25.9	9.5	523
South	6.1	7.4	76.3	2.0	23.1	1,250
West	8.6	6.1	73.9	1.6	24.7	1,185
North	6.7	5.6	82.9	1.9	16.6	845
East	7.5	5.9	82.7	1.6	15.1	1,017
Education						
No education	0.5	3.0	67.1	0.1	32.4	839
Primary	7.4	7.9	80.2	2.1	18.5	3,389
Secondary or higher	38.7	38.7	94.4	23.8	4.6	592
Wealth quintile						
Lowest	3.1	2.4	62.3	0.3	36.7	867
Second	5.0	2.6	75.3	0.3	23.0	884
Middle	4.3	3.7	80.1	0.6	18.6	978
Fourth	7.4	6.0	85.9	1.1	13.5	1,004
Highest	27.4	35.1	90.8	17.4	7.8	1,087
Total	10.1	10.8	79.6	4.4	19.2	4,820

Results by residence reveal significant differentials. In rural areas, the percentage of women who are not exposed to any media is twice as high as in urban areas (48 percent compared with 24 percent). In rural areas, women often have no access to media at all even if media exists in the household. This is because housework takes up the majority of their time and the radio is often considered the property of the man, who may take it with him when he leaves the house. The differential is also wide for men: the proportion of men not exposed to any media varies from 21 percent in rural areas to 9 percent in urban areas.

Results by province show significant differences between the City of Kigali and other provinces: indeed, in Kigali more than one-quarter of men are exposed to all three media, compared with approximately 2 percent of men elsewhere. For women, the proportion varies from a maximum of 8 percent in Kigali to less than 1 percent in the North and East provinces. Educational attainment has a significant impact on the level of media exposure. For both men and women, those who have completed secondary or postsecondary levels are the most likely to be exposed to all three media: 11 percent of women and 24 percent of men, compared with only 1 percent of women and 2 percent of men who have completed only

primary school. In addition, the results show that 62 percent of women with no education are not exposed to any media, compared with 13 percent of women with secondary or postsecondary educations. For men, 32 percent of those with no education are not exposed to any media, while only 5 percent of those with secondary or postsecondary educations are not exposed to any media.

As in the case of educational attainment, there is a positive relationship between household wealth and media exposure. Men and women in the richest households have the highest levels of exposure to all three media: 7 percent of women and 17 percent of men, compared with less than 1 percent of men and 0 percent of women in the poorest households.

3.5 EMPLOYMENT

The RDHS-III asked both men and women whether they were employed at the time of the survey. Respondents who reported having held a job, paid or unpaid, in any sector during the 12 months preceding the survey were considered employed.

Table 3.6 shows that, at the national level, 9 percent of women were not working at the time of the survey even if they reported working in the preceding 12 months. More than three in five women (64 percent) were employed at the time of the survey. The percentage of women working at the time of the survey increases steadily with age, rising from 44 percent at age 15-19 to 76 percent at age 40-44. Women who were separated, divorced or widowed (74 percent) and married women (72 percent) were the most likely to be working at the time of the survey. The number of children also affects a woman's level of employment. As the number of children increases, the proportion of women who work also increases, from 70 percent among women with only one or two children, to 74 percent among women with three children or more.

Data by residence show that rural areas have the highest proportion of women working at the time of the survey (66 percent, compared with 54 percent in urban areas). The City of Kigali has the lowest percentage of women working (44 percent). In the provinces, the proportion of employed women ranges from 59 percent in the West province, to 61 percent in the North province, to a maximum of 72 percent in the South province and 74 percent in the East province. Results by educational attainment show that women with no education (70 percent) are proportionally more likely to be employed than women who have completed primary school (64 percent) and women who have completed secondary or postsecondary educations (53 percent). Finally, women in households in the two poorest wealth quintiles are more likely to be employed (73 percent and 77 percent) than women in the richest households (52 percent).

The results for men show that 52 percent of men had some form of employment at the time of the survey. This is lower than for women (64 percent). As with women, the percentage of men working at the time of the survey increases with age, from 29 percent for those age 15 to 19, to 61 percent for those age 50 to 54. With respect to marital status, the results show married men and separated or divorced men being proportionally more likely to be working (59 percent for married men, 57 percent for separated, divorced, or widowed men) than other men. With respect to residence, urban areas had the highest proportion of men working at the time of the survey: 61 percent, compared with 50 percent in rural areas. With respect to educational attainment, the results show men with no education (59 percent) being proportionally more likely to be employed than men with primary educations (49 percent) and men with secondary or postsecondary education (54 percent). Finally, unlike women, the proportion of men working is lower in the poorest households than in the richest households (51 percent compared with 60 percent).

Table 3.6 Employment status

Percent distribution of women and men by employment status, according to background characteristics, Rwanda 2005

Background characteristic	Women					Men				
	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number
	Currently employed	Not currently employed				Currently employed	Not currently employed			
Age										
15-19	43.5	6.2	50.0	100.0	2,585	29.4	3.5	66.3	100.0	1,102
20-24	62.8	10.0	27.2	100.0	2,354	57.0	5.2	37.4	100.0	946
25-29	70.2	8.4	21.4	100.0	1,738	56.9	7.5	35.3	100.0	632
30-34	72.0	10.4	17.6	100.0	1,466	58.8	6.7	34.6	100.0	509
35-39	73.8	8.7	17.5	100.0	1,134	59.9	6.7	33.3	100.0	442
40-44	75.9	10.6	13.5	100.0	1,135	58.2	3.8	37.8	100.0	404
45-49	75.1	10.4	14.5	100.0	910	58.3	5.6	35.9	100.0	378
50-54	na	na	na	na	na	61.0	8.0	30.6	100.0	260
55-59	na	na	na	na	na	60.0	3.6	36.3	100.0	147
Marital status										
Never married	50.4	7.8	41.7	100.0	4,263	43.4	5.0	51.1	100.0	2,196
Married	71.8	9.3	18.9	100.0	5,510	58.7	5.8	35.4	100.0	2,500
Divorced, separated, widowed	74.3	10.7	15.0	100.0	1,548	56.5	6.0	37.4	100.0	125
Number of living children										
0	51.4	7.7	40.8	100.0	4,363	52.1	5.4	42.2	100.0	1,928
1-2	69.7	9.2	21.1	100.0	2,722	51.1	5.5	43.0	100.0	1,306
3-4	74.1	9.1	16.8	100.0	2,266	52.0	4.6	43.2	100.0	1,014
5 +	73.1	11.0	15.9	100.0	1,970	50.9	6.9	41.9	100.0	571
Residence										
Urban	53.5	8.9	37.4	100.0	1,921	60.9	8.7	29.6	100.0	840
Rural	66.3	8.9	24.8	100.0	9,400	49.7	4.7	45.3	100.0	3,980
Province										
Kigali city	43.5	10.6	45.7	100.0	1,127	55.7	10.8	33.1	100.0	523
South	71.7	11.4	16.7	100.0	2,958	43.0	6.2	50.6	100.0	1,250
West	58.8	7.8	33.5	100.0	2,824	51.5	7.5	40.7	100.0	1,185
North	60.6	9.5	29.9	100.0	2,063	52.8	2.9	43.7	100.0	845
East	73.9	5.8	20.3	100.0	2,348	59.4	1.4	38.9	100.0	1,017
Education										
No education	70.2	9.8	20.0	100.0	2,646	59.3	5.1	35.2	100.0	839
Primary	63.6	8.9	27.5	100.0	7,591	49.3	5.2	45.3	100.0	3,389
Secondary or higher	53.0	6.8	39.9	100.0	1,084	54.1	7.1	37.6	100.0	592
Wealth quintile										
Lowest	73.3	7.7	18.9	100.0	2,421	50.8	3.5	45.5	100.0	867
Second	76.9	8.4	14.7	100.0	2,325	52.4	3.6	44.1	100.0	884
Middle	62.9	9.4	27.7	100.0	2,099	50.6	6.7	42.4	100.0	978
Fourth	54.0	10.5	35.4	100.0	2,133	44.1	6.1	49.2	100.0	1,004
Highest	52.2	8.8	38.8	100.0	2,342	59.6	6.7	33.2	100.0	1,087
Total	64.1	8.9	26.9	100.0	11,321	51.7	5.4	42.6	100.0	4,820

na = Not applicable

Table 3.7.1 shows women's occupations. The majority of women who were employed at the time of the survey, or who had worked during the 12 months preceding it, were employed in agriculture (86 percent). Among those working in other occupations (13 percent), 5 percent worked in the sales and services; 4 percent performed unskilled manual labor, and 1 percent performed skilled manual labor. Only 3 percent reported working in a technical or administrative occupation. As expected, the data by residence show that the proportion of women working in agriculture is higher in rural areas (92 percent, compared with 44 percent in urban areas). It is much lower in the City of Kigali (27 percent). Outside the City of Kigali, the lowest proportion of women working in agriculture is 88 percent. With respect to educational attainment, 94 percent of women with no education work in agriculture compared with 39 percent of women with secondary or postsecondary education.

Table 3.7.1 Occupation: women

Percent distribution of women employed in the 12 months preceding the survey by occupation, according to background characteristics, Rwanda 2005

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agri-culture	Missing	Total	Number of women
Age									
15-19	0.8	0.1	4.5	0.9	12.0	79.4	2.4	100.0	1,285
20-24	1.7	0.8	5.3	1.4	6.5	83.7	0.6	100.0	1,712
25-29	4.7	1.1	6.3	1.3	2.4	84.0	0.2	100.0	1,367
30-34	4.3	0.8	6.1	1.1	1.8	85.6	0.2	100.0	1,207
35-39	3.8	1.1	3.9	1.4	2.4	87.1	0.4	100.0	935
40-44	2.7	0.7	3.7	0.6	1.5	90.5	0.4	100.0	981
45-49	1.4	0.4	2.7	0.5	1.4	93.5	0.1	100.0	778
Marital status									
Never married	2.7	1.0	5.4	1.7	10.6	77.0	1.6	100.0	2,480
Married	2.7	0.7	4.6	0.7	1.4	89.8	0.2	100.0	4,470
Divorced, separated, Widowed	3.1	0.4	4.8	1.3	3.1	86.8	0.6	100.0	1,316
Residence									
Urban	9.9	3.7	17.6	3.7	19.2	44.4	1.5	100.0	1,199
Rural	1.6	0.2	2.7	0.6	1.9	92.4	0.5	100.0	7,067
Province									
Kigali city	13.9	5.4	18.9	5.2	27.0	26.9	2.8	100.0	609
South	1.9	0.5	2.2	0.8	2.7	91.2	0.7	100.0	2,460
West	1.7	0.2	6.6	0.6	2.9	87.3	0.5	100.0	1,879
North	2.7	0.4	4.3	1.2	3.0	88.1	0.3	100.0	1,446
East	1.4	0.2	2.4	0.5	2.0	93.1	0.3	100.0	1,872
Education									
No education	0.5	0.0	2.4	0.5	2.7	93.7	0.2	100.0	2,116
Primary	0.7	0.1	4.8	1.0	5.0	87.8	0.6	100.0	5,503
Secondary or higher	27.7	8.0	13.2	4.0	5.5	39.1	2.5	100.0	648
Wealth quintile									
Lowest	0.2	0.1	0.9	0.3	1.4	96.7	0.4	100.0	1,962
Second	0.2	0.1	1.4	0.5	0.6	96.9	0.3	100.0	1,984
Middle	1.0	0.1	4.5	0.9	2.4	90.5	0.6	100.0	1,517
Fourth	1.0	0.1	4.9	1.4	2.9	89.2	0.6	100.0	1,376
Highest	13.6	3.7	15.4	2.9	17.6	45.2	1.6	100.0	1,427
Total	2.8	0.7	4.8	1.1	4.4	85.5	0.7	100.0	8,266

Table 3.7.2 shows men's occupations. Like women, the majority of men work in agriculture (62 percent). One in seven men performs unskilled manual labor (14 percent), and 11 percent perform skilled manual labor. As expected, the proportion of men working in agriculture is higher in the rural areas (73 percent compared with 18 percent in urban areas). However, the proportion of men performing skilled or unskilled manual labor is significantly higher in urban areas than in rural areas (23 percent compared with 8 percent in rural areas for skilled, and 28 percent compared with 10 percent in rural areas for unskilled). With respect to educational attainment, the results show that, like women, the majority of men with no education work in agriculture (78 percent, compared with 22 percent of those with at least a secondary education). However, of those with the highest educational attainment levels, 37 percent work in managerial or technical occupations. Results by wealth quintile show that a majority of men in the poorest households work in agriculture (86 percent). Conversely, in the richest quintile, only 21 percent of men work in agriculture, and 18 percent work in managerial or technical occupations.

Table 3.7.2 Occupation: men

Percent distribution of men employed in the 12 months preceding the survey by occupation, according to background characteristics, Rwanda 2005

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agri-culture	Missing	Total	Number of men
Age									
15-19	0.9	0.0	4.5	3.7	32.2	57.9	0.8	100.0	363
20-24	3.4	0.1	6.9	8.7	21.1	57.6	2.1	100.0	588
25-29	8.9	0.4	7.7	13.8	12.5	55.4	1.3	100.0	407
30-34	9.8	1.9	8.0	14.3	6.9	58.0	1.0	100.0	333
35-39	7.5	1.2	4.1	15.6	7.9	63.3	0.5	100.0	295
40-44	9.1	1.5	7.5	10.0	6.0	65.8	0.0	100.0	251
45-49	4.1	1.1	3.8	13.2	7.0	70.8	0.0	100.0	242
50-54	5.1	2.3	0.0	11.2	6.6	74.8	0.0	100.0	179
55-59	9.5	0.0	2.1	13.4	4.1	70.9	0.0	100.0	94
Marital status									
Never married	5.8	0.3	7.9	8.8	23.9	51.5	1.8	100.0	1,063
Married	6.2	1.1	4.5	12.5	7.8	67.4	0.4	100.0	1,611
Divorced, separated, widowed	4.3	2.9	0.0	11.9	7.5	73.3	0.0	100.0	78
Residence									
Urban	14.3	2.7	11.6	23.2	27.9	18.1	2.1	100.0	584
Rural	3.7	0.3	4.1	7.8	10.3	73.2	0.6	100.0	2,168
Province									
Kigali city	16.2	3.2	12.5	25.7	32.4	7.0	2.9	100.0	348
South	4.9	0.3	5.6	11.5	13.0	63.6	1.2	100.0	615
West	5.8	0.6	6.1	8.6	10.0	68.5	0.4	100.0	700
North	5.3	0.5	3.9	13.6	15.5	60.8	0.3	100.0	471
East	2.1	0.6	2.9	3.2	8.2	82.5	0.5	100.0	619
Education									
No education	0.3	0.0	2.1	5.3	13.7	78.2	0.4	100.0	540
Primary	1.5	0.2	6.4	11.3	15.6	64.2	0.8	100.0	1,849
Secondary or higher	37.2	5.3	7.6	18.4	6.6	22.4	2.5	100.0	362
Wealth quintile									
Lowest	0.5	0.0	1.9	7.1	4.7	85.7	0.2	100.0	471
Second	0.7	0.0	2.8	7.4	10.7	78.1	0.3	100.0	495
Middle	1.6	0.4	3.3	8.3	10.0	75.9	0.6	100.0	560
Fourth	4.1	0.0	5.1	10.6	15.2	64.4	0.4	100.0	505
Highest	17.9	2.9	12.5	18.5	24.8	20.9	2.5	100.0	721
Total	6.0	0.8	5.7	11.0	14.0	61.5	0.9	100.0	2,752

Table 3.8 shows the distribution of women employed during the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment. Overall, 57 percent of women were not paid for their work, 16 percent were paid in cash and in kind, 15 percent were paid in cash only, and 12 percent were paid in kind only. Women in nonagricultural occupations were more likely to be paid in cash (82 percent) than those working in agriculture (4 percent).

In the majority of cases (73 percent), women are self-employed, regardless of their occupations. Women who work in agriculture are more likely to work for a family member than women in nonagricultural occupations (17 percent compared with 3 percent). Finally, 75 percent of all women work all year, with the largest proportion working in agriculture (77 percent).

Table 3.8 Type of employment

Percent distribution of women employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or nonagricultural), Rwanda 2005

Employment characteristic	Agricultural work	Nonagricultural work	Total
Type de earnings			
Cash only	4.0	81.8	14.8
Cash and in-kind	17.4	5.7	15.7
In-kind only	14.4	0.7	12.4
Not paid	64.2	11.7	57.0
Total	100.0	100.0	100.0
Type of employer			
Employed by family member	16.8	3.4	14.8
Employed by non-family member	7.0	40.4	11.6
Self-employed	76.2	55.5	73.4
Total	100.0	100.0	100.0
Continuity of employment			
All year	76.5	67.8	75.2
Seasonal	15.3	14.3	15.2
Occasional	8.2	17.7	9.5
Total	100.0	100.0	100.0
Number of women	7,066	1,146	8,266

Note: Total includes women with missing information on type of employment.

Table 3.9 shows the distribution of women employed in the 12 months preceding the survey by type of employer, according to background characteristics. Approximately three-quarters of women are self-employed (73 percent). This proportion increases with age, from 63 percent in the age group 20-24 years to 90 percent among those age 45-49 years. The proportion of self-employed women is highest in rural areas (76 percent) and among those having no education (82 percent). Moreover, nearly one in eight women (12 percent) is employed by a non-family member. This is especially true of women in urban areas (29 percent) and women with a secondary or postsecondary education (33 percent). In addition, more than one in eight women (15 percent) works for a family member, a situation affecting 43 percent of the youngest women, 16 percent of women in rural areas, and 19 percent of women with a primary education.

Table 3.9 Type of employer

Percent distribution of women employed in the 12 months preceding the survey by type of employer, according to background characteristics, Rwanda 2005

Background characteristic	Type of employer			Total[1]	Number of women
	Employed by family member	Employed by non-family member	Self-employed		
Age					
15-19	43.0	17.0	39.5	100.0	1,285
20-24	23.6	13.2	63.0	100.0	1,712
25-29	9.2	10.7	79.8	100.0	1,367
30-34	4.6	10.2	85.1	100.0	1,207
35-39	4.1	10.3	85.7	100.0	935
40-44	2.9	8.5	88.5	100.0	981
45-49	2.2	8.1	89.5	100.0	778
Residence					
Urban	9.1	29.2	61.3	100.0	1,199
Rural	15.8	8.6	75.5	100.0	7,067
Education					
No education	7.0	10.9	81.9	100.0	2,116
Primary	18.7	9.2	71.8	100.0	5,503
Secondary or higher	6.9	33.3	59.5	100.0	648
Total	14.8	11.6	73.4	100.0	8,266

[1] Includes those with missing information

FERTILITY 4

For more than 20 years, Rwanda has been collecting sociodemographic data to evaluate the fertility levels and characteristics of its population. These efforts include the 1978 RGPH (General Population and Housing Census), the 1983 ENF (National Fertility Survey), the 1991 RGPH, the 1992 RDHS-I (Rwanda Demographic and Health Survey), the 1996 ESD (Socio-demographic Survey), the 2000 RDHS-II, the 2002 RGPH, and the current survey, the 2005 RDHS-III.

Information on fertility obtained by the RDHS-III is used to estimate fertility levels, to determine the timing of births, and to describe the fertility characteristics of such variables as residence and educational attainment. It provides recent indicators of fertility rates and birth spacing not only at the national level, but also by province and residence.

Fertility is one of the three principle components of population dynamics, the others being mortality and migration (United Nations, 1973). For this reason, the collection of data on fertility levels, trends, and differentials has been a prime objective of the Demographic and Health Surveys program since its inception. The continued collection of fertility data has been essential to recognizing the important role that fertility plays in Rwanda's overall population growth equation. Rwanda has been conducting national fertility surveys since 1983, using them as the primary basis for developing its population policies.

This chapter analyzes the fertility data gathered by the RDHS-III, which have been used to estimate fertility levels, trends, and differentials according to selected background characteristics. The chapter also presents results for age at first birth and birth intervals, and concludes with an analysis of teenage fertility, which has become critical to the issue of the fertility transition, and is a special emphasis of the National Reproductive Health Policy Declaration.

Fertility data were obtained by posing a series of questions to all eligible women respondents. During the interview, interviewers recorded the total number of children to whom the woman had given birth, the gender of each child, the number of children currently living with the mother, the number of children living elsewhere, the number of children who had died, and the number still living. A complete birth history was compiled, from the earliest to the most recent birth. In addition, the following information was gathered for each birth: type of birth (single or multiple), sex of child, date of birth, and survival status. For living children, respondents were asked the current age of the child and whether the child was living with its mother or elsewhere. For children who had died, respondents were asked the age at the time of death. At the end of the interview, the interviewer verified that the number of children reported by the mother initially (for each category: living and dead) was consistent with the number of children obtained from the birth history.

Because this is a retrospective survey, the data can be used to estimate not only current fertility levels, but also fertility trends over the past 20 years. Despite the organization and controls established to ensure the achievement of survey objectives (including training, instructions to field and data processing personnel, and quality controls at all levels), the data obtained may be subject to various types of errors, primarily errors inherent in all retrospective surveys, including:

- **Underreporting of births**, in particular, the omission of children living elsewhere and children who died very young (a few days or hours after birth), which can result in underestimation of fertility levels.
- **Misreporting of date of birth and/or age**, in particular, the tendency to round off ages or year of birth, which can result in under- or overestimation of fertility at certain ages and/or for certain periods.
- **Selective survival bias** or selectivity effect: the women surveyed are those who have survived. Assuming that the fertility of women who died prior to the survey differs from the fertility of the survivors, the fertility levels obtained by the survey may be slightly biased.

Finally, for the men's survey, as for the women's survey, information was gathered concerning total fertility by asking men a series of questions, including: the number of children they had, the gender of each child, the number of children living with them, the number living elsewhere, the number of children who had died, and the number still living. However, the men were not asked to provide a complete birth history.

4.1 Fertility Levels and Differentials

Current fertility levels are measured in terms of age-specific fertility rates (ASFRs) and the total fertility rate (TFR). ASFRs are calculated by dividing the number of births in each age group into the total number of women for that age group. The TFR, a common measurement of current fertility, is the average of all of the ASFRs. It corresponds to the number of children the average woman would bear in her lifetime if fertility rates were to remain constant at the level prevailing during the period under consideration, in this case, the three years preceding the survey.

Table 4.1, illustrated by Figure 4.1, indicates that, at the national level, general fertility rates (GFRs) by age group follow the classic pattern of high fertility countries. In Rwanda, this pattern is characterized by relatively high early fertility (42 births per 1,000 for women age 15-19), followed by a rapid increase to very high levels for women age 20-24 (235 per 1,000), 25-29 (305 per 1,000), and 30-34 (273 per 1,000). This high fertility is sustained over a very long period (211 per 1,000 at age 35-39), before declining precipitously at the very end of the childbearing years (32 per 1,000 at age 45-49). These data show that the fertility of Rwandan women remains very high: at the end of her childbearing years, a Rwandan woman has an average of 6.1 children, nearly identical to the TFR of the 1992 RDHS-I (6.2), and even slightly higher than the TFR of the 2000 RDHS-II (5.8). However, the 1994 genocide seems to have had the effect of slowing the significant decline in fertility observed since the National Fertility Survey of 1983 (TFR of 8.5).

The data in Table 4.1 show clear differentials in fertility by residence: women in urban areas have lower fertility than those in rural areas. The TFR, estimated at 6.1 children per woman for the country as a whole, ranges from 4.9 in urban areas to 6.3 in rural areas. This means that, if

Table 4.1 Current fertility

Age-specific and cumulative fertility rates, the general fertility rate, and the crude birth rate for the three years preceding the survey, by urban-rural residence, Rwanda 2005

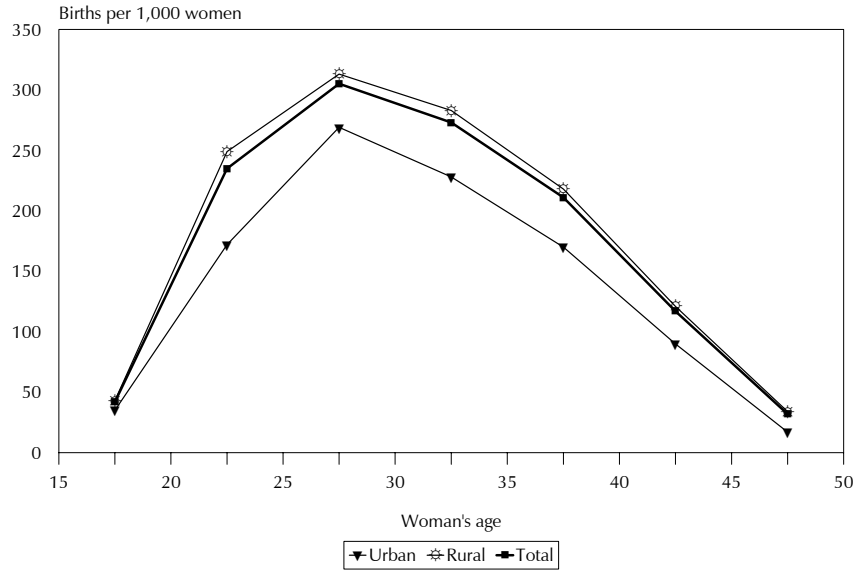
Age	Residence		Total
	Urban	Rural	
15-19	35	43	42
20-24	172	249	235
25-29	269	313	305
30-34	228	283	273
35-39	170	218	211
40-44	90	121	117
45-49	17	34	32
TFR	4.9	6.3	6.1
GFR	152	198	190
CBR	39.8	43.8	43.2

Note: Rates for age group 45-49 may be slightly biased because of truncation.
TFR: Total fertility rate for ages 15-49, expressed per woman
GFR: General fertility rate (births divided by the number of women age 15-44), expressed per 1,000 women
CBR: Crude birth rate, expressed per 1,000 population

current fertility levels were to remain constant, by the end of her childbearing years a woman living in a rural area would have an average of 1.4 children more than a woman living in an urban area.

This differential in fertility levels is seen at all ages (Figure 4.1). Childbearing begins very early for women in rural areas: 43 per 1,000 for women age 15 to 19, compared with 35 per 1,000 for this age group in urban areas. At ages 20 to 24, 1,000 women in rural areas give birth to an average of 249 children, compared with 172 for women in urban areas. However, women reach their peak fertility between the ages of 25 and 29 in both rural (313 births per 1,000) and urban (269 births per 1,000) areas.

Figure 4.1 Age-Specific Fertility Rates, by Residence



RDHS 2005

Table 4.1 shows the crude birth rate (CBR), or average number of live births annually in the total population, estimated at 43 per 1,000 for the country as a whole, and the general fertility rate (GFR), that is, the average number of live births per 1,000 women of reproductive age (15-44), estimated here at 190 per 1,000. Like the TFR, these two indicators vary significantly by residence. Rural areas have a GFR of 198 per 1,000, which means that 1,000 women in rural areas are giving birth to an average of 46 more children annually than their urban counterparts (GFR of 152 per 1,000). Similarly, the CBR for rural areas (44 per 1,000) is 4 points higher than the CBR for urban areas (40 per 1,000).

Table 4.2 presents fertility rates by background characteristic. The TFR varies considerably by province, ranging from a high of 6.6 children per woman in the West province to a low of 4.3 children per woman in the City of Kigali. In other words, women in the West province have an average of 2.3 more children than women in the City of Kigali.

The TFR is strongly correlated with level of educational attainment, varying from a low of 4.3 children for women with secondary educations or higher, to 6.9 for women with no education. This means that a woman with no education (6.9) has an average of 0.8 more children than a woman who has attended primary school (6.1), and an average of 2.6 more children than a woman who has attended secondary school or higher (4.3).

Table 4.2 and Figure 4.2 show the mean number of live births for women age 40 to 49. This figure is an indicator of completed, or cumulative fertility. Unlike the TFR, which measures the current or recent fertility of women age 15 to 49, cumulative fertility shows the past fertility of women surveyed at the end of their childbearing years. In a population whose fertility does not change, the cumulative fertility rate more or less coincides with the TFR. But TFRs that are lower than the mean number of children ever born to women at the end of their childbearing years indicate a downward trend in fertility.

In Rwanda, the total cumulative fertility rate is estimated at 6.6 children. This is slightly higher than the TFR (6.1). The difference, though small, suggests a slight decline in fertility. In the 1992 RDHS-I, the difference between the two was 1.5 children; in the 2000 RDHS-II, it was 1 child. As stated previously, the significant downward trend observed between 1983 (ENF – National Fertility Survey) and 1992 (RDHS-I) did not continue.

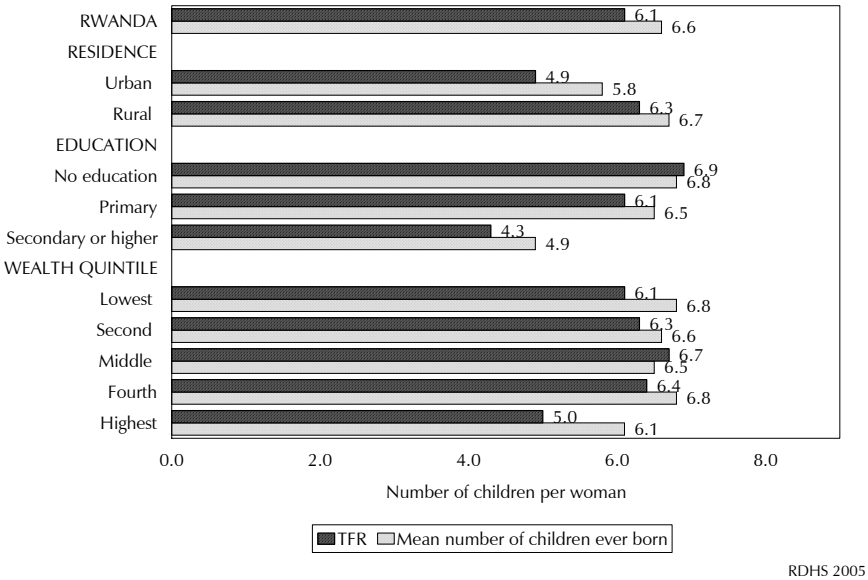
Table 4.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristics, Rwanda 2005

Background characteristic	Total fertility rate[1]	Percentage currently pregnant [1]	Mean number of children ever born to women age 40-49
Residence			
Urban	4.9	6.3	5.8
Rural	6.3	8.3	6.7
Province			
Kigali city	4.3	6.9	5.9
South	5.6	7.6	6.1
West	6.6	7.9	7.1
North	6.4	7.9	6.7
East	6.5	9.0	6.6
Education			
No education	6.9	8.4	6.8
Primary	6.1	8.1	6.5
Secondary or higher	4.3	6.2	4.9
Wealth quintile			
Lowest	6.1	8.4	6.8
Second	6.3	7.7	6.6
Middle	6.7	8.2	6.5
Fourth	6.4	9.8	6.8
Highest	5.0	5.9	6.1
Total	6.1	8.0	6.6

[1] Women age 15-49 years

Figure 4.2 Total Fertility Rate and Mean Number of Children Ever Born to Women Age 40-49



RDHS 2005

The fertility results by background characteristic show cumulative fertility rates above the TFR for all categories except women with no education, indicating that fertility is declining for all women, regardless of residence or province. However, the difference between cumulative fertility (number of children ever born) and the TFR is greater in the City of Kigali (1.6 children) and in the wealthiest households (1.1 children) than anywhere else.

Table 4.2 shows the percentage of women who reported being pregnant at the time of the survey. At the national level, 8 percent of women reported being pregnant. This is likely to be an underestimate because women in the early stages of pregnancy may be unaware or unsure of their pregnancy status.. Age, residence, culture, and/or beliefs may also affect a woman's willingness to report her condition. In Rwanda, women generally declare their pregnancies only when their condition they becomes visible. For these reasons, the differentials in pregnancy rates shown here must be interpreted with a great deal of caution. It should be noted, however, that the findings are generally consistent with current fertility levels. In fact, the lowest pregnancy rates are observed for women living in the wealthiest households (6 percent), women with a secondary education or higher (6 percent), and women living in the City of Kigali (7 percent), which are the groups that also have the lowest fertility levels.

4.2 FERTILITY TRENDS

Two national demographic data collection efforts are conducted regularly in Rwanda: the General Population and Housing Census and the Demographic and Health Survey (DHS). The Censuses of 1978, 1991, and 2002 gathered information on natural population dynamics and were used to estimate fertility levels for those years by asking questions about births that occurred in the 12 months preceding the survey. However, this method generally results in underestimates of fertility levels. The DHS surveys employ a more accurate method (women's birth histories), which yield more reliable results. Yet the various RDHS surveys (1992, 2000, and 2005) and the Censuses of 1991 and 2002 have produced more or less similar results with respect to the TFR, which fluctuates around 6. This means that fertility has remained relatively stable in Rwanda since the RDHS-I.

Table 4.3 shows age-specific fertility rates (ASFRs) for the three DHS surveys. Figure 4.3 examines past fertility trends based on the results of the 1992 RDHS-I, the 2000 RDHS-II, and the 2005 RDHS-III.

The three ASFR curves follow a similar pattern: they increase rapidly with age and reach their peak between the ages of 25 and 29, then taper off steadily as they move toward the age group 45 to 49. It should be emphasized that the decline slows with this age group, demonstrating high levels of late fertility. However, the curve for the current survey (2005 RDHS-III) drops lower after age 40 than the other two curves, indicating a trend toward declining fertility in women of these generations.

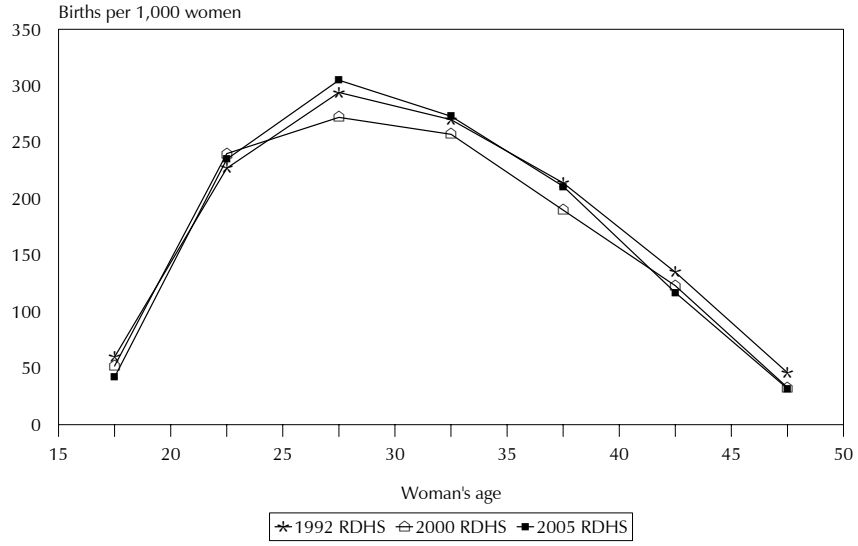
Table 4.3 Trends in fertility

Age-specific fertility rates (per 1,000 women) and total fertility rates, 1992 RDHS, 2000 RDHS, and 2005 RDHS

Age group	1992 RDHS	2000 RDHS	2005 RDHS
15-19	60	52	42
20-24	227	240	235
25-29	294	272	305
30-34	270	257	273
35-39	214	190	211
40-44	135	123	117
45-49	46	33	32
TFR	6.2	5.8	6.1

Note: Age-specific fertility rates are per 1,000 women.

Figure 4.3 Trends in Age-Specific Fertility Rates, Rwanda 1992, 2000, and 2005



The data collected in the RDHS-III were used to track fertility trends for five-year periods preceding the survey based on women's ASFRs (Table 4.4 and Figure 4.4). Fertility rates declined fairly steadily between the earliest period (15-19 years prior to the survey) and the most recent period, except for the youngest age groups (15-19 and 20-24) in the period 5-9 years preceding the survey (1996- 2000). The slight increase in the TFR in 2005 seems to be the result of an increase in fertility among women age 20 to 35. In other words, fertility among teenagers (age 15-19) has been declining steadily from one survey to the next, as has the fertility of women age 40 and over, especially in the recent periods.

Table 4.4 Trends in age-specific fertility rates

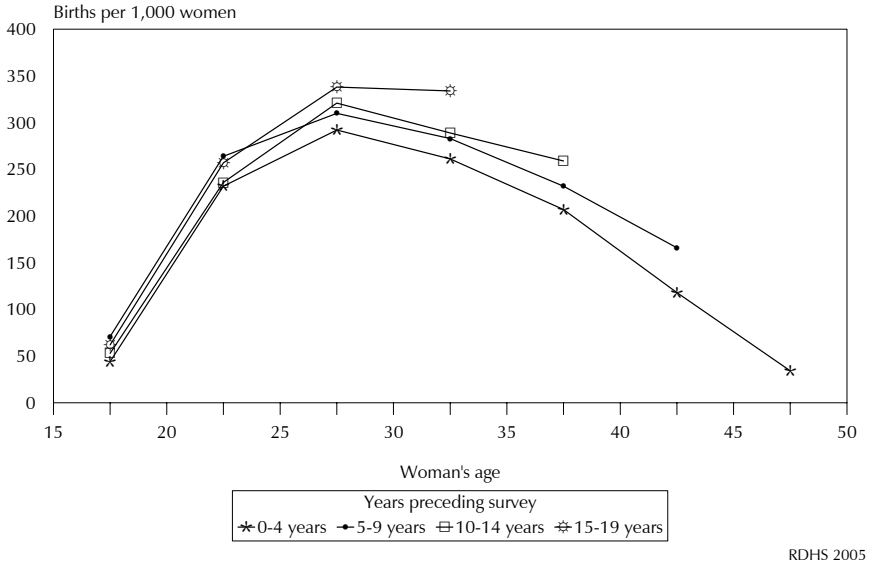
Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of the birth, Rwanda 2005

	Number of years preceding survey			
Age group	0-4	5-9	10-14	15-19
15-19	44	71	53	62
20-24	232	264	236	257
25-29	292	310	321	338
30-34	261	283	289	[334]
35-39	207	232	[259]	-
40-44	118	[166]	-	-
45-49	[34]	-	-	-

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

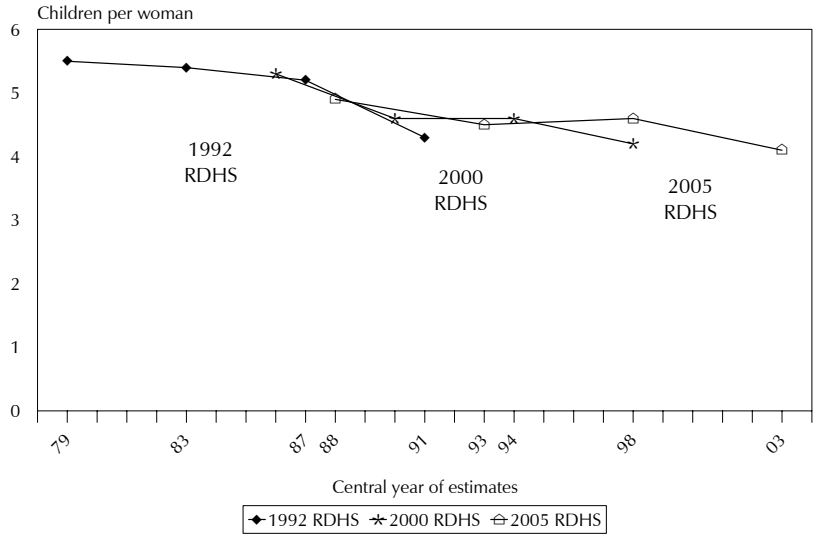
The ASFRs for the RDHS-III were used to calculate the TFR for women age 15 to 34—when the greatest number of births occur—for each five-year period. These data, presented in Figure 4.5, were positioned in relation to the central year of each period for which fertility was calculated. This figure also includes similar data from the RDHS-I (by four-year periods) and the RDHS-II (by five-year periods). The data reveal no general trends and no significant changes in fertility levels in Rwanda. In addition, there have been no changes in the factors that generally affect fertility. On the contrary, use of contraception, although it has risen since 2000, has not reached 1992 levels. There are no changes in median age at first birth, or in the other determinants influencing exposure to the risk of pregnancy: age at first marriage has remained relatively stable since 1992, and age at first sexual intercourse has risen only slightly.

Figure 4.4 Age-Specific Fertility Rates for Five-Year Periods Preceding the Survey



RDHS 2005

Figure 4.5 Trends in the Total Fertility Rate among Women Age 15-34, Rwanda 1992, 2000, and 2005



4.3 PARITY AND PRIMARY INFERTILITY

Women's average parity by age group is calculated on the basis of the total number of children ever born in their lifetime. Table 4.5.1 presents these parities for all women and for currently married women.

For all women, parity increases steadily and rapidly with age: from an average of 0.04 children at age 15 to 19, parity increases to 0.8 children at age 20 to 24, and to 7.0 children at age 45 to 49, the end of the childbearing years. In addition, the distribution of women by number of children ever born shows relatively late childbearing. Only 3.3 percent of women under the age of 20 have given birth to at least one child. Even at ages 20 to 24, less than half the women (46 percent) have given birth to at least one child, and only 16 percent of the women in this age group have given birth twice. The fertility level accelerates between age 25 and 29: more than one-fifth (23 percent) of women in this age group have given birth to at least 3 children. However, nearly one-quarter of the women in the 30-34 age group have had at least 4 births. Finally, at age 45 to 49, the end of the reproductive period, 16 percent of women have given birth to at least 10 children.

Table 4.5.1 Children ever born and living : women

Percent distribution of all women and currently married women by number of children ever born, and mean number of children ever born and mean number of living children, according to age group, Rwanda 2005

Age group	Number of children ever born											Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	96.7	3.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2,585	0.04	0.03
20-24	54.2	22.8	16.1	5.5	1.2	0.1	0.0	0.0	0.0	0.0	0.0	100.0	2,354	0.77	0.67
25-29	16.6	15.5	21.1	22.9	15.8	5.7	1.6	0.8	0.0	0.0	0.0	100.0	1,738	2.33	1.96
30-34	5.6	8.5	12.1	18.2	23.4	17.1	8.5	4.6	1.3	0.4	0.2	100.0	1,466	3.66	3.01
35-39	3.1	3.9	9.3	10.1	13.9	16.0	17.8	13.4	7.8	2.7	2.0	100.0	1,134	4.96	3.92
40-44	2.9	2.0	3.9	6.6	9.9	11.2	14.4	17.6	12.4	9.3	9.9	100.0	1,135	6.20	4.89
45-49	2.2	1.6	2.0	4.5	5.1	11.0	12.8	16.3	14.0	14.6	15.9	100.0	910	7.02	5.24
Total	37.4	9.6	9.7	9.1	8.5	6.7	5.6	5.1	3.3	2.4	2.5	100.0	11,321	2.68	2.14
CURRENTLY MARRIED WOMEN															
15-19	42.9	50.5	4.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	65	0.66	0.57
20-24	14.7	37.4	32.7	12.2	2.6	0.3	0.1	0.0	0.0	0.0	0.0	100.0	980	1.52	1.32
25-29	4.8	13.7	23.7	27.1	19.8	7.7	2.2	1.1	0.0	0.0	0.0	100.0	1,254	2.80	2.36
30-34	1.2	5.2	10.3	19.0	26.1	19.8	10.3	5.8	1.7	0.4	0.3	100.0	1,112	4.08	3.38
35-39	1.0	1.8	6.0	7.1	14.2	16.3	20.8	16.6	10.1	3.4	2.8	100.0	807	5.55	4.41
40-44	1.4	1.7	1.9	5.0	6.5	8.4	14.5	18.7	15.5	12.5	13.9	100.0	739	6.87	5.46
45-49	1.3	1.4	0.6	3.5	3.3	7.8	12.4	13.8	16.5	18.6	20.8	100.0	554	7.63	5.74
Total	4.9	12.1	14.5	14.3	13.5	10.1	8.8	7.7	5.6	4.1	4.4	100.0	5,510	4.24	3.42

The results for married women do not vary significantly from the results for all women, except for the younger age groups. More than half of married women between the ages of 15 and 19 (57 percent) have had at least one child, compared with 3.3 percent of all women. However, as for all women, the fertility of young married women age 15 to 19 remains relatively low: only 7 percent of the women in this age group have had two or more children.

Even at age 20-24, when more than half of women are still never-married (53 percent: see Marital Status in Chapter 6), there is still a wide gap between the proportion of married women who have had at least one child (85 percent) and the proportion of all women in this age group who have had at least one child (46 percent).

Women who remain childless voluntarily are relatively rare in Rwanda, where the population is still very pro-natal (see Chapter 7, Fertility Preferences). For this reason, zero parity among married women age 35 to 49 would be an indicator of total or primary infertility. In Rwanda, only 1.2 percent of married women age 35 to 49 years (when the arrival of a first child is unlikely) have never had a child and can be considered infertile. This shows that the level of primary infertility has remained stable at low levels since 1983, when it was calculated at 1.5 percent. The percentage was as low as 0.7 percent in the RDHS-I, and was 1.2 percent in the RDHS-II. It should be noted that the level of primary infertility observed in Rwanda in 2005 is lower than the level found in some sub-Saharan countries such as Cameroon (3.6 percent in the 2004 EDSC), but is similar to that of other countries in this region such as Burkina Faso (1 percent in the 2003 EDSBF).

The average number of children by age group for men is calculated on the basis of the total number of children ever born to men in their lifetime. Table 4.5.2 shows the number of children ever born for all men and for married men.

Table 4.5.2 Children ever born and living : men

Percent distribution of all men and currently married men by number of children ever born, and mean number of children ever born and mean number of living children, according to age group, Rwanda 2005

Age group	Number of children ever born											Total	Number of men	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL MEN															
15-19	99.8	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,102	0.00	0.00
20-24	83.5	9.9	4.8	1.4	0.3	0.0	0.0	0.1	0.0	0.0	0.0	100.0	946	0.26	0.23
25-29	39.9	17.8	17.9	16.0	5.2	2.0	0.8	0.4	0.1	0.0	0.0	100.0	632	1.40	1.22
30-34	15.7	11.2	15.5	19.5	18.7	12.1	3.2	2.7	0.7	0.7	0.0	100.0	509	2.86	2.38
35-39	8.2	6.1	9.1	14.6	16.8	14.6	13.3	9.4	3.5	3.0	1.5	100.0	442	4.26	3.50
40-44	2.9	2.3	4.7	8.5	11.8	13.1	13.6	16.8	11.1	7.6	7.5	100.0	404	5.90	4.72
45-49	1.7	1.1	3.7	5.7	3.8	8.0	15.4	13.1	12.4	10.8	24.4	100.0	378	7.43	5.79
50-54	1.3	0.8	1.6	2.1	1.6	5.9	7.6	12.0	15.8	13.0	38.4	100.0	260	8.63	6.50
55-59	0.8	1.2	0.7	0.0	3.8	3.8	3.3	14.0	13.3	15.8	43.3	100.0	147	9.28	6.59
Total	47.3	6.4	6.6	7.0	5.8	5.0	4.5	4.7	3.6	3.0	6.1	100.0	4,820	2.76	2.18
CURRENTLY MARRIED MEN															
15-19	*	*	*	*	*	*	*	*	*	*	*	*	2	*	*
20-24	20.2	44.3	25.6	7.4	1.9	0.0	0.0	0.5	0.0	0.0	0.0	100.0	173	1.29	1.15
25-29	7.6	25.5	27.9	25.5	8.3	3.1	1.2	0.7	0.1	0.0	0.0	100.0	394	2.20	1.92
30-34	3.7	11.2	17.7	22.8	22.0	14.1	3.5	3.3	0.8	0.8	0.0	100.0	429	3.32	2.75
35-39	3.4	5.5	9.3	14.4	17.5	16.1	14.7	10.4	3.6	3.4	1.7	100.0	400	4.56	3.77
40-44	1.0	1.7	4.8	8.1	11.2	13.9	13.6	17.8	11.8	8.1	8.0	100.0	381	6.11	4.90
45-49	0.2	0.6	3.1	4.9	3.3	8.2	14.7	13.7	12.7	11.8	26.6	100.0	346	7.77	6.07
50-54	0.3	0.5	1.0	2.3	1.4	4.8	7.0	12.2	15.6	13.8	41.1	100.0	235	8.90	6.79
55-59	0.5	0.8	0.7	0.0	4.0	3.4	3.5	13.5	13.2	15.9	44.5	100.0	139	9.40	6.69
Total	4.0	10.4	12.0	12.9	10.5	9.4	8.1	8.9	6.5	5.7	11.5	100.0	2,500	5.10	4.06

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

For all men, the average number of children ever born and living increases steadily and rapidly with age, from an average of 0.3 children at age 20 to 24, to 1.4 children at age 25 to 29, to 2.9 children at age 30 to 34, and to 9.3 children at age 55 to 59. For married men, the average number of children is higher in the younger age groups.

A comparison of these results with those for married women shows that the average number of children increases more rapidly for married women than for married men. However, in the older age groups (45 to 49), the average number of children ever born is much higher for married men than married women.

4.4 BIRTH INTERVALS

Examination of birth intervals, defined as the length of time between two successive live births, is important not only for their impact on the health status of both mother and child, but for their role in fertility analysis and the design of reproductive health programs. Currently, short birth intervals (less than 24 months) are considered harmful to the health and nutritional status of children, increasing their risk of death. In addition, short birth intervals diminish a woman's physiological capacity, exposing her to a greater risk of complications during and after pregnancy (miscarriage, eclampsia, etc.), and are also associated with high cumulative fertility. Table 4.6 shows the distribution of non-first births in the five years preceding the survey by number of months since the preceding birth, according to background characteristics.

Table 4.6 shows that 8 percent of births occur less than 18 months after the preceding birth and that 15 percent of children are born between 18 and 24 months after the birth of their immediately older sibling. In 23 percent of all cases, the birth interval is less than two years. However, a large proportion of births (41 percent) occur between 2 and 3 years after the preceding birth, and more than one-third of all children (36 percent) are born three years or more after the birth of their immediately older sibling. The mean duration of the birth interval is slightly more than two and a half years (31.3 months), which means that half of all births take place 31.3 months after the preceding birth.

With respect to age, birth intervals are shorter for younger women; that is, the younger the woman, the shorter the birth interval: the mean duration increases from 27.7 months at age 20 to 29, to 37.1 months at age 40 to 49. The results also show a significant increase in the length of birth intervals associated with birth order, from 29.9 months for birth orders 2-3, to 32.7 months for birth orders 7 and higher. However, differentials by gender are not significant (31.6 months for boys; 30.9 months for girls). Survival of the preceding child is an important factor. When the preceding child has died, the birth interval between that birth and the next birth is a median of 26.4 months. When the preceding child is living, the birth interval is a median of 32.1 months, or approximately six months later than the birth following the death of the preceding sibling.

The median interval between births is lowest in rural areas (31.4 months, compared with 29.9 in urban areas). In 2005, the differential between rural and urban areas was 1.5 months; in 2000, it was 3.2 months.

This is not a very significant difference; it is to be expected that women in urban areas, who have greater access to family planning services, will have much longer birth intervals than women in rural areas. With respect to provinces, the birth interval varies from a low of 30.1 months in the City of Kigali to a high of 32.6 months in the South province.

Table 4.6 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, according to background characteristics, Rwanda 2005

Background characteristic	Months since preceding birth					Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48+			
Mother's age								
15-19	*	*	*	*	*	*	7	*
20-29	12.2	20.1	43.4	14.6	9.7	100.0	2,578	27.7
30-39	6.2	13.7	41.0	21.3	17.7	100.0	3,243	32.5
40-49	4.2	8.6	34.1	24.2	29.0	100.0	1,245	37.1
Birth order								
2-3	10.6	17.2	38.9	16.3	17.0	100.0	2,880	29.9
4-6	6.3	14.0	42.3	20.7	16.7	100.0	2,753	31.9
7+	6.3	13.3	41.4	22.7	16.4	100.0	1,441	32.7
Sex of preceding birth								
Male	7.9	15.0	40.4	19.5	17.2	100.0	3,611	31.6
Female	8.2	15.4	41.0	19.2	16.2	100.0	3,463	30.9
Survival of preceding birth								
Living	5.4	14.2	42.7	20.5	17.1	100.0	5,834	32.1
Dead	20.4	19.5	31.1	14.1	15.0	100.0	1,240	26.4
Residence								
Urban	11.5	16.4	36.3	15.7	20.1	100.0	968	29.9
Rural	7.5	15.0	41.4	19.9	16.2	100.0	6,106	31.4
Province								
Kigali city	12.7	16.3	32.6	16.6	21.9	100.0	486	30.1
South	6.9	14.9	39.1	21.1	18.0	100.0	1,708	32.6
West	7.9	16.6	41.7	19.2	14.6	100.0	1,874	30.2
North	6.8	13.4	46.3	18.7	14.8	100.0	1,445	31.8
East	9.1	15.1	38.6	19.1	18.1	100.0	1,562	31.3
Education								
No education	7.3	15.0	37.1	21.1	19.5	100.0	2,128	32.7
Primary	8.3	14.9	43.0	18.9	15.0	100.0	4,368	30.8
Secondary or higher	9.4	17.6	37.1	15.7	20.2	100.0	578	30.1
Wealth quintile								
Lowest	6.2	13.0	40.4	20.9	19.6	100.0	1,513	32.8
Second	6.8	13.0	42.8	20.4	17.0	100.0	1,474	32.1
Middle	8.4	16.1	40.5	20.0	15.0	100.0	1,465	30.9
Fourth	8.4	14.7	41.9	19.4	15.7	100.0	1,395	31.0
Highest	11.1	19.9	37.3	15.4	16.3	100.0	1,226	28.8
Total	8.1	15.2	40.7	19.3	16.7	100.0	7,074	31.3

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Regarding mother's level of educational attainment, birth intervals for women with no education are longer (32.7 months) than birth intervals for women with a secondary education or higher (30.1). This is explained, among other things, by the fact that the median duration of breastfeeding is longer for women with no education than for women with some education (see Table 10.3). Household wealth data follow a similar pattern: 50 percent of children in the poorest quintile are born 32.8 months after the birth of their immediately older sibling, or 4 months later than children in the richest quintile (28.8).

4.5 AGE AT FIRST BIRTH

The age at which childbearing begins is an important demographic indicator because it has a direct bearing on a women's cumulative fertility, particularly when there is little or no contraceptive use. The younger a woman is when she begins childbearing, the greater her likelihood of having many children. At the same time, having children at too young an age can have negative repercussions on the mother's health and can put her children at risk of dying. Table 4.7 shows the distribution of women by age at first birth and median age at first birth by age at the time of the survey.

The results show that median age at first birth has remained practically unchanged from one generation to the next (from a low of 21.7 to a high of 22.2) and no trends indicate a rise or fall in this median age.

Table 4.7 Age at first birth

Among all women, the percentage who first gave birth by exact age, and median age at first birth, by current age, Rwanda 2005

	Percentage who gave birth by exact age:					Percentage who have never given birth	Number of women	Median age at first birth
Age group	15	18	20	22	25			
15-19	0.2	na	na	na	na	96.7	2,585	a
20-24	0.6	7.8	22.3	na	na	54.2	2,354	a
25-29	0.6	10.2	31.1	53.4	75.4	16.6	1,738	21.7
30-34	1.3	8.7	24.1	48.3	77.8	5.6	1,466	22.1
35-39	1.3	10.0	25.8	48.2	73.9	3.1	1,134	22.2
40-44	0.9	8.8	28.8	51.1	77.5	2.9	1,135	21.9
45-49	1.1	9.0	25.8	50.6	80.3	2.2	910	22.0

na = Not applicable
a = Omitted because less than 50 percent of women had a birth before reaching the beginning of the age group.

Table 4.8 shows a median age at first birth of 22.0 years for women age 25 to 49; this is identical to the median age observed for women the same age in the 2000 RDHS-II.

Table 4.8 shows median age at first birth according to various socioeconomic characteristics. The first child arrives at a younger age for women in rural areas (21.9 years) than for those in urban areas (22.4 years). The South province has the highest median age at first birth (22.9 years), followed by the City of Kigali (22.4 years). In the other provinces, median age at first birth varies from a low of 21.2 years in the East province to a high of 21.7 years in the West province. Women's level of educational attainment affects the median age at first birth: women with no education (21.4 years) and women with primary education (22.0 years) have a lower median age at first birth than women with secondary or higher education (23.9 years).

Results by household wealth show that the first birth occurs later among women in the richest quintile (22.7 years) than among those in the poorest quintile (21.8 years).

Table 4.8 Median age at first birth by background characteristics

Median age at first birth among women age 25-49 years, by current age and background characteristics, Rwanda 2005

Background characteristic	Current age					Women age 25-49
	25-29	30-34	35-39	40-44	45-49	
Residence						
Urban	22.2	22.5	23.0	22.1	21.6	22.4
Rural	21.6	22.1	22.0	21.9	22.0	21.9
Province						
Kigali city	22.4	23.0	23.7	21.2	20.7	22.4
South	22.9	23.1	23.4	22.8	22.5	22.9
West	21.2	22.1	21.4	21.6	22.1	21.7
North	21.2	21.4	22.2	21.7	22.1	21.6
East	21.0	21.3	21.3	21.6	21.1	21.2
Education						
No education	20.8	21.3	21.2	21.3	21.8	21.4
Primary	21.6	22.2	22.3	22.1	22.1	22.0
Secondary or higher	23.9	23.6	24.5	24.0	22.9	23.9
Wealth quintile						
Lowest	21.4	21.9	22.2	21.5	21.8	21.8
Second	21.0	22.0	21.2	21.9	22.2	21.7
Middle	21.9	21.9	22.2	21.8	21.9	21.9
Fourth	21.7	22.1	21.9	22.1	21.9	21.9
Highest	22.3	22.9	23.2	22.6	21.9	22.7
Total	21.7	22.1	22.2	21.9	22.0	22.0

4.6 TEENAGE FERTILITY

Teenage fertility is an important demographic factor for many reasons. First, children born to very young mothers run a greater risk of illness and death. Second, teenage mothers are more likely to suffer complications during pregnancy and less likely to treat them, exposing them to greater risk of complications during delivery and greater risk of dying for reasons related to childbearing. Third, early childbearing seriously affects a woman's ability to pursue an education, thereby limiting her job opportunities. In Rwanda, teenagers make up 23 percent of all women of childbearing age, but only 3 percent have had at least one birth.

Table 4.9 shows the proportion of teenagers who have already had one or more children, as well as those currently in their first pregnancy. Together these two subgroups make up the proportion of teenagers who have already begun childbearing: 4 percent of young women between the ages of 15 and 19 (3 percent are already mothers; 0.8 percent are pregnant for the first time). At age 15, 0.3 percent of women have begun childbearing, but the percentage increases steadily and rapidly with age: at age 17, 2 percent of women have already had at least one child or are pregnant for the first time. At age 19, this proportion reaches 13 percent, of which 10 percent are those who have already had at least one child.

Table 4.9 Teenage pregnancy and motherhood

Percentage of women age 15-19 who are mothers or pregnant with their first child, by background characteristics, Rwanda 2005

Background characteristic	Percentage who are: Mothers	Pregnant with first child	Percentage who have begun childbearing	Number of women
Age				
15	0.3	0.0	0.3	536
16	1.0	0.0	1.0	591
17	2.1	0.3	2.4	506
18	5.0	1.2	6.2	520
19	9.5	3.3	12.8	432
Residence				
Urban	4.1	0.9	5.0	472
Rural	3.1	0.8	3.9	2,113
Province				
Kigali city	6.4	0.6	7.0	277
South	2.6	1.2	3.8	648
West	3.2	0.8	4.0	686
North	1.3	0.4	1.8	453
East	4.4	0.9	5.3	521
Education				
No education	9.7	0.3	10.0	222
Primary	2.7	0.8	3.5	2,182
Secondary or higher	2.3	1.8	4.1	181
Wealth quintile				
Lowest	2.5	0.4	2.9	557
Second	3.8	0.9	4.7	509
Middle	3.0	0.7	3.7	444
Fourth	3.3	1.6	4.8	477
Highest	3.8	0.8	4.6	599
Total	3.3	0.8	4.1	2,585

Table 4.9 shows that teenagers residing in urban areas begin childbearing much earlier than their rural counterparts. In fact, 5 percent of teenagers in urban areas have begun childbearing, compared with 4 percent in rural areas. Similar differences are seen between provinces: the proportion of teenagers who have begun childbearing varies from a low of 1.8 percent in the North province to a high of 7 percent in the City of Kigali. Early childbearing occurs more frequently among teenagers with no education (10 percent) than among those who are educated (4 percent). However, differentials by wealth quintile are not significant: the proportion of teenagers who have begun childbearing varies from 3 percent in the poorest quintile to 5 percent in the two highest quintiles. These narrow differentials mean that standard of living has no bearing on the behavior of Rwandan teenagers with regard to procreation. Finally, it should be noted that the proportion of teenagers who have begun childbearing has decreased from 11 percent in 1992, to 7 percent in 2000, to 4 percent in 2005.

FAMILY PLANNING 5

During the RDHS-III, men and women were asked to name any means of contraception they knew about. They were then asked questions concerning their own past and/or current use of contraception, and their intended use in the future. Finally, men and women were asked if they knew where to procure the various methods of contraception.

5.1 KNOWLEDGE OF CONTRACEPTION

The use of contraception presupposes prior knowledge of at least one contraceptive method, as well as a source of contraceptive supply. The different methods covered by the questionnaire fall into two categories:

- **Modern methods.** These include female sterilization, male sterilization, the pill, the IUD (intrauterine device), injectables, implants (Norplant), the male condom, the female condom, the diaphragm, vaginal methods (spermicides, foams and jellies), emergency contraception, the lactational amenorrhea method (LAM), and the standard days method (SDM)/beads.
- **Traditional methods.** These include the rhythm or periodic abstinence method, withdrawal, and so-called "folk" methods such as herbs, etc.

As previously indicated, information concerning knowledge of contraceptive methods was gathered in two ways: first, each respondent was asked to spontaneously name the contraceptive methods he or she knew about. If a respondent failed to mention a particular method covered by the questionnaire, the interviewer briefly described the method and recorded whether or not the respondent had heard of it. A method was considered to be known by a respondent if he or she mentioned it spontaneously or recognized it after it was described.

The results show that knowledge of family planning is nearly universal in Rwanda: 95 percent of women age 15-49 reported having knowledge of at least one method of contraception (Table 5.1.1). In general, women are more familiar with modern methods than with traditional or folk methods: 95 percent of women have heard of at least one modern method; 67 percent have heard of at least one traditional method; and 0.2 percent know of a folk method.

Table 5.1.1 Knowledge of contraceptive methods: women

Percentage of all women, of currently married women, and of sexually active unmarried women who know any contraceptive method, by specific method, Rwanda 2005

Method	All women	Currently married women	Sexually active unmarried women
Any method	94.9	97.9	94.6
Any modern method	94.5	97.5	94.6
Female sterilization	62.7	71.1	68.8
Male sterilization	23.4	30.1	20.0
Pill	77.9	89.4	84.8
IUD	31.3	39.7	27.1
Injectables	80.2	92.0	82.7
Implants	38.2	49.7	34.8
Male condom	88.7	91.0	92.0
Female condom	37.7	40.6	36.4
Diaphragm	3.8	5.0	2.2
Foam/jelly	5.6	6.3	5.6
Lactational amenorrhea method (LAM)	35.4	47.2	34.2
Emergency contraception	7.7	9.3	7.5
Standard days method/beads	33.7	42.9	35.4
Any traditional method	67.0	79.7	75.0
Rhythm or periodic abstinence	58.8	68.9	62.9
Withdrawal	47.1	63.3	58.7
Local traditional method	0.2	0.3	0.0
Mean number of methods known	6.3	7.5	6.5
Number of women	11,321	5,510	136

Knowledge of contraceptive methods among sexually active unmarried women is very high (95 percent for any method), although it has declined since 2000, when it was 100 percent. Knowledge of any contraceptive method among married women has increased slightly, from 97 percent in 2000 to 98 percent in 2005.

With respect to specific methods, Table 5.1.1 indicates that male condoms constitute the method best known by all women (89 percent), followed by injectables (80 percent), and the pill (78 percent). Diaphragms constitute the least known method for all categories of women (4 percent). With respect to traditional methods, 69 percent of married women reported knowing about the rhythm or periodic abstinence method, and 63 percent had heard of withdrawal. The mean number of methods known is highest among married women (7.5).

Table 5.1.2 shows knowledge of contraception among men. As with women, knowledge of contraceptive methods is high: 98 percent of men reported having knowledge of at least one modern method, compared with 77 percent for traditional methods.

With respect to specific methods, Table 5.1.2 shows that, like women, men are most familiar with the male condom (97 percent), followed by injectables among all men and currently married men (at least 75 percent). The pill is the second most commonly known method among sexually active unmarried men (85 percent). Like women, few men have heard of the diaphragm (6 percent). With respect to traditional methods, rhythm or periodic abstinence and withdrawal methods are known in roughly the same percentages (65 percent and 63 percent).

Table 5.1.2 Knowledge of contraceptive methods: men

Percentage of all men, of currently married men, and of sexually active unmarried men who know any contraceptive method, by specific method, Rwanda 2005

Method	All men	Currently married men	Sexually active unmarried men
Any method	98.1	99.5	100.0
Any modern method	98.0	99.5	100.0
Female sterilization	71.3	82.4	79.5
Male sterilization	34.3	43.2	38.3
Pill	70.7	83.4	84.5
IUD	36.6	47.1	43.4
Injectables	75.1	87.8	80.9
Implants	34.1	46.6	39.8
Male condom	96.6	98.0	100.0
Female condom	51.9	56.5	67.1
Diaphragm	5.6	7.2	5.3
Foam/jelly	10.7	12.6	16.3
Lactational amenorrhea method (LAM)	27.1	37.3	22.8
Emergency contraception	13.2	16.4	21.3
Standard days method/beads	39.6	50.3	41.6
Any traditional method	76.6	92.1	92.0
Rhythm or periodic abstinence	65.4	79.9	81.3
Withdrawal	63.3	81.9	70.5
Mean number of methods known	7.0	8.3	7.9
Number of men	4,820	2,500	57

5.2 USE OF CONTRACEPTION

Increasing the use of contraception is the ultimate aim of family planning programs, and contraceptive prevalence serves as a key measure for assessing the success of such programs. RDHS-III data have been used to estimate "ever use" of contraception and the current level of use, that is, at the time of the survey.

5.2.1 Ever Use of Contraception

Women who said that they had heard of a contraceptive method were asked if they had ever used that method. This information was used to measure the level of contraceptive use at any time in the woman's reproductive life (ever use), according to specific method. Table 5.2 presents the results for all women, married women, and sexually active unmarried women.

Table 5.2 Ever use of contraception

Percentage of all women, currently married women, and sexually active unmarried women who have ever used any contraceptive method, by specific method and age, Rwanda 2005

			Modern method										Traditional method			
Age group	Any method	Any modern method	Female sterilization	Male sterilization	Pill	Injectables	Male condom	LAM	Emergency contraception	Standard days method/ beads	Other modern methods	Any traditional method	Periodic abstinence	Withdrawal	Other	Number of women
ALL WOMEN																
15-19	1.3	1.2	0.0	0.0	0.1	0.0	1.2	0.1	0.0	0.0	0.0	0.3	0.3	0.1	0.0	2,585
20-24	12.3	7.8	0.0	0.0	2.3	2.6	3.3	0.9	0.1	0.3	0.0	6.7	3.6	4.1	0.0	2,354
25-29	27.3	19.3	0.2	0.0	6.4	8.8	4.5	2.9	0.1	1.6	0.7	14.3	8.3	9.5	0.0	1,738
30-34	33.1	22.3	0.4	0.1	7.9	12.6	3.4	3.6	0.0	2.0	1.1	17.9	11.6	9.6	0.1	1,466
35-39	36.6	25.7	0.6	0.0	9.8	14.3	3.8	4.1	0.2	1.8	1.5	17.9	11.6	10.0	0.3	1,134
40-44	36.3	27.5	0.6	0.0	12.3	17.0	1.5	2.3	0.0	1.4	1.7	14.8	9.9	8.1	0.0	1,135
45-49	34.2	25.8	1.2	0.2	10.7	17.1	0.3	2.2	0.0	1.4	1.6	15.6	9.9	9.4	0.3	910
Total	21.4	15.2	0.3	0.0	5.6	8.0	2.6	1.9	0.1	1.0	0.7	10.5	6.5	6.1	0.1	11,321
CURRENTLY MARRIED WOMEN																
15-19	7.9	7.9	0.0	0.0	2.9	0.8	6.0	1.9	1.9	1.9	0.0	1.9	1.9	1.9	0.0	65
20-24	22.7	12.9	0.0	0.0	4.7	6.1	2.9	2.1	0.1	0.7	0.1	13.5	7.1	8.2	0.0	980
25-29	32.4	22.3	0.3	0.0	7.8	11.0	4.0	3.4	0.1	2.1	0.9	17.8	10.0	12.1	0.0	1,254
30-34	37.0	24.3	0.5	0.1	8.6	14.1	2.8	3.8	0.0	2.4	1.3	20.1	12.8	11.2	0.2	1,112
35-39	40.8	28.1	0.8	0.0	10.9	15.5	3.0	5.2	0.0	2.1	1.7	21.4	13.7	11.9	0.4	807
40-44	41.6	31.1	0.8	0.0	12.8	19.8	1.8	2.6	0.0	2.2	1.8	18.7	12.4	10.7	0.0	739
45-49	40.2	29.8	1.5	0.3	12.3	19.8	0.2	2.5	0.0	2.3	1.5	19.4	12.8	11.6	0.4	554
Total	34.6	23.7	0.5	0.0	8.9	13.4	2.8	3.3	0.1	1.9	1.1	18.1	11.1	10.8	0.1	5,510
SEXUALLY ACTIVE UNMARRIED WOMEN[1]																
Total	28.0	22.3	0.4	0.0	6.3	9.0	14.9	1.6	0.9	0.0	0.6	17.4	10.6	11.2	0.0	136

LAM = Lactational amenorrhea method

[1] Women who had sexual intercourse in the month preceding the survey

The results show that 21 percent of women have used a method of contraception at some time. Modern methods were used more frequently than traditional methods (15 percent for modern; 11 percent for traditional) and, among the modern methods, injectables and the pill were used more frequently than other methods (8 percent for injectables, 6 percent for the pill; 3 percent for male condoms). Among the traditional methods, withdrawal and periodic abstinence were used in the same proportions (6 percent).

Ever use of contraception is considerably higher among married women than all women: 35 percent of married women have used a method at some time, 24 percent a modern method, and 18 percent a traditional or folk method. For all women, the percentages are 21 percent, 15 percent, and 11 percent, respectively. Sexually active unmarried women have higher levels of ever use of contraception than all women, but lower levels of ever use than married women. The male condom was the method most frequently used by sexually active unmarried women (15 percent), followed by injectables (9 percent), and the pill (6 percent). Among traditional methods, these women opted for periodic abstinence and withdrawal in the same proportions as married women (11 percent for both methods).

5.2.2 Current Use of Contraception

Table 5.3 shows current contraceptive prevalence. Women who were not pregnant and had heard of at least one contraceptive method were asked whether they were currently using any method of contraception to avoid pregnancy. The responses to this question were used to assess current contraceptive prevalence, that is, the proportion of women who were using a method of contraception at the time of the survey.

Table 5.3 shows that, among all women age 15-49 who were not pregnant at the time of the survey, 10 percent were using at least one method of contraception, 6 percent were using a modern method, and 4 percent were using a traditional method. Results according to age show that prevalence is lowest among the youngest women, age 15 to 24 (7 percent at most), and the oldest women, age 45 to 49 (10 percent). The most frequently used modern method is injectables (2 percent). The rate of use for other methods remains very low. Periodic abstinence and withdrawal are the most frequently used traditional methods (2 percent each).

Contraceptive prevalence among married women at the time of the survey was 17 percent for any method and 10 percent for any modern method. Seven percent of married women reported using a traditional method at the time of the survey. The most frequently used modern methods were injectables (5 percent) and the pill (2 percent) (Figure 5.1). Periodic abstinence (4 percent) and withdrawal (3 percent) were the most frequently used traditional methods. The variation in contraceptive prevalence by age found among all women is also found among married women: prevalence is lowest for younger women (3 percent for age 15 to 19) and older women (14 percent for age 45 to 49).

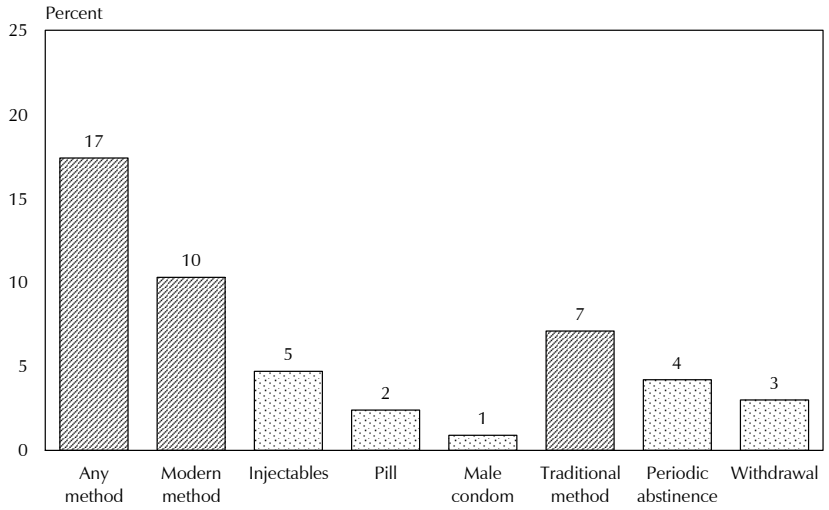
Table 5.3 Current use of contraception

Percent distribution of all women, currently married women, and sexually active unmarried women by contraceptive method currently used, according to age, Rwanda 2005

Age group	Any method	Any modern method	Modern method							Any traditional method	Traditional method		Not currently using	Total	Number of women
			Female sterilization	Pill	Injectables	Male condom	LAM	Standard days method/ beads	Other modern methods		Periodic abstinence	Withdrawal			
ALL WOMEN															
15-19	0.4	0.3	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.0	99.6	100.0	2,585
20-24	6.5	4.1	0.0	1.1	1.4	1.3	0.2	0.1	0.0	2.4	1.4	1.0	93.5	100.0	2,354
25-29	13.9	8.6	0.2	2.0	3.9	1.1	0.7	0.4	0.3	5.3	2.7	2.6	86.1	100.0	1,738
30-34	17.0	10.5	0.4	2.3	4.8	1.2	0.9	0.4	0.4	6.5	4.2	2.4	83.0	100.0	1,466
35-39	16.2	10.3	0.6	2.2	3.9	1.0	1.3	0.2	1.0	5.9	3.5	2.4	83.8	100.0	1,134
40-44	14.2	7.1	0.6	1.7	3.3	0.7	0.1	0.6	0.1	7.1	5.2	1.9	85.8	100.0	1,135
45-49	9.7	4.0	1.2	0.4	1.7	0.0	0.1	0.2	0.2	5.7	3.7	2.0	90.3	100.0	910
Total	9.6	5.6	0.3	1.3	2.4	0.8	0.4	0.2	0.2	3.9	2.4	1.5	90.4	100.0	11,321
CURRENTLY MARRIED WOMEN															
15-19	3.2	3.2	0.0	2.9	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	96.8	100.0	65
20-24	12.7	7.6	0.0	2.4	3.4	1.3	0.3	0.1	0.0	5.1	2.7	2.4	87.3	100.0	980
25-29	17.3	10.9	0.3	2.6	5.2	0.8	1.0	0.6	0.5	6.5	3.0	3.4	82.7	100.0	1,254
30-34	20.3	12.7	0.5	2.8	6.2	1.1	1.1	0.5	0.6	7.7	4.7	3.0	79.7	100.0	1,112
35-39	20.4	13.1	0.8	2.9	5.1	0.8	1.9	0.3	1.2	7.3	4.4	3.0	79.6	100.0	807
40-44	19.7	10.0	0.8	2.3	4.7	0.9	0.1	1.0	0.1	9.7	6.7	3.0	80.3	100.0	739
45-49	14.1	5.8	1.5	0.7	2.7	0.1	0.2	0.4	0.3	8.2	4.9	3.3	85.9	100.0	554
Total	17.4	10.3	0.5	2.4	4.7	0.9	0.8	0.5	0.4	7.1	4.2	3.0	82.6	100.0	5,510
SEXUALLY ACTIVE UNMARRIED WOMEN[1]															
Total	11.6	6.2	0.4	0.5	1.5	3.8	0.0	0.0	0.0	5.4	3.3	2.1	88.4	100.0	136

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method
[1] Women who have had sexual intercourse in the month preceding the survey

Figure 5.1 Contraceptive Use among Currently Married Women Age 15-49



RDHS 2005

Current use of contraception among sexually active unmarried women falls between the two other categories: 12 percent for any method, 6 percent for any modern method, and 5 percent for any traditional method. This represents a decline compared with 2000, when contraceptive prevalence among sexually active unmarried women was 22 percent for any method, 15 percent for any modern method, and 7 percent for any traditional method. Male condoms (4 percent) constitute the modern method used most frequently by these women. Periodic abstinence (3 percent) is the most frequently used traditional method.

Comparison of the current survey results with those of the previous two surveys reveals an overall decline in contraceptive prevalence[1] (Figure 5.2). Among married women, current use of modern methods dropped significantly from 13 percent to 4 percent between 1992 and 2000. Although it has increased since the 2000 survey (10 percent in 2005), current use of contraception nevertheless remains lower than the level observed in 1992 (13 percent). Among sexually active unmarried women, the rate of condom use was 11 percent in 2000; it has dropped to 4 percent in the current survey.

[1] During the two previous surveys, LAM and SDM/beads were not included among modern contraceptive methods. If these were not included among modern methods in the RDHS-III, modern contraceptive prevalence among currently married women drops to 9 percent.

Figure 5.2 Trends in Use of Modern Methods among Currently Married Women

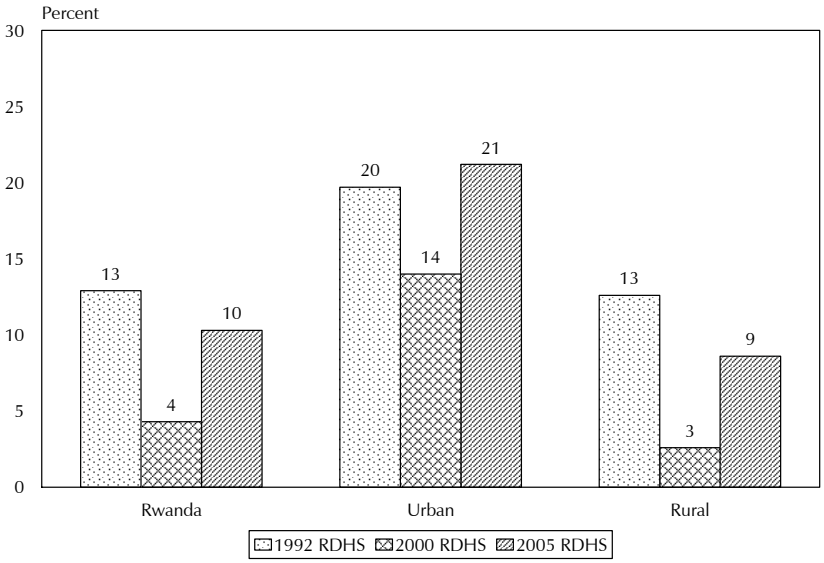


Table 5.4 shows the distribution of currently married women by method of contraception currently used, according to background characteristics. Contraceptive prevalence is noticeably higher in urban areas (32 percent) than in rural ones (15 percent). It is considerably higher in the City of Kigali (36 percent) than in the other provinces (19 percent at most in the East province). Percentages in the South and West (15 percent each) and North (16 percent) provinces are lower than the national average (17 percent). The prevalence of modern contraceptive methods also varies by province, being highest in the City of Kigali (23 percent), and ranging between 8 percent and 10 percent in the other provinces.

Contraceptive prevalence varies by level of education. Married women with no education have a lower level of contraceptive use—11 percent for any method, 6 percent for any modern method, and 5 percent for any traditional method—than educated women. The use of contraception increases with the number of children, from 3 percent among nulliparous women, to 14 percent among women with 1 or 2 children, to 21 percent among women with 3 children or more. Similarly, women in the poorest wealth quintile use contraception less frequently (11 percent) than women in the other quintiles, particularly the richest quintile (32 percent).

Table 5.4 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, according to background characteristics, Rwanda 2005

Background characteristic	Any method	Any modern method	Modern method							Any tradi-tional method	Traditional method		Not currently using	Total	Number of women
			Female sterili-zation	Pill	Inject-ables	Male condom	LAM	Standard days method/ beads	Other modern methods		Periodic absti-nence	With-drawal			
Residence															
Urban	31.6	21.2	1.1	4.2	7.3	4.0	1.5	1.4	1.9	10.4	6.9	3.5	68.4	100.0	744
Rural	15.2	8.6	0.5	2.2	4.3	0.4	0.7	0.3	0.2	6.6	3.7	2.9	84.8	100.0	4 766
Province															
Kigali City	35.5	23.2	1.3	4.2	6.6	5.2	2.2	1.4	2.2	12.3	7.9	4.4	64.5	100.0	407
South	14.8	8.4	0.4	1.7	3.9	0.7	0.6	0.7	0.3	6.5	3.4	3.1	85.2	100.0	1,411
West	14.5	10.3	1.0	2.2	4.7	0.4	1.3	0.5	0.2	4.2	2.3	1.9	85.5	100.0	1,427
North	16.0	9.8	0.2	2.8	5.5	0.7	0.1	0.3	0.3	6.1	3.5	2.6	84.0	100.0	1,058
East	18.9	8.5	0.2	2.7	4.1	0.4	0.7	0.1	0.4	10.4	6.5	3.9	81.1	100.0	1,208
Education															
No education	10.8	5.9	0.4	1.4	3.1	0.3	0.4	0.2	0.1	5.0	3.0	1.9	89.2	100.0	1,640
Primary	17.3	9.7	0.4	2.2	4.9	0.7	1.0	0.3	0.2	7.6	4.1	3.4	82.7	100.0	3,392
Secondary or higher	40.4	29.1	1.7	7.9	8.5	4.0	0.9	2.6	3.5	11.2	8.1	3.2	59.6	100.0	479
Number of living children															
0	2.6	1.1	0.0	0.0	0.7	0.3	0.0	0.0	0.0	1.5	0.5	0.9	97.4	100.0	337
1-2	13.9	8.0	0.3	2.5	2.9	1.1	0.6	0.4	0.2	5.9	3.4	2.4	86.1	100.0	1,874
3-4	21.1	13.0	0.7	2.8	6.2	1.0	1.0	0.4	0.7	8.1	4.4	3.7	78.9	100.0	1,735
5+	20.7	12.0	0.8	2.5	5.9	0.6	1.0	0.7	0.5	8.7	5.5	3.2	79.3	100.0	1,565
Wealth quintile															
Lowest	11.0	6.0	0.4	1.1	3.3	0.2	0.8	0.1	0.1	5.0	3.3	1.7	89.0	100.0	1,136
Second	15.2	7.4	0.5	1.7	3.8	0.4	0.7	0.2	0.1	7.8	4.4	3.3	84.8	100.0	1,123
Middle	15.7	8.5	0.2	2.2	4.2	0.2	1.1	0.4	0.1	7.3	4.4	2.8	84.3	100.0	1,112
Fourth	14.8	8.5	0.4	1.8	4.9	0.5	0.4	0.3	0.2	6.4	2.7	3.7	85.2	100.0	1,144
Highest	31.8	22.4	1.2	5.9	7.4	3.4	1.2	1.4	1.8	9.4	6.2	3.2	68.2	100.0	995
Total	17.4	10.3	0.5	2.4	4.7	0.9	0.8	0.5	0.4	7.1	4.2	3.0	82.6	100.0	5,510

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method

5.3 NUMBER OF CHILDREN AT FIRST USE OF CONTRACEPTION

The use of contraception for the first time meets different needs depending primarily on the number of living children:

- **Delaying first birth** - contraceptive use begins before the woman has any children.
- **Birth spacing** - contraceptive use begins when the number of living children is low.
- **Limiting cumulative fertility** - contraceptive use begins after the desired number of children has been reached.

Table 5.5 shows the distribution of women who have ever used contraception by number of living children at the time of first use of contraception, according to age.

Overall, 5 percent of women who have used contraception began use before they gave birth, i.e., to delay the first birth (compared with only 1 percent in 2000); 26 percent began using contraception after having one child (12 percent in 2000); 25 percent began using contraception after having two children (9 percent in 2000); 17 percent began using after having 3 children (5 percent in 2000); and 26 percent began using at higher parities (4 children or more) (8 percent in 2000), almost certainly to limit cumulative fertility.

The proportion of women using contraception for the first time before having any children has risen from previous generations: only 2 percent of women between the ages of 30 and 34 began using contraception before having children; for women age 25 to 29, this proportion is 4 percent, and for women age 20 to 24, it is 20 percent.

Table 5.5 Number of children at first use of contraception

Percent distribution of women who have ever used contraception by number of living children at the time of first use of contraception, according to age, Rwanda 2005

	Number of living children at time of first use of contraception						
Age group	0	1	2	3	4+	Total[1]	Number
15-19	(78.2)	(16.4)	(3.7)	(0.0)	(0.0)	(100.0)	34
20-24	19.8	48.6	26.2	4.0	0.2	100.0	289
25-29	4.3	38.1	32.1	17.5	7.4	100.0	475
30-34	1.6	26.8	31.8	21.3	18.5	100.0	485
35-39	0.7	24.0	26.4	21.2	27.6	100.0	415
40-44	0.1	12.7	19.8	18.6	48.5	100.0	411
45-49	0.0	8.3	13.1	16.7	61.8	100.0	311
Total	4.8	26.2	25.4	17.1	26.1	100.0	2,421

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes those with missing information

5.4 KNOWLEDGE OF FERTILE PERIOD

Table 5.3 shows that among currently married women, injectables (5 percent) and periodic abstinence (4 percent), are the most frequently used methods of contraception in Rwanda. However, the effective use of periodic abstinence depends largely on an understanding of when during the menstrual cycle a woman is most likely to conceive. To assess this understanding, the survey asked all women if

there were certain days during the menstrual cycle when they were more likely to become pregnant if they had sexual intercourse. Those who answered yes were asked when those days occurred during the cycle. The question provided four explicit responses: "just before her period begins," "right after her period has ended," "during her period," and "halfway between two periods." Respondents could also give a different response or state that they did not know when this occurred. These responses can be grouped into three categories of decreasing knowledge:

- **Correct knowledge**: "halfway between two periods;" the middle of the cycle.
- **Possibly correct knowledge**: "just before her period begins," "right after her period has ended." These responses are too vague to be considered accurate but, depending on how a woman views "right after her period has ended" or "just before her period begins," these answers could indicate the fertile period.
- **Incorrect knowledge**: "during her period," "no specific time," "other," and "don't know."

Table 5.6 Knowledge of the fertile period

Percent distribution of women by knowledge of the fertile period during the ovulatory cycle, according to current use/non use of rhythm or periodic abstinence, Rwanda 2005

Perceived fertile period	Users of rhythm or periodic abstinence	Nonusers of rhythm or periodic abstinence	All women
Halfway between two periods	32.7	12.7	13.1
Just before her period begins	3.0	2.0	2.0
Right after her period has ended	37.9	12.6	13.2
During her period	3.0	1.1	1.1
No specific time	21.2	62.9	61.9
Don't know	2.1	8.8	8.6
Total	100.0	100.0	100.0
Number of women	276	11,045	11,321

Table 5.6 indicates that only 13 percent of women have correct knowledge about when the fertile period occurs; 15 percent have possibly correct knowledge; and 72 percent have incorrect knowledge or don't know that there is a time during the menstrual cycle when a woman is more likely to conceive. Knowledge of the fertile period among users of periodic abstinence as a family planning method is considerably higher (33 percent) than for nonusers (13 percent). However, four in ten users of periodic abstinence (41 percent) have only possibly correct knowledge of the fertile period, and 26 percent do not know when a woman should stop having sexual intercourse in order to avoid becoming pregnant, or do not know that such a time exists. These results show that, in 2005, as in 2000, nearly seven in ten users of periodic abstinence (67 percent) do not know how to use the method correctly because they have only possibly correct knowledge of the fertile period. This has major implications for family planning, especially given that contraceptive prevalence is so low in Rwanda (17 percent) and periodic abstinence is the most frequently used method after injectables.

5.5 SOURCE OF CONTRACEPTION

To assess the contribution of public and private medical service providers to the sale or distribution of the various modern methods of contraception, the women surveyed were asked where they obtained the method they use. The RDHS-III also asked where they had most recently obtained the contraceptive methods they were using at the time of the survey.

Table 5.7 shows that in Rwanda, the majority of women obtain modern methods of contraception from the public sector (73 percent, compared with 69 percent in 2000); 13 percent of women obtain their method from a government hospital; 58 percent from a health facility; and 1 percent from another public entity. In addition, 14 percent of contraceptive users obtain their method from the private medical sector, particularly pharmacies and other private medical sources (6 percent each). The nonmedical private sector (shops, kiosks, friends, relatives) supplies 8 percent of contraceptive needs, and other sources provide 5 percent.

Table 5.7 Source of contraception

Percent distribution of current users of modern contraceptive methods by most recent source of method, according to specific method, Rwanda 2005

Source	Female sterilization	Pill	Injectables	Male condom	Standard days method/beads	Other modern methods	Total
Public sector	(92.1)	80.9	86.2	19.0	(54.5)	(69.4)	72.6
Government hospital	(67.6)	7.9	9.2	4.1	(3.0)	(53.0)	13.0
Government health centre	(22.0)	71.3	76.7	14.2	(42.2)	(16.4)	58.3
Other public	(2.5)	1.7	0.3	0.7	(9.4)	(0.0)	1.2
Private medical sector	(2.4)	14.5	8.8	29.6	(11.9)	(26.4)	14.0
Private hospital or clinic	(2.4)	1.9	0.6	6.5	(0.0)	(10.1)	2.3
Pharmacy	(0.0)	7.8	1.7	20.4	(0.0)	(0.0)	5.9
Other private medical	(0.0)	4.8	6.5	2.7	(11.9)	(16.3)	5.8
Other source	(5.5)	4.6	4.9	51.4	(33.5)	(4.2)	13.4
Shop/kiosk	(0.0)	0.6	0.1	41.1	(4.8)	(4.2)	7.0
Friends, relatives	(0.0)	0.0	0.0	4.0	(8.5)	(0.0)	1.0
Other	(5.5)	4.0	4.8	6.3	(20.2)	(0.0)	5.4
Total	(100.0)	100.0	100.0	100.0	(100.0)	(100.0)	100.0
Number of women	34	144	269	93	27	26	592

Note: Table excludes lactational amenorrhea method (LAM). Figures in parentheses are based on 25-49 unweighted cases.

For methods designed to be used directly by women and requiring procurement, the great majority of women who use modern methods turn to the public sector (81 percent for the pill, and 86 percent for injectables), while condoms, designed to be used by the partner, are most often obtained from the private sector. Women obtain condoms either from the private medical sector (30 percent) or from other sources such as shops and kiosks (45 percent). Because the number of women using female sterilization is so low, a discussion of the variations would not be meaningful. This is also the case for the standard days, or beads method, which was only recently introduced in Rwanda and is therefore used by relatively few women.

5.6 Future Use of Contraception

Married women who were not using a contraceptive method at the time of the survey were asked whether they planned to use one in the future. The reason given by those who do not plan to use contraception in the future is useful in developing family planning marketing strategies. Also, the methods preferred by those who do plan to use contraception in the future is useful in assessing the demand for family planning.

Overall, nearly six in ten women (59 percent) reported that they plan to use a contraceptive method in the future, 7 percent were not sure, and 34 percent reported that they did not intend to use contraception (Table 5.8). The number of children a woman has affects her decision on whether to use contraception in the future. Nearly half (46 percent) of women who do not have any children reported intending to use a family planning method in the future. Among women with one or two children, the proportion is 65 percent; among those with three children and with four or more children, the proportions are lower (61 percent for three children; 54 percent for four or more children).

Table 5.8 Future use of contraception

Percent distribution of currently married women who are not using a contraceptive method by intention to use in the future, according to number of living children, Rwanda 2005

	Number of living children[1]					
Intention	0	1	2	3	4+	Total
Intends to use	45.8	64.6	65.1	60.7	53.6	58.5
Unsure	12.7	10.4	6.5	7.5	5.3	7.0
Does not intend to use	41.5	25.0	28.2	31.6	40.8	34.3
Total[2]	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	186	715	880	789	1,982	4,552

[1] Includes current pregnancy
[2] Includes those with missing information

Women who were not using contraception and do not plan to use it in the future were asked to give their reason. Table 5.9 shows the variety of reasons given. Forty-four percent of women gave reasons relating to fertility, in particular, infrequent sex/no sex (8 percent), menopause/hysterectomy (14 percent), the desire to have as many children as possible (10 percent), and low fertility/infertility (12 percent). A little more than one in five women (22 percent) said they were opposed to the use of contraception, this opposition being motivated by religious prohibitions (10 percent), opposition of the husband/partner (4 percent), or opposition of the respondent herself (7 percent). Twenty-two percent of women gave health concerns and fear of side effects as reasons for not intending to use contraception. The proportion of women who gave reasons related to lack of knowledge is negligible (2 percent).

The frequency with which reasons were reported by women varies according to age group. Women age 15 to 29 were less likely to give fertility related reasons (19 percent) than women age 30 to 49 (51 percent). Women age 15 to 29 gave reasons more frequently related to opposition to contraception (34 percent) or to the method of contraception (31 percent) than older women age 30 to 49 (18 percent and 19 percent, respectively).

Table 5.9 Reason for not intending to use contraception

Percent distribution of currently married women 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, Rwanda 2005

Reason	Age 15-29	Age 30-49	Total
Fertility-related reasons	19.0	51.1	43.6
Infrequent sex/no sex	3.9	8.7	7.6
Menopausal/had hysterectomy	0.0	18.0	13.8
Subfecund/infecund	3.4	15.0	12.3
Wants as many children as possible	11.6	9.4	9.9
Opposition to use	33.6	18.0	21.7
Respondent opposed	9.9	5.8	6.7
Husband/partner opposed	7.6	3.3	4.3
Others opposed	1.5	0.5	0.7
Religious prohibition	14.7	8.4	9.9
Lack of knowledge	3.3	2.0	2.3
Knows no method	2.8	1.0	1.4
Knows no source	0.5	1.0	0.9
Method-related reasons	30.9	19.3	22.0
Health concerns	3.7	3.9	3.8
Fear of side effects	20.9	12.2	14.2
Lack of access/too far	0.0	0.1	0.1
Costs too much	2.3	0.4	0.9
Inconvenient to use	1.7	0.7	1.0
Interfere with body's normal processes	2.3	2.0	2.1
Other	11.4	7.6	8.5
Don't know/missing	1.8	2.0	1.9
Total	100.0	100.0	100.0
Number of women	366	1,198	1,563

To assess the potential demand for specific contraceptive methods, married women who reported intending to use contraception in the future were asked to state their preferred method.

Table 5.10 indicates that most women prefer modern methods regardless of their age; in particular, injectables (36 percent) and the pill (20 percent). Male condoms and female sterilization were mentioned by only 4 percent of women. Among traditional methods, periodic abstinence was cited most frequently (13 percent).

Table 5.10 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 age, Rwanda 2005

Method	Age		Total
	15-29	30-49	
Female sterilization	1.8	7.2	4.3
Male sterilization	0.1	0.0	0.1
Pill	21.4	17.7	19.7
IUD	2.7	2.0	2.4
Injectables	37.0	35.7	36.4
Implants	2.5	4.1	3.2
Male condom	4.6	3.5	4.1
Female condom	0.1	0.1	0.1
Diaphragm	0.0	0.1	0.1
Foam/jelly	0.0	0.1	0.1
LAM	0.2	0.2	0.2
Standard days/beads	2.3	2.8	2.5
Rhythm/periodic abstinence	13.9	12.3	13.2
Withdrawal	1.4	2.7	2.0
Other	3.0	3.1	3.1
Unsure	8.9	8.2	8.6
Missing	0.0	0.1	0.0
Total	100.0	100.0	100.0
Number of women	1,433	1,230	2,663

5.7 EXPOSURE TO FAMILY PLANNING MESSAGES

Information on the level of exposure to sources of information about family planning can be very important to those developing family planning programs. This information allows them to design strategies to reach specific target populations and to effectively disseminate information about contraceptive use. For this reason, the survey asked women age 15 to 49 and men age 15 to 59 whether they had heard or seen anything about family planning on the radio or on television, or from newspapers/magazines, or posters/ brochures, during the past few months.

Table 5.11.1 shows that 59 percent of women did not see or hear a family planning message in newspapers/magazines, or on radio or television. However, 41 percent of women did hear a family planning message on the radio, and 4 percent did see one on television. Only 5 percent of women saw a family planning message in a newspaper or magazine in the past few months.

Table 5.11.1 Exposure to family planning messages: women

Percentage of women who heard or saw a family planning message on the radio or television, or in a newspaper/magazine in the past few months, according to background characteristics, Rwanda 2005

Background characteristic	Radio	Television	Newspaper/ magazine	None of these three media sources	Number of women
Age					
15-19	32.4	3.1	3.8	67.4	2,585
20-24	42.2	4.2	5.1	57.3	2,354
25-29	46.9	4.0	5.9	52.6	1,738
30-34	44.1	4.1	5.6	55.6	1,466
35-39	42.5	3.3	3.9	57.3	1,134
40-44	41.9	2.9	3.9	58.1	1,135
45-49	40.4	2.5	3.1	59.4	910
Residence					
Urban	56.5	12.7	12.1	42.7	1,921
Rural	37.6	1.7	3.1	62.3	9,400
Province					
Kigali city	56.1	16.0	14.2	43.0	1,127
South	37.5	2.6	4.9	62.3	2,958
West	32.3	3.0	4.4	67.4	2,824
North	47.5	1.6	2.7	52.4	2,063
East	41.9	1.1	1.6	58.0	2,348
Education					
No education	32.6	1.2	1.2	67.3	2,646
Primary	39.3	2.3	3.3	60.5	7,591
Secondary or higher	71.3	17.8	22.0	27.3	1,084
Wealth quintile					
Lowest	22.9	1.0	1.6	77.1	2,421
Second	38.0	0.7	1.7	61.9	2,325
Middle	39.5	1.5	2.6	60.5	2,099
Fourth	46.0	1.9	4.1	53.6	2,133
Highest	58.4	12.4	12.8	40.8	2,342
Total	40.8	3.5	4.6	58.9	11,321

Exposure to family planning messages in the media varies by background characteristics. Women age 15 to 19 and 45 to 49 had the highest levels of nonexposure to family planning messages in the media during the 12 months preceding the survey (67 percent and 59 percent, respectively). The results also show disparities by residence, with women in rural areas having higher rates of nonexposure than women in urban areas (62 percent for rural, 43 percent for urban). Similarly, women with no education were less exposed (67 percent with no exposure) than those with a secondary education or higher (27 percent with no exposure); and women in the poorest households were less exposed (77 percent with no exposure) than women in the wealthiest households (41 percent with no exposure). In the provinces, the West (67 percent) and South (62 percent) provinces had the highest levels of nonexposure to family planning messages.

Radio is by far the most frequent source of family planning messages (41 percent). Only a small percentage of women reported seeing a family planning message on television (4 percent) or in a newspaper (5 percent).

With respect to men, Table 5.11.2 shows that nearly four in ten men (39 percent)—a smaller proportion than for women (59 percent)—had no exposure to a family planning message in the past few

months through any of the various media (radio, television, newspapers/magazines). However, 61 percent of men reported having heard a family planning message on the radio; at least 6 percent had seen one on television; and at least 12 percent had seen one in a newspaper or magazine.

Younger men were the least exposed to family planning messages—age 15 to 19, 52 percent had no exposure—regardless of the media source. Like women, men in rural areas were more likely to report not having been exposed to family planning messages, regardless of the source (41 percent for rural areas compared with 28 percent for urban areas). Similarly, men with no education (45 percent) were more likely to have had no exposure than those with a secondary education or higher (23 percent); and men in the poorest households (53 percent) were more likely to have had no exposure to family planning messages than those in the richest households (28 percent). Results by province show that 76 percent of men in the City of Kigali have heard or seen a family planning message, compared with 51 percent in the West province.

Table 5.11.2 Exposure to family planning messages: men

Percentage of men who heard or saw a family planning message on the radio or television, or in a newspaper/magazine in the past few months, according to background characteristics, Rwanda 2005

Background characteristic	Radio	Television	Newspaper/ magazine	None of these three media sources	Number of men
Age					
15-19	48.1	5.3	8.2	51.7	1,102
20-24	61.0	6.7	12.2	38.3	946
25-29	65.4	7.6	15.2	33.5	632
30-34	70.5	9.2	14.4	28.9	509
35-39	64.6	6.0	16.1	34.6	442
40-44	62.3	6.0	14.1	37.5	404
45-49	65.7	4.9	13.2	33.9	378
50-54	66.4	6.6	11.7	33.6	260
55-59	60.9	3.3	6.7	39.1	147
Residence					
Urban	70.4	21.1	25.2	28.2	840
Rural	58.7	3.3	9.6	41.0	3,980
Province					
Kigali city	75.7	26.7	28.7	22.6	523
South	62.0	4.9	11.6	37.7	1,250
West	51.2	2.8	9.7	48.2	1,185
North	62.9	3.9	10.8	37.0	845
East	60.9	4.1	9.2	38.8	1,017
Education					
No education	55.2	2.4	6.8	44.7	942
Primary	58.4	3.9	9.1	41.2	2,955
Secondary or higher	75.2	19.8	30.5	23.3	850
Wealth quintile					
Lowest	47.1	1.9	6.2	52.5	928
Second	56.9	2.4	7.4	43.0	970
Middle	59.7	3.5	10.6	40.1	940
Fourth	68.0	4.1	11.6	31.7	958
Highest	70.9	19.0	24.8	27.7	1,024
Total	60.7	6.4	12.3	38.8	4,820

5.8 CONTACT OF NONUSERS WITH FAMILY PLANNING PROVIDERS

Information on contact of women who do not use contraception with family planning service providers is important for determining effective family planning outreach activities. For this reason, the RDHS-III asked women whether they had been visited in the past 12 months by a health fieldworker who spoke to them about family planning. Women who had visited a health facility in the past 12 months were also asked whether medical personnel had spoken to them about family planning methods.

Table 5.12 shows that in the 12 months preceding the survey, nine out of ten women who were nonusers of contraception (91 percent) had not discussed family planning with a fieldworker or at a health facility. Nearly one in five women (19 percent) had visited a health facility but had not discussed family planning issues. Only 3 percent had been visited by a fieldworker who discussed family planning with them, and only 7 percent had discussed family planning at a health facility. There are no significant differences by residence: 92 percent of women in urban areas and 90 percent in rural areas had not discussed family planning with a fieldworker or at a health facility. The results show no significant differentials by level of education.

Table 5.12 Contact of nonusers with family planning providers

Percentage of women who are not using contraception who were visited by a fieldworker who discussed family planning, who visited a health facility and discussed family planning, and who visited a health facility but did not discuss family planning, in the 12 months preceding the survey, by background characteristics, Rwanda 2005

Background characteristic	Women visited by fieldworker who discussed family planning	Women visited health facility and discussed family planning	Women visited health facility but did not discuss family planning	Did not discuss family planning with field-worker or at a health facility	Number of women
Age					
15-19	1.3	0.6	8.3	98.2	2,576
20-24	3.9	6.5	20.0	90.7	2,201
25-29	4.2	12.9	25.3	84.7	1,497
30-34	4.8	13.2	24.9	84.5	1,216
35-39	3.5	11.4	24.7	87.0	951
40-44	4.5	10.0	20.8	87.5	974
45-49	4.0	4.4	16.1	92.8	822
Residence					
Urban	2.6	5.6	24.9	92.4	1,637
Rural	3.6	7.7	17.4	90.1	8,599
Education					
No education	4.4	7.6	18.0	89.7	2,448
Primary	3.0	7.4	17.8	90.8	6,931
Secondary or higher	4.0	6.9	27.0	90.3	857
Total	3.4	7.4	18.6	90.5	10,237

5.9 OPINIONS AND ATTITUDES OF COUPLES TOWARD FAMILY PLANNING

5.9.1 Discussion of Family Planning with Husband

The RDHS-III asked married women how many times they had discussed family planning with their husband/partner in the 12 months preceding the survey.

Overall, 30 percent of women said they had not discussed contraception with their husband during the 12 months preceding the survey (Table 5.13); 27 percent had discussed it at least once or twice; and 41 percent had discussed it at least three times. The proportion of women who discussed family planning with their husband has grown considerably since the RDHS-II survey, from 57 percent in 2000 to 68 percent in 2005.

Results by age show that older women (age 45-49) were the most likely to have never discussed family planning with their husband/partner (47 percent). Women age 25-29 were the most likely to have discussed family planning at least three times (48 percent).

Table 5.13 Discussion of family planning with husband

Percent distribution of currently married women who know a contraceptive method by the number of times they discussed family planning with their husband in the past year, according to age, Rwanda 2005

	Number of times family planning discussed with husband in the past 12 months					
Age group	Never	One or two	Three or more	Missing	Total	Number of women
15-19	33.3	23.0	43.3	0.3	100.0	57
20-24	26.8	32.6	39.3	1.3	100.0	953
25-29	24.3	26.1	47.6	2.0	100.0	1,232
30-34	25.4	27.1	45.3	2.2	100.0	1,095
35-39	32.2	25.6	39.3	3.0	100.0	799
40-44	33.7	21.3	40.1	4.8	100.0	722
45-49	46.6	23.7	25.8	3.9	100.0	537
Total	29.7	26.5	41.2	2.6	100.0	5,394

5.9.2 Attitudes of Couples toward Family Planning

In general, contraceptive use by women is influenced by the attitude of the couple. In Rwandan society, decisionmaking power with respect to family size rests most often with the husband. Depending on the society, other family members may also influence this decision. However, joint decisionmaking by both spouses/partners can result in changes in men's behavior and a more favorable attitude toward contraception. For this reason, the RDHS-III examined couples' attitudes toward family planning.

Women were asked whether they approved or disapproved of couples who use a family planning method. They were then asked if they thought their husband approved or disapproved of family planning. The combined responses to these two questions were used to reveal differences in attitudes between the spouses. The results are presented in Table 5.14.

Table 5.14 shows that, overall, 87 percent of women approve of family planning, 10 percent do not approve, and approximately 4 percent are not sure. In addition, spouses in 59 percent of couples have the same opinion and approve of family planning; 10 percent of women approve but their husband does not; and among those who do approve, nearly 18 percent of women do not know their husband's opinion. The proportion of couples in which both spouses approve of family planning varies according to the woman's age. It is lowest among couples in which the woman is age 45 to 49 (49 percent) or 15 to 19 (51 percent). In addition, the proportion of couples in which both spouses approve is lower in rural areas (58 percent) than in urban areas (67 percent), and lower among couples in which the woman has no education (47 percent) than among those with at least a secondary education (77 percent). By wealth

quintile, the proportion of couples in which both spouses approve is lowest in the poorest quintile (53 percent) and highest in the richest quintile (69 percent).

Couples whose opinions diverge represent 11 percent of all couples. In 10 percent of couples, women approve of contraception but their husbands do not, but the reverse is true in only 1 percent of couples. This shows the role of the man in decisionmaking: when the man is favorable to family planning, the woman is too, while the reverse is not always true. The proportion of couples with diverging opinions varies only slightly by women's background characteristics. Finally, in 21 percent of couples, the woman has no idea of her husband's opinion, which shows a lack of dialogue on the subject between some spouses.

Table 5.14 Attitudes towards family planning

Percent distribution of currently married women who know of a method of family planning,, by approval of family planning and their perception of their husband's attitude towards family planning, according to background characteristics, Rwanda 2005

Background characteristic	Respondent approves of family planning			Respondent disapproves of family planning			Respondent unsure	Total	Number of women
	Husband approves	Husband disapproves	Husband's attitude unknown/ missing	Husband approves	Husband disapproves	Husband's attitude unknown/ missing			
Age									
15-19	51.2	12.0	30.9	0.0	4.7	0.0	1.2	100.0	57
20-24	62.2	9.0	15.8	1.6	5.5	1.7	4.2	100.0	953
25-29	64.3	8.9	14.2	0.9	4.6	3.7	3.3	100.0	1,232
30-34	62.0	10.1	14.5	1.7	5.5	3.7	2.6	100.0	1,095
35-39	55.9	11.6	19.5	1.1	5.8	2.0	4.2	100.0	799
40-44	55.9	8.4	22.1	0.6	6.1	3.2	3.7	100.0	722
45-49	49.0	10.7	24.7	0.7	5.3	4.7	4.9	100.0	537
Residence									
Urban	66.6	9.3	11.6	2.0	5.9	3.1	1.6	100.0	738
Rural	58.3	9.8	18.5	1.0	5.3	3.1	4.0	100.0	4,656
Education									
No education	47.4	11.4	23.4	1.5	6.3	4.4	5.6	100.0	1,572
Primary	62.5	9.3	16.4	0.9	5.2	2.6	3.2	100.0	3,343
Secondary or higher	77.4	7.1	6.9	1.7	3.9	2.2	0.8	100.0	479
Wealth quintile									
Lowest	52.9	11.4	21.4	1.2	5.1	2.6	5.4	100.0	1,104
Second	59.8	8.9	19.2	0.7	5.2	3.0	3.2	100.0	1,097
Middle	58.5	9.7	18.4	0.9	5.9	3.4	3.4	100.0	1,093
Fourth	57.8	10.7	18.2	1.2	5.4	3.3	3.5	100.0	1,116
Highest	69.2	7.6	10.1	1.8	5.4	3.3	2.6	100.0	984
Total	59.4	9.7	17.6	1.1	5.4	3.1	3.6	100.0	5,394

OTHER PROXIMATE DETERMINANTS OF FERTILITY 6

This chapter addresses the key factors that define the risk of becoming pregnant. These include age at first marriage, age at first sexual intercourse, sexual activity, and postpartum abstinence and amenorrhea.

6.1 MARITAL STATUS

In Rwanda, formal unions ("married") or informal unions ("living together") between men and women are the sole socially permissible context for sexual activity. Marital status can therefore be considered the primary factor initiating exposure to the risk of pregnancy. In the data discussed in this chapter, the term "married" refers to men and women bound together legally, while "living together" refers to couples cohabiting in informal unions. People are considered "never married" if they are not currently married, widowed, separated, or divorced.

Table 6.1 shows the distribution of men and women by marital status according to age at the time of the survey. Of the 11,321 women surveyed, 49 percent were in union, 29 percent of these were formal marriages and 20 percent were informal unions. The proportion of women who were never married is 38 percent. Divorced women make up only 0.9 percent of women, separated women make up 9 percent, and widows are 4 percent. The proportion of never-married women has increased since the RDHS-II, from 34 percent to 38 percent. The largest increase occurred in the 15 to 19 age group, of whom 90 percent were never married in 1992, 93 percent in 2000, and 97 percent in 2005. The number of married women has remained relatively stable since the last survey. The proportion of widowed women has dropped by half, from 8 percent in 2000 to 4 percent in 2005.

Table 6.1 Current marital status

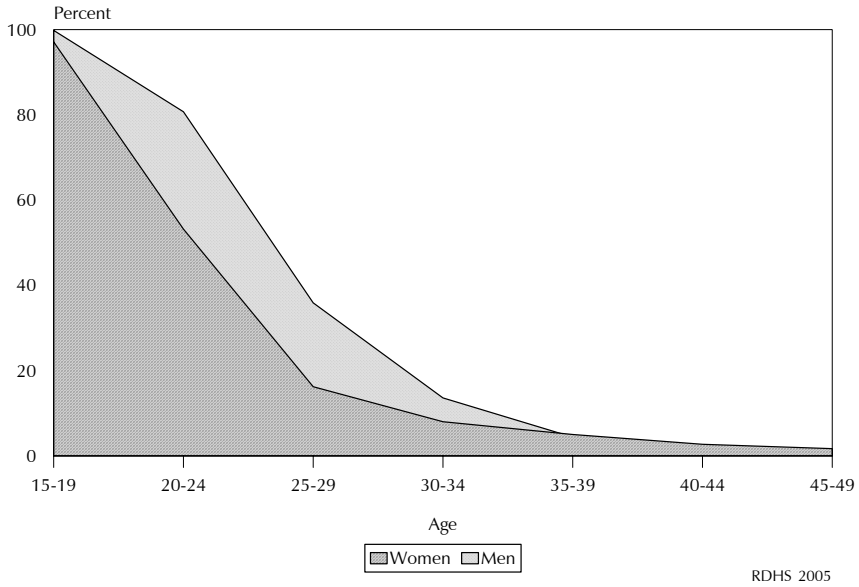
Percent distribution of women and of men by current marital status, according to age, Rwanda 2005

Age	Marital status						Total	Number
	Never married	Married	Living together	Divorced	Separated	Widowed		
				WOMEN				
15-19	97.1	0.2	2.3	0.0	0.4	0.0	100.0	2,585
20-24	53.2	15.4	26.2	0.3	4.6	0.3	100.0	2,354
25-29	16.2	40.2	31.9	0.8	9.9	1.0	100.0	1,738
30-34	8.0	46.6	29.4	1.2	11.6	3.3	100.0	1,466
35-39	5.0	46.0	25.1	1.4	14.4	8.1	100.0	1,134
40-44	2.7	46.1	19.0	1.9	15.9	14.5	100.0	1,135
45-49	1.7	48.3	12.5	2.2	17.2	18.1	100.0	910
Total	37.7	28.6	20.1	0.9	8.5	4.3	100.0	11,321
				MEN				
15-19	99.8	0.0	0.2	0.0	0.0	0.0	100.0	1,102
20-24	80.7	6.1	12.2	0.0	1.0	0.0	100.0	946
25-29	35.9	36.2	26.2	0.1	1.5	0.0	100.0	632
30-34	13.6	52.1	32.2	0.5	1.6	0.0	100.0	509
35-39	4.4	59.0	31.4	1.6	2.6	0.8	100.0	442
40-44	1.8	67.1	27.1	0.9	1.9	1.2	100.0	404
45-49	1.4	70.7	20.9	1.5	2.4	3.2	100.0	378
50-54	1.9	69.1	21.3	2.2	1.3	4.2	100.0	260
55-59	0.0	73.9	20.3	0.9	2.5	2.3	100.0	147
Total	45.6	34.0	17.8	0.6	1.3	0.7	100.0	4,820

Among the 4,820 men surveyed, 46 percent were never married, and 52 percent were in union, 34 percent were in formal marriages and 18 percent were "living together." In addition, 2 percent were either separated or divorced (1.3 percent separated, 0.6 percent divorced,). Less than 1 percent of the men were widowed. A comparison of these data with the results of the previous survey shows no change in proportions of never-married men and married men.

Figure 6.1, shows the percentage of never-married men and women according to age, indicates that the proportions of never-married men and women decrease with age: at age 15-19, nearly all men and women are never married (97 percent of women and 100 percent of men). Beginning at age 30 however, fewer than one man or woman in ten falls into this category.

Figure 6.1 **Percentage of Never-Married Women and Men, by Age**



6.2 POLYGYNY

The survey asked currently married women whether their partners had any other wives besides them. Table 6.2 shows the percent distribution of married women by number of co-wives according to background characteristic. Polygyny is not very common in Rwanda. However, although illegal, it affects 12 percent of married women. The proportion of women with at least one co-wife increases steadily with age, from 6 percent at age 15-19, to 19 percent at age 45-49.

The extent of polygyny does not differ substantially by residence, the percentage of married women living in polygynous unions ranging from 10 percent in urban areas to 12 percent in rural areas. Similarly, variations between the provinces are only slight and there are no substantial differences by wealth quintile. However, women's level of education does affect the frequency of this practice: the percentage of married women living in polygynous unions is twice as high among women with no education (16 percent) as among those with a secondary education or higher (8 percent).

Table 6.2 also gives results on polygyny for men. The rate of polygyny, that is the ratio of polygynous married men to all married men, is 5 percent. Results by age are inconsistent for polygamously married men and, like women, there are no significant differentials by background characteristics.

Table 6.2 Number of co-wives and wives

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, Rwanda 2005

Background characteristic	Women					Men				
	0	1	2+	Total	Number	1	2	3+	Total	Number
Age										
15-19	93.6	0.0	6.4	100.0	65	*	*	*	*	2
20-24	93.6	0.0	6.3	100.0	980	97.1	2.5	0.0	100.0	173
25-29	91.3	0.3	8.2	100.0	1,254	98.2	1.6	0.2	100.0	394
30-34	88.0	0.0	11.9	100.0	1,112	94.9	4.4	0.3	100.0	429
35-39	84.5	0.2	15.1	100.0	807	96.5	3.4	0.2	100.0	400
40-44	85.1	0.0	14.5	100.0	739	92.8	6.7	0.5	100.0	381
45-49	80.8	0.0	19.0	100.0	554	91.2	8.5	0.3	100.0	346
50-54	na	na	na	na	na	92.3	7.1	0.6	100.0	235
55-59	na	na	na	na	na	93.0	6.1	0.9	100.0	139
Residence										
Urban	89.7	0.5	9.6	100.0	744	96.5	3.3	0.0	100.0	352
Rural	87.9	0.0	11.8	100.0	4,766	94.3	5.2	0.4	100.0	2,147
Province										
Kigali city	89.4	0.7	9.9	100.0	407	95.4	4.2	0.0	100.0	198
South	89.0	0.1	10.7	100.0	1,411	96.5	2.9	0.7	100.0	631
West	87.1	0.0	12.7	100.0	1,427	93.6	6.2	0.0	100.0	664
North	90.0	0.1	9.9	100.0	1,058	96.4	3.4	0.0	100.0	474
East	86.4	0.0	13.2	100.0	1,208	91.8	7.4	0.8	100.0	533
Education										
No education	83.6	0.0	16.2	100.0	1,640	94.3	5.0	0.6	100.0	593
Primary	89.9	0.1	9.8	100.0	3,392	94.4	5.2	0.3	100.0	1,621
Secondary or higher	92.0	0.2	7.8	100.0	479	96.8	2.9	0.0	100.0	285
Wealth quintile										
Lowest	88.4	0.1	11.3	100.0	1,136	95.5	3.8	0.7	100.0	481
Second	87.5	0.0	11.9	100.0	1,123	93.3	6.0	0.5	100.0	505
Middle	87.5	0.1	12.4	100.0	1,112	93.7	6.1	0.1	100.0	526
Fourth	88.3	0.0	11.7	100.0	1,144	94.8	4.8	0.4	100.0	551
Highest	89.3	0.4	10.3	100.0	995	96.3	3.6	0.0	100.0	437
Total	88.2	0.1	11.5	100.0	5,510	94.6	4.9	0.3	100.0	2,500

na = Not applicable
Note: An asterisk indicates that the figure is based on fewer than 25 unweighted cases and has been suppressed.

6.3 AGE AT FIRST UNION

Marriage remains the legally sanctioned context for sexual intercourse in Rwanda. Therefore, despite the existence of prenuptial intercourse, age at first marriage constitutes the beginning of exposure to the risk of pregnancy. For this reason, analysis of this variable is very important. Tables 6.3 and 6.4 show the percentage of currently married men and women by age first marriage according to current age.

The proportion of girls who are already in union by age 15-19 is very low (3 percent). At age 18, the proportion is significantly higher (19 percent). At age 20, more than two in five women are married; at age 25, the proportion is 82 percent. The median age at first union is 20.7 years, which is relatively late. This has remained more or less unchanged since 1992, when the median age at first union was 20 years.

Table 6.3 Age at first marriage

Percentages of women age 15-49 and of men age 15-59 who were first married by specific exact ages and median age at first marriage, according to current age, Rwanda 2005

	Percentage first married by exact age:					Percentage never		Median age at first
Age	15	18	20	22	25	married	Number	marriage
				WOMEN				
15-19	0.2	na	na	na	na	97.1	2,585	a
20-24	1.1	13.3	29.1	na	na	53.2	2,354	a
25-29	2.2	20.1	44.5	61.9	79.1	16.2	1,738	20.6
30-34	2.7	14.9	35.7	59.0	81.7	8.0	1,466	21.1
35-39	2.5	18.3	39.2	58.7	80.0	5.0	1,134	21.0
40-44	2.5	21.5	45.8	65.2	84.7	2.7	1,135	20.4
45-49	3.3	22.8	45.3	70.8	88.1	1.7	910	20.3
25-49	2.6	19.2	41.9	62.5	82.1	7.9	6,383	20.7
				MEN				
	Percentage first married by exact age:					Percentage never		Median age at first
Age	18	20	22	25	28	married	Number	marriage
15-19	0.2	na	na	na	na	99.8	1,102	a
20-24	2.0	7.6	na	na	na	80.7	946	a
25-29	2.5	12.1	29.1	52.6	na	35.9	632	24.6
30-34	1.3	5.8	19.4	54.9	70.8	13.6	509	24.5
35-39	2.6	9.5	21.0	43.6	71.9	4.4	442	25.5
40-44	5.1	11.1	25.1	45.5	64.6	1.8	404	25.9
45-49	4.9	12.8	31.7	60.1	78.1	1.4	378	23.8
50-54	6.3	19.6	37.2	64.0	78.6	1.9	260	23.5
55-59	5.4	30.0	53.3	73.7	82.5	0.0	147	21.7
25-59	3.5	12.1	27.9	53.8	na	12.0	2,772	24.6
30-59	3.8	12.1	27.5	54.1	72.9	5.0	2,141	24.5

na = Not applicable
a = Omitted because less than 50 percent of the women or men began living with their husbands, wives or partners for the first time before reaching the beginning of the age group

According to the data, men marry at a later age than women: it is not until age 28 that three-quarters of all men are in union (73 percent). The median age at first union is 24.5 years among men age 30-59, nearly identical to the estimate from the preceding survey (24.3 years).

Table 6.4 and Figure 6.2 show median age at first union for men and women according to background characteristics. In rural areas, the median age at first marriage is slightly lower than in urban areas for all age groups: 20.6 years in rural areas , compared with 21.5 years in urban areas, for women age 25-49 (Figure 6.2), and 24.2 years in rural areas, compared with 26.9 years in urban areas, for men age 30-59.

The data show variations by province: among women, the East province has the earliest age at first union (19.9 years), and the South province and City of Kigali have the latest ages (21.8 years and 21.6 years, respectively). Level of education is the variable that most affects age at first union: among women with no education, the median age is 19.9 years; it is 20.8 years for those with a primary education and 23.2 years for those with a secondary education or higher, indicating that remaining in the school system allows women to delay marriage. Results according to wealth quintile show virtually no differences between the four lowest quintiles; however, women in the richest quintile enter into first union later than women in the other quintiles (age 21.9 years, compared with 20.3 years for the poorest quintile).

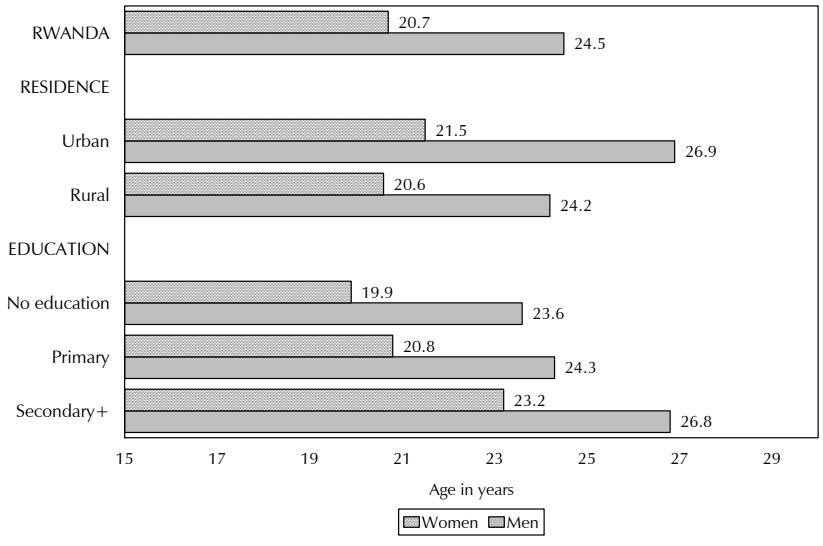
Table 6.4 Median age at first marriage

Median age at first marriage among women age 25-49 and men age 30-59, by current age and background characteristics, Rwanda 2005

Background characteristic	Current age					Women	Men
	25-29	30-34	35-39	40-44	45-49	25-49	30-59
Residence							
Urban	22.0	21.9	22.1	20.7	20.4	21.5	26.9
Rural	20.3	21.0	20.8	20.4	20.3	20.6	24.2
Province							
Kigali city	22.6	22.4	23.0	19.9	19.6	21.6	27.5
South	21.9	22.1	22.3	21.4	21.0	21.8	25.3
West	20.0	21.0	20.3	20.4	20.4	20.4	23.5
North	19.9	20.5	21.1	20.0	20.3	20.2	24.5
East	19.8	20.2	19.9	20.1	19.5	19.9	24.0
Education							
No education	19.4	19.8	19.9	19.8	20.3	19.9	23.6
Primary	20.5	21.2	21.2	20.4	20.3	20.8	24.3
Secondary or higher	23.9	23.0	23.6	23.0	(21.9)	23.2	26.8
Wealth quintile							
Lowest	20.1	20.8	21.0	20.0	19.9	20.3	23.9
Second	20.0	20.8	20.1	20.3	20.5	20.4	23.9
Middle	20.6	21.0	20.9	20.3	20.3	20.6	24.4
Fourth	20.4	20.9	20.8	20.4	20.4	20.6	24.1
Highest	22.0	22.3	22.5	21.4	20.7	21.9	26.7
Total women	20.6	21.1	21.0	20.4	20.3	20.7	na
Total men	24.6	24.5	25.5	25.9	23.8	na	24.5

Note: Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable

Figure 6.2 Median Age at First Marriage among Women and Men, by Background Characteristics



Note: Women age 25-49; men age 30-59

RDHS 2005

The data for men show the same variations as for women. Men in rural areas enter into union for the first time a little earlier than those in urban areas (median 24.2 years for rural, compared with 26.9 years for urban). According to province, men also enter union later in the City of Kigali. Unlike women, however, their age at first union is earliest in the West province (23.5 years). In addition, like women, men's age at first union rises with level of education: median age of 23.6 years for men with no education, 24.3 years for those with a primary education, and 26.8 years for those with the highest levels of education. Results according to wealth quintile show the same differential between the richest quintile and the four others as seen for the women, with the richest quintile having the highest age at first union (26.7 years compared with 23.9 years in the poorest quintile).

6.4 AGE AT FIRST SEXUAL INTERCOURSE

Although marriage is still considered the only socially sanctioned context for sexual activity, prenuptial sex is nevertheless increasingly common. For this reason, the survey asked respondents their age at the time they first had sexual intercourse. Table 6.5 shows percentages for women and men according to age at first sexual intercourse, and the median age at first intercourse for both sexes.

Table 6.5 Age at first sexual intercourse:

Percentage of women and men who had first sexual intercourse by specific exact ages and median age at first intercourse, according to current age, Rwanda 2005

Age	Percentage who had first sexual intercourse by exact age: 15	18	20	22	25	Percentage who never had intercourse	Number	Median age at first intercourse
				WOMEN				
15-19	5.2	na	na	na	na	87.9	2,585	a
20-24	2.6	19.1	38.6	na	na	41.1	2,354	a
25-29	3.8	24.5	50.2	67.8	83.9	10.1	1,738	20.0
30-34	4.0	20.8	41.6	64.3	84.3	3.4	1,466	20.6
35-39	3.8	22.6	44.3	64.2	83.6	1.6	1,134	20.5
40-44	3.3	23.7	49.4	67.8	85.0	1.3	1,135	20.1
45-49	4.0	24.1	48.8	71.9	87.6	0.7	910	20.1
25-49	3.8	23.1	46.8	66.9	84.6	4.1	6,383	20.3
				MEN				
15-19	15.3	na	na	na	na	77.4	1,102	a
20-24	10.8	26.3	42.2	na	na	41.8	946	a
25-29	5.7	24.5	43.1	60.8	79.0	13.0	632	20.6
30-34	2.1	15.0	32.9	54.2	74.3	3.8	509	21.5
35-39	3.7	18.1	37.2	56.5	73.2	1.4	442	21.0
40-44	3.8	24.6	42.9	60.8	75.6	0.8	404	20.6
45-49	1.6	15.8	38.3	60.5	76.7	0.0	378	20.8
50-54	2.9	24.2	50.5	65.9	82.6	0.4	260	19.9
55-59	2.6	23.3	52.1	71.5	83.0	0.0	147	19.8
25-59	3.5	20.5	40.8	59.9	76.9	4.0	2,772	20.8

na = Not applicable
a = Omitted because less than 50 percent of the women or men had intercourse for the first time before reaching the beginning of the age group

In Rwanda very few women have sexual intercourse at an early age (4 percent by exact age 15). A little more than one in five women (23 percent) first had sexual intercourse before the age of 18. At age 20, nearly half the women have had sexual intercourse. The median age at first sexual intercourse is estimated at 20.3 years, a slight increase from the first survey in 1992, when it was 19.7 years for women age 25-49. However, there has been virtually no change since the 2000 survey (20.1 years). In addition,

the median age at first intercourse is nearly identical to the median age at first union, which seems to confirm that Rwandan women have their first sexual intercourse at the time of their first union.

With respect to men, there are also very few who have sexual intercourse for the first time prior to age 15 (4 percent). However, three-quarters of men have had sexual intercourse by age 25 (77 percent). The median age at first sexual intercourse is 20.8 years for men age 25-59. For women age 15-49, the median age has remained more or less unchanged since the last survey. However, unlike women, men's age at first sexual intercourse is 3.7 years younger than their age at first union.

Figure 6.3 Median Age at First Intercourse and at First Union among Women 25-49, by Background Characteristics

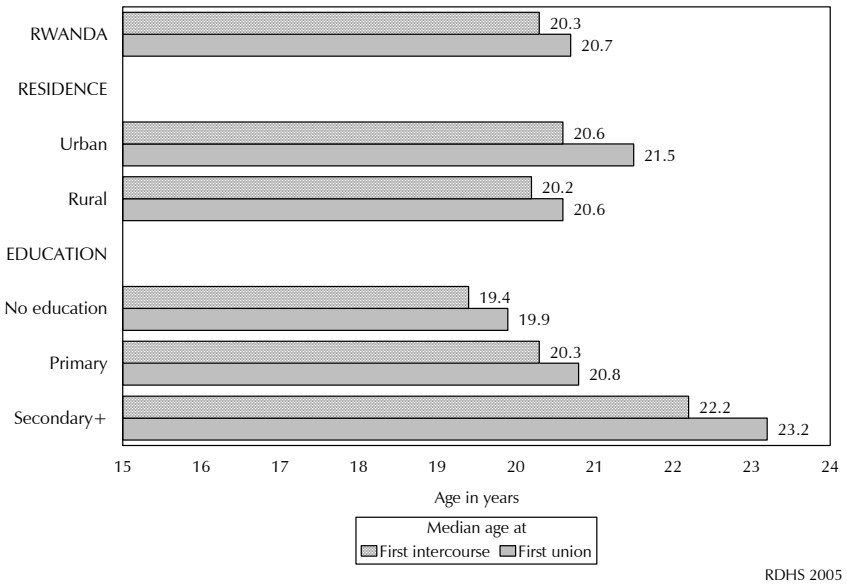


Table 6.6 shows the median age at first sexual intercourse according to background characteristic for both men and women. The results show the greatest variation in median age at first intercourse is by level of education: for women and men alike, the higher the level of education, the later the median age at first sexual intercourse. Among women, this median age ranges from 19.4 years for those with no education to 22.2 years for those with secondary education or higher. Among men, it ranges from 20.4 to 21.3 years, respectively. There is virtually no variation by residence. In the provinces, the median age at first intercourse for women varies slightly from 19.6 years in the East province to 20.8 years in the City of Kigali; for men it varies from 20.3 years in the East province to 20.8 years in the City of Kigali. Results according to wealth quintile show some variation, particularly among women: women in the richest quintile tend to have intercourse for the first time at a later age (21.1 years) than women in the other quintiles, especially the poorest quintile (19.9). For men the differences are marginal. The median age at first sexual intercourse rises with household wealth, from 20 years in the poorest households to 21 years in the richest households, for both women age 25-49 and men age 25-59.

Table 6.6 Median age at first sexual intercourse

Median age at first sexual intercourse among women age 25-49 and men age 25-59, by current age and background characteristics, Rwanda 2005

Background characteristic	Current age					Women 25-49	Men 25-59
	25-29	30-34	35-39	40-44	45-49		
Residence							
Urban	20.3	20.8	21.3	20.4	19.9	20.6	20.5
Rural	19.9	20.5	20.4	20.0	20.1	20.2	20.8
Province							
Kigali city	20.5	21.7	22.0	19.7	19.4	20.8	20.8
South	21.1	21.4	21.4	20.9	20.6	21.1	21.3
West	19.5	20.6	19.9	20.0	20.1	20.0	20.5
North	19.6	20.1	20.8	19.6	20.3	19.9	21.1
East	19.5	19.7	19.5	19.8	19.2	19.6	20.3
Education							
No education	18.9	19.5	19.2	19.4	20.0	19.4	20.4
Primary	20.0	20.7	20.7	20.1	20.1	20.3	20.8
Secondary or higher	21.7	21.9	23.1	22.5	21.1	22.2	21.3
Wealth quintile							
Lowest	19.6	20.1	20.3	19.5	19.8	19.9	20.7
Second	19.5	20.5	19.2	20.1	20.3	20.0	20.7
Middle	20.2	20.5	20.4	20.0	19.8	20.2	20.8
Fourth	20.0	20.5	20.5	20.1	20.2	20.3	20.9
Highest	20.7	21.4	21.8	21.0	20.4	21.1	20.6
Total women	20.0	20.6	20.5	20.1	20.1	20.3	na
Total men	20.6	21.5	21.0	20.6	20.8	na	20.8

na = Not applicable

6.4 RECENT SEXUAL ACTIVITY

Frequency of sexual intercourse is a direct determinant of fertility. Therefore, the survey asked all men and women, regardless of marital status, how long it had been since they last had sexual intercourse. Table 6.7.1 shows the data on most recent sexual activity for women according to background characteristics.

Forty-four percent of all women had sexual intercourse in the four weeks preceding the survey. Recent sexual activity was most common among women age 25 to 39, more than 60 percent of whom reported being sexually active in the past four weeks, although there was some decrease at age 35. The results also show that married women are most likely to have been sexually active in the past four weeks (87 percent). Recent sexual activity decreases with marital duration, from a high of 93 percent for marital durations of 0-4 years, to a low of 82 percent for marital durations of 25 years or more.

Table 6.7.1 Recent sexual activity: women

Percent distribution of women by timing of last sexual intercourse, according to background characteristics, Rwanda 2005

Background characteristic	Timing of last sexual intercourse				Never had sexual intercourse	Total	Number of women
	Within the past 4 weeks	Within 1 year[1]	One or more years	Missing			
Age							
15-19	3.2	2.8	5.9	0.2	87.9	100.0	2,585
20-24	39.9	8.5	8.9	1.7	41.1	100.0	2,354
25-29	66.0	11.6	10.4	2.0	10.1	100.0	1,738
30-34	68.3	10.3	14.1	3.9	3.4	100.0	1,466
35-39	61.6	12.0	21.6	3.2	1.6	100.0	1,134
40-44	54.6	9.1	29.6	5.5	1.3	100.0	1,135
45-49	51.2	6.1	37.0	4.9	0.7	100.0	910
Marital status							
Never married	1.2	4.7	10.9	1.0	82.2	100.0	4,263
Married	87.4	7.9	3.5	1.1	0.0	100.0	5,510
Divorced/separated/widowed	5.4	18.4	65.0	11.2	0.0	100.0	1,548
Marital duration among women married only once[2]							
0-4 years	92.9	6.0	0.5	0.6	0.0	100.0	1,143
5-9 years	88.5	8.1	1.7	1.6	0.0	100.0	1,158
10-14 years	87.0	8.4	3.2	1.4	0.0	100.0	938
15-19 years	83.1	10.5	5.3	1.1	0.0	100.0	558
20-24 years	82.4	8.5	7.8	1.2	0.0	100.0	520
25 + years	82.3	7.2	9.3	1.3	0.0	100.0	433
Married more than once	87.7	7.7	3.7	0.8	0.0	100.0	760
Residence							
Urban	34.0	10.3	18.7	2.8	34.2	100.0	1,921
Rural	45.7	7.7	13.9	2.4	30.3	100.0	9,400
Province							
Kigali city	31.1	10.5	20.2	3.2	35.0	100.0	1,127
South	41.7	7.8	17.0	2.5	30.9	100.0	2,958
West	46.5	6.7	12.0	2.4	32.5	100.0	2,824
North	46.9	8.2	13.1	2.7	29.0	100.0	2,063
East	46.2	8.9	13.8	2.1	29.0	100.0	2,348
Education							
No education	54.3	9.7	19.8	3.4	12.7	100.0	2,646
Primary	40.6	7.4	12.7	2.1	37.1	100.0	7,591
Secondary or higher	39.8	9.1	16.0	2.7	32.5	100.0	1,084
Current contraceptive method							
Sterilization	(80.8)	(2.4)	(16.8)	(0.0)	(0.0)	(100.0)	34
Pill	88.6	8.3	2.5	0.7	0.0	100.0	144
Male condom	52.9	40.3	6.4	0.4	0.0	100.0	93
Rhythm/periodic abstinence	69.1	12.2	14.5	3.8	0.3	100.0	276
Other method	90.9	7.1	2.0	0.0	0.0	100.0	538
Not currently using	39.7	7.8	15.6	2.6	34.2	100.0	10,237
Total	43.7	8.1	14.7	2.5	31.0	100.0	11,321

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Excludes women who had sexual intercourse within the past 4 weeks
[2] Excludes women who are not currently married

Women in rural areas reported a significantly higher level of sexual activity in the past four weeks (46 percent) than women in urban areas (34 percent). The percentage of women who had sexual intercourse during the past four weeks decreases as level of education increases (54 percent for those with no education, 41 percent for those with primary, and 40 percent for those with secondary education or higher).

Table 6.7.2 presents information on recent sexual activity among men according to background characteristics. The data indicate that 48 percent of men had sexual intercourse in the four weeks preceding the survey. The proportion of men who are sexually active increases with age and then begins declining at age 45. Sexual activity peaks between the ages of 35 and 44 (84 percent). The results show that, like women, married men are more sexually active (90 percent). Results by marital duration, although less consistent than those for women, show decreasing sexual activity with increasing marital duration, from 93 percent for durations of 0-4 years, to 83 percent for durations of 25 years or more.

Table 6.7.2 Recent sexual activity: men

Percent distribution of men by timing of last sexual intercourse, according to background characteristics, Rwanda 2005

Background characteristic	Timing of last sexual intercourse: Within the past 4 weeks	Within 1 year[1]	One or more years	Missing	Never had sexual intercourse	Total	Number of men
Age							
15-19	0.9	4.6	17.1	0.0	77.4	100.0	1,102
20-24	19.2	10.7	28.2	0.1	41.8	100.0	946
25-29	59.5	11.9	15.5	0.1	13.0	100.0	632
30-34	77.7	9.9	8.4	0.2	3.8	100.0	509
35-39	84.4	10.5	3.6	0.0	1.4	100.0	442
40-44	84.4	11.2	3.7	0.0	0.8	100.0	404
45-49	82.1	11.3	6.7	0.0	0.0	100.0	378
50-54	75.7	16.5	7.3	0.0	0.4	100.0	260
55-59	76.1	15.4	8.5	0.0	0.0	100.0	147
Marital status							
Never married	1.7	9.1	27.3	0.1	61.9	100.0	2,196
Married	89.7	9.3	1.0	0.0	0.0	100.0	2,500
Divorced/separated/widowed	14.6	36.2	48.6	0.0	0.7	100.0	125
Marital duration among men married only once[2]							
0-4 years	93.0	6.8	0.0	0.2	0.0	100.0	458
5-9 years	92.4	7.4	0.2	0.0	0.0	100.0	471
10-14 years	89.4	10.3	0.3	0.0	0.0	100.0	370
15-19 years	90.8	8.5	0.7	0.0	0.0	100.0	227
20-24 years	87.0	12.1	0.9	0.0	0.0	100.0	219
25 + years	82.5	14.3	3.2	0.0	0.0	100.0	300
Married more than once	89.2	8.8	2.0	0.0	0.0	100.0	455
Residence							
Urban	37.5	16.0	21.0	0.1	25.3	100.0	840
Rural	49.8	8.6	12.7	0.0	28.8	100.0	3,980
Province							
Kigali city	31.6	20.4	22.6	0.2	25.3	100.0	523
South	46.7	9.0	15.6	0.0	28.6	100.0	1,250
West	53.1	7.1	12.3	0.1	27.4	100.0	1,185
North	51.0	8.9	9.5	0.1	30.4	100.0	845
East	47.8	9.6	14.2	0.0	28.3	100.0	1,017
Education							
No education	62.4	13.3	9.1	0.1	15.1	100.0	839
Primary	44.4	8.6	14.7	0.0	32.2	100.0	3,389
Secondary or higher	45.3	12.3	18.3	0.1	23.9	100.0	592
Total	47.6	9.9	14.2	0.1	28.2	100.0	4,820

[1] Excludes men who had sexual intercourse within the last 4 weeks
[2] Excludes men who are not currently married

Results by residence show a sizeable differential in the frequency of sexual activity between rural (50 percent) and urban (38 percent) areas.

6.6 EXPOSURE TO THE RISK OF PREGNANCY

Women are less exposed to the risk of pregnancy for a period of time following childbirth. Exposure to the risk of pregnancy depends on several factors including the duration of postpartum amenorrhea—the period between childbirth and the return of ovulation—and the period when a woman abstains from sexual intercourse (postpartum abstinence). These two factors jointly determine which women are insusceptible to becoming pregnant and the length of the period of insusceptibility. Women are considered insusceptible if they are abstaining from intercourse following childbirth and/or are amenorrheic. In the latter case, the risk of pregnancy is negligible even if sexual activity is resumed without contraceptive protection.

Table 6.8 shows the percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, abstaining, and insusceptible, by the number of months since the birth. It also shows median and mean durations for these indicators.

In Rwanda, 42 percent of women who gave birth during the three years preceding the survey were amenorrheic. A little more than seven in ten women (84 percent) remained amenorrheic for 5 months; approximately seven in ten women (73 percent) were still amenorrheic at 9 months; and 11 percent remained so at 26-27 months. Beyond 28 months, the proportion of women for whom ovulation had not yet returned varied between 2 percent and 7 percent. The median duration of postpartum amenorrhea is 14.3 months, and the mean is 15.4 months. The duration, intensity, and frequency of exclusive breastfeeding, which affects the return of ovulation (see Chapter 10 - Nutrition), is partly responsible for these relatively long durations, which have changed little since 2000.

Postpartum abstinence is not traditionally practiced in Rwanda. Only 10 percent of women had not resumed sexual intercourse 4-5 months following the birth of their last child. The median and mean durations for postpartum abstinence are very short (0.6 months and 4.4 months, respectively).

Mothers were insusceptible to the risk of pregnancy for 46 percent of births in the three years preceding the survey. The mean duration of the period of insusceptibility is 16.8 months. The median duration is 15.3 months.

Table 6.8 Postpartum amenorrhea, abstinence, and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, abstaining, and insusceptible, by number of months since birth, and median and mean durations, Rwanda 2005

Months since birth	Percentage of births for which the mother is:			Number of births
	Amenorrheic	Abstaining	Insusceptible	
< 2	98.6	41.8	98.6	270
2-3	90.4	16.4	91.3	339
4-5	83.5	10.4	86.0	320
6-7	75.8	10.5	76.7	283
8-9	72.9	12.7	76.7	290
10-11	67.2	8.4	69.9	300
12-13	53.0	7.6	56.3	363
14-15	50.7	8.2	54.4	291
16-17	43.5	8.5	47.4	280
18-19	29.3	7.1	33.4	284
20-21	24.1	6.0	28.3	273
22-23	19.9	7.4	23.7	285
24-25	16.3	9.7	21.7	317
26-27	10.7	7.5	14.8	339
28-29	7.3	8.7	14.8	272
30-31	7.6	7.6	13.7	271
32-33	5.1	8.3	12.6	330
34-35	1.8	5.2	7.0	363
Total	41.8	10.5	45.7	5,469
Median	14.3	0.6	15.3	na
Mean	15.4	4.4	16.8	na

Note: Estimates are based on status at the time of the survey.
na = Not applicable

Table 6.9 shows the median duration of postpartum amenorrhea, abstinence, and insusceptibility following births in the three years preceding the survey by background characteristics. Although entirely dependant on the duration of amenorrhea and abstinence, the duration of postpartum insusceptibility varies with age. Women 30 years of age and older have longer periods of insusceptibility (15.7 months for amenorrhea, 0.6 months for abstinence, and 16.3 months for insusceptibility) than women under the age of 30 (13.2 months, 0.7 months, and 14.1 months, respectively). The median duration of amenorrhea is longer in rural areas (14.8 months) than in urban areas (12 months). However, the median duration of abstinence is longer in urban areas (1.8 months) than in rural areas (0.6 months). The period of insusceptibility is longer in rural areas (15.6 months, compared with 13.2 months for urban areas). By province, the City of Kigali has the shortest period of amenorrhea (9.4 months) and the longest period of abstinence (2.5 months). Results differ according to level of education: women with the highest levels of education have the shortest periods of amenorrhea (10.0 months); women with no education have the longest periods of amenorrhea (13.9 months).

Table 6.9 Median duration of postpartum insusceptibility by background characteristics

Median number of months of postpartum amenorrhea, postpartum abstinence, and postpartum insusceptibility following births in the three years preceding the survey, by background characteristics, Rwanda 2005

Background characteristic	Postpartum amenorrhea	Postpartum abstinence	Postpartum insusceptibility	Number of births
Age				
15-29	13.2	0.7	14.1	2,809
30-49	15.7	0.6	16.3	2,660
Residence				
Urban	12.0	1.8	13.2	759
Rural	14.8	0.6	15.6	4,711
Province				
Kigali city	9.4	2.5	10.5	410
South	15.8	0.6	16.9	1,306
West	15.5	0.6	15.9	1,441
North	14.3	0.6	15.1	1,078
East	12.7	0.6	13.4	1,234
Education				
No education	13.9	0.7	14.9	1,520
Primary	15.0	0.6	15.8	3,516
Secondary or higher	10.0	1.7	10.2	433
Total	14.3	0.6	15.3	5,469

Note: Medians are based on current status.

6.7 MENOPAUSE

Women cease being exposed to the risk of pregnancy when they reach menopause. For the survey, women were considered menopausal if they were neither pregnant nor postpartum amenorrheic but had not had a menstrual period in the six months preceding the survey, or if they reported themselves as having entered menopause.

Table 6.10 shows the percentage of women age 30 to 49 who are menopausal. Overall, 6 percent of women age 30 to 49 reported being menopausal. The proportion increases with age from 1 percent for women age 30 to 34, to 7 percent at age 45, to 32 percent for women age 48 to 49.

Table 6.10 Menopause

Percentage of women age 30-49 who are menopausal, by age, Rwanda 2005

Age	Percentage menopausal[1]	Number of women
30-34	1.3	1,466
35-39	2.0	1,134
40-41	3.7	448
42-43	4.0	496
44-45	6.7	400
46-47	14.5	404
48-49	31.7	296
Total	5.6	4,645

[1] Percentage of all women who are not pregnant and not postpartum amenorrheic whose last menstrual period occurred six or more months preceding the survey

FERTILITY PREFERENCES 7

Data on fertility preferences is used to evaluate the effectiveness of couples' efforts to control their own fertility and to assess Rwanda's future contraceptive needs not only for birth spacing, but to limit the total number of births.

To obtain information about fertility preferences, the RDHS-III asked women how many additional children they wanted to have in the future, how long they wanted to wait before having their next child, and the total number of children desired.

Data on attitudes and opinions about procreation have always been somewhat controversial. Some researchers believe responses to questions about fertility preferences are subject to three potential flaws: first, they represent viewpoints that are subject to change rather than firm convictions; second, they do not take into account the effects of social pressure and the attitudes of other family members, particularly the husband, who can have enormous influence over reproductive decisions; and third, the data are obtained from a sample of women of differing ages with differing birth histories. Their responses relate to medium- or long-term goals that may change over time or be of limited predictive value for young and/or recently-married women. The responses of older women and/or women at the end of their childbearing years are inevitably influenced by their birth histories.

Despite possible problems of interpretation, the data on fertility preferences can assist in understanding the factors affecting fertility in Rwanda, where contraceptive prevalence remains low and fertility levels remain high. This analysis covers only men and women who were married at the time of the survey.

7.1 DESIRE FOR (MORE) CHILDREN

The desire to have (more) children in the future generally correlates with a woman's age and the number of living children she and/or her husband have.

The RDHS-III asked currently married women a series of questions designed to discern their desire to delay the next birth or to stop having children. The results are presented in Table 7.1 by number of living children (including the current pregnancy) at the time of the survey. A little more than two in five women (42 percent) reported wanting no more children, while more than half (52 percent) wanted to have another child. Among the women who wanted (more) children in the future, 12 percent wanted another child within two years, 39 percent wanted to delay the next birth by two or more years, and 2 percent wanted to have another child but were uncertain as to when. In general, over three-quarters of married women in Rwanda (83 percent) can be considered potential candidates for family planning: those who do not want any more children (42 percent), and those who want to delay their next birth (41 percent). The percentage of women who want no more children has increased compared with the previous survey (RDHS-II), from 33 percent in 2000 to 42 percent in 2005.

Table 7.1 Fertility preferences by number of living children

Percent distribution of currently married women and currently married men by desire for children, according to number of living children, Rwanda 2005

Desire for children	Number of living children [1]							Total
	0	1	2	3	4	5	6+	
				WOMEN				
Have another soon[2]	85.4	20.2	13.7	10.0	5.0	4.0	1.1	11.8
Have another later[3]	3.9	69.1	59.7	49.1	31.6	21.8	7.1	38.8
Have another, undecided when	2.6	2.7	1.6	1.9	1.4	1.2	0.4	1.6
Undecided	0.4	0.7	2.0	1.5	2.0	2.8	3.2	2.0
Want no more	1.1	6.0	21.3	34.8	56.8	64.3	81.1	42.2
Sterilized[4]	0.0	0.0	0.5	0.7	0.7	0.9	0.6	0.5
Declared infecund	6.5	1.4	1.0	1.8	2.6	5.0	6.3	3.1
Missing	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	195	809	1,046	982	830	589	1,060	5,510
				MEN				
Have another soon[2]	46.1	18.8	13.9	8.7	7.9	6.5	2.8	10.7
Have another later[3]	43.5	72.8	59.9	52.1	34.4	28.3	12.7	39.7
Have another, undecided when	5.3	2.8	1.9	2.1	2.0	1.2	1.4	2.0
Undecided	0.0	0.0	0.6	1.5	2.1	1.6	0.5	0.9
Want no more	2.3	5.2	20.9	34.3	51.3	59.3	77.2	43.7
Sterilized[4]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Declared infecund	2.8	0.4	2.0	1.2	1.2	1.7	5.0	2.4
Missing	0.0	0.0	0.8	0.2	1.1	1.5	0.4	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	127	313	393	393	325	243	706	2,500

[1] Includes current pregnancy (for women)
[2] Wants next birth within 2 years
[3] Wants to delay next birth for 2 or more years
[4] Includes both female and male sterilization

Unlike most countries in sub-Saharan Africa, the proportion of men in Rwanda who want no more children (44 percent) is similar to that of women (42 percent). The same is true for the proportion of men who want (more) children later (52 percent for men and women). Like women, the proportion of men who want (more) children soon decreases as parity increases, and the proportion of men who want no more children increases as parity increases (Figure 7.1). In fact, the percentage of men who want more children ranges from 76 percent among those with two children to 44 percent among those with four children, to 17 percent among those who have six children or more. It should be noted that at each parity level (Table 7.1) the differences between men and women who want more children are minimal.

As expected, the proportion of women who want no more children increases considerably with the number of living children, from 1 percent for women with no children, to 35 percent for women with three children, to 81 percent for those with six children or more. Women who want no more children have presumably reached their desired family size, or cumulative fertility, and should be using a contraceptive method to avoid unwanted pregnancies. Finally, the data show that 92 percent of women with no children would like to have a child, and the majority of these women (85 percent) would like to have one soon.

Figure 7.1 Proportion of Currently Married Women and Men Who Want No More Children, by Number of Living Children

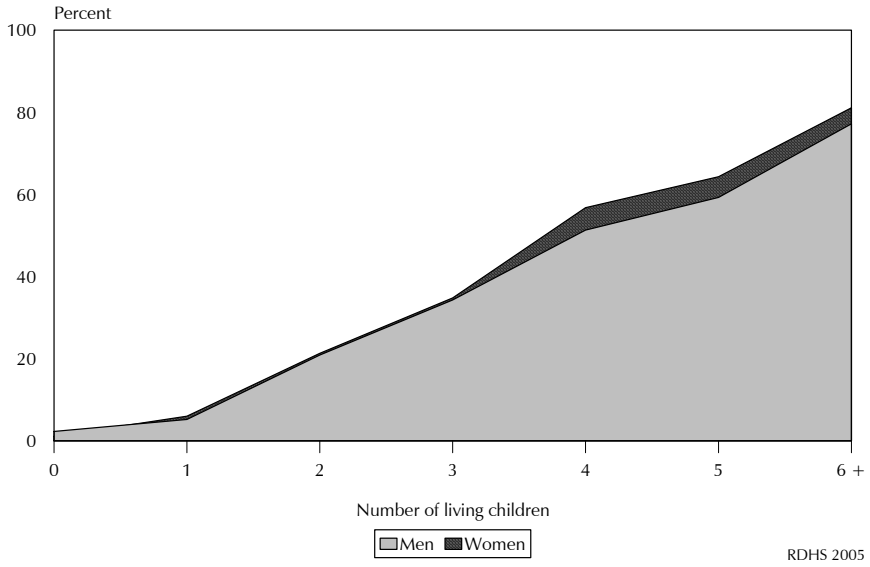


Table 7.2 shows the percentages of women and men who want no more children by background characteristics. Results by residence show that the proportions of women and men who want no more children are somewhat higher in urban areas (49 percent for women; 48 percent for men) than in rural areas (42 percent for women; 43 percent for men).

By province, the proportion of women who want no more children ranges from a low of 40 percent in the West province to a high of 52 percent in the City of Kigali. Results by level of education show that women with no education are more likely to want to limit births (48 percent) than women with primary (40 percent) or secondary education (46 percent). In addition, with respect to wealth quintile, only the richest quintile stands out with a significantly higher proportion of women wanting no more children (47 percent) than the other quintiles (38 to 44 percent).

Unlike women, higher levels of education for men correlate with higher proportions wanting no more children (47 percent, compared to 43 percent among men with a primary education).

The results according to province for men are similar to those for women: the City of Kigali has the highest proportion of men who have reached their desired number of children (50 percent). In addition, for men, the desire to limit births correlates closely with household standard of living: the proportion of men who want no more children increases from the poorest quintile (41 percent) to the richest quintile (52 percent).

Married women who do not use contraception and who reported not wanting any more children (desiring, therefore, to limit births) or who reported wanting to wait two or more years before their next birth (desiring, therefore, to space births) are considered to have unmet family planning need. Women who reported having unmet need and women currently using contraception make up the total potential demand for family planning.

Table 7.2 Desire to limit childbearing

Percentage of currently married women who want no more children, by number of living children and the percentage of currently married women and currently married men who want no more children by background characteristics, Rwanda 2005

Background characteristic	Number of living children [1]							Women	Men
	0	1	2	3	4	5	6+		
Residence									
Urban	(3.5)	11.2	26.5	49.9	68.4	73.6	86.3	49.3	47.6
Rural	0.8	5.3	20.9	33.0	55.6	64.0	81.2	41.7	43.1
Province									
Kigali city	*	15.2	33.4	55.0	80.1	(91.4)	92.2	52.0	50.2
South	(1.7)	2.5	16.6	33.8	55.1	71.8	88.4	40.7	42.0
West	(0.0)	5.7	19.7	28.6	56.1	53.2	70.3	39.5	43.7
North	(0.0)	3.9	26.3	30.8	49.3	59.7	83.5	44.1	47.9
East	(2.7)	8.5	21.6	42.4	62.7	69.4	88.7	44.6	39.5
Education									
No education	(2.1)	10.2	23.3	36.9	58.9	60.2	78.8	48.3	44.2
Primary	1.0	5.0	20.8	33.9	55.6	65.6	82.8	40.3	43.0
Secondary or higher	*	4.2	26.8	43.0	65.6	79.6	90.7	45.6	47.3
Wealth quintile									
Lowest	(0.0)	6.8	21.0	35.4	57.5	67.4	82.2	42.7	40.7
Second	(0.0)	5.8	22.6	33.3	55.1	67.3	83.7	43.7	43.8
Middle	*	3.3	24.0	39.3	54.7	57.8	77.8	42.3	41.9
Fourth	(0.0)	5.2	14.9	26.8	57.2	61.2	82.7	38.2	41.3
Highest	(1.9)	9.6	26.8	45.6	63.3	73.4	82.5	47.4	52.2
Total	1.1	6.0	21.8	35.5	57.5	65.2	81.8	42.7	43.7

Note: Women and men who have been sterilized are considered to want no more children. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes current pregnancy

7.2 NEED FOR FAMILY PLANNING SERVICES

Table 7.3 presents estimates for unmet need, met need, and total demand for family planning for currently married women by background characteristics.

Unmet need for family planning remains high: nearly two in five married women (38 percent) have expressed need for family planning. The majority of these women would be using contraception to space births (25 percent), while 13 percent would use contraception to limit births.

If married women with unmet need for contraception were able to satisfy this need, that is, if they were to use contraception, contraceptive prevalence would reach 55 percent. This is approximately three times the current rate. By way of comparison, the expressed need for contraception in the RDHS-II survey of 2000 was 49 percent. The total potential demand for family planning—the proportion of women with unmet need plus women who are already using contraception—is broken down into two categories: need for birth spacing (32 percent), and need for limiting births (23 percent). Among currently married women, only 31 percent of the total potential demand for family planning is being met. However, this is an increase from 27 percent in the RDHS-II.

Table 7.3 Need for family planning among currently married women

Percentage of currently married women with unmet need for family planning, and with met need for family planning, and the total demand for family planning, by background characteristics, Rwanda 2005

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 satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	18.7	3.2	21.9	1.1	2.2	3.2	19.8	5.4	25.1	12.9	65
20-24	33.0	3.0	36.0	9.8	2.9	12.7	42.8	5.9	48.7	26.0	980
25-29	34.4	5.9	40.3	10.8	6.6	17.3	45.2	12.5	57.6	30.1	1,254
30-34	30.9	9.9	40.8	9.9	10.4	20.3	40.8	20.3	61.1	33.3	1,112
35-39	20.1	21.6	41.7	6.3	14.2	20.4	26.4	35.7	62.1	32.9	807
40-44	8.5	31.3	39.8	2.1	17.6	19.7	10.6	48.9	59.4	33.1	739
45-49	2.4	21.4	23.8	0.4	13.7	14.1	2.8	35.1	37.9	37.1	554
Residence											
Urban	20.5	13.9	34.4	13.5	18.1	31.6	34.0	32.0	66.0	47.9	744
Rural	25.1	13.3	38.4	6.5	8.7	15.2	31.6	22.0	53.6	28.3	4,766
Province											
Kigali city	16.8	14.1	30.9	14.3	21.2	35.5	31.1	35.3	66.4	53.5	407
South	24.5	13.0	37.5	6.9	8.0	14.8	31.4	21.0	52.4	28.3	1,411
West	25.4	13.2	38.7	6.9	7.5	14.5	32.4	20.8	53.2	27.3	1,427
North	26.1	13.9	40.1	6.4	9.6	16.0	32.6	23.5	56.0	28.5	1,058
East	24.4	13.4	37.8	7.3	11.6	18.9	31.8	25.0	56.8	33.3	1,208
Education											
No education	22.1	17.9	40.0	2.8	7.3	10.1	24.9	25.2	50.1	20.1	1,359
Primary	26.0	12.3	38.3	7.8	9.3	17.1	33.8	21.6	55.4	30.9	3,672
Secondary or higher	19.4	9.2	28.6	18.1	22.3	40.4	37.4	31.5	68.9	58.5	479
Wealth quintile											
Lowest	26.0	14.0	40.0	4.1	6.9	11.0	30.1	20.9	51.1	21.6	1,136
Second	24.5	13.0	37.5	5.3	9.9	15.2	29.8	22.9	52.7	28.9	1,123
Middle	24.8	14.7	39.5	8.0	7.7	15.7	32.8	22.4	55.2	28.5	1,112
Fourth	25.6	12.5	38.1	7.2	7.6	14.8	32.8	20.1	52.9	28.0	1,144
Highest	21.1	12.8	33.9	13.3	18.6	31.8	34.4	31.4	65.8	48.4	995
Total	24.5	13.4	37.9	7.4	9.9	17.4	31.9	23.3	55.3	31.4	5,510

[1] *Unmet need for spacing* includes pregnant women whose pregnancy was mistimed; amenorrheic women who are not using family planning and whose last birth was mistimed, or whose last births was unwanted but now say they want more children; and fecund women who are neither pregnant nor amenorrheic, who are not using any method of family planning, and say they want to wait 2 or more years for their next birth. Also included in *unmet need for spacing* are fecund women who are not using any method of family planning and say they are unsure whether they want another child or who want another child. *Unmet need for limiting* refers to pregnant women whose pregnancy was unwanted; amenorrheic women who are not using family planning, whose last child was unwanted and who do not want any more children; and fecund women who are neither pregnant nor amenorrheic, who are not using any method of family planning, and who want no more children. Excluded from the unmet need category are pregnant and amenorrheic women who became pregnant while using a method (these women are in need of a better method of contraception).

[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] Nonusers who are pregnant or amenorrheic whose pregnancy was the result of a contraceptive failure are *not* included in the category of unmet need, but *are* included in total demand for contraception (since they would have been using had their method not failed).

The need for family planning varies according to background characteristic. With respect to age, unmet need is lower among younger women age 20-24 (36 percent) and among older women age 45-49 (24 percent). In the other age groups, the proportions are approximately 40 percent. Up until the age of 34, unmet need for family planning relates essentially to birth spacing while, after age 40, women express greater need for contraception to limit births.

Results by residence show that the proportion of women with unmet need is somewhat higher in rural areas (38 percent) than urban areas (34 percent). Because women in rural areas use contraception far less, the total demand for family planning services satisfied is much higher in urban areas (48 percent)

than rural areas (28 percent). The need for contraception to space births is always much greater than the need for contraception to limit births, regardless of residence. The total potential demand has risen, regardless of residence, compared with 2000 RDHS-II levels, which were 61 percent for urban areas (66 percent in 2005) and 47 percent for rural areas (53 percent in 2005).

By province, the proportion of women with unmet need for family planning ranges from a low of 31 percent in the City of Kigali to a high of 40 percent in the North province. The City of Kigali also has the highest total potential demand (66 percent); the South province has the lowest (52 percent).

With respect to level of education, unmet need for family planning is greater among women with no education (40 percent) than among women with a primary education (38 percent) and women with a secondary education or higher (29 percent). Because of the positive correlation between family planning and level of education, the total demand for family planning services satisfied is much higher among women with a secondary education or higher (59 percent) than among women with a primary education (31 percent) or women with no education (20 percent).

According to wealth quintile, unmet need seems to be especially higher for women in the lowest four quintiles (around 40 percent). The total potential demand, however, is greater among women in the richest households (66 percent) and is 48 percent satisfied. The lowest demand satisfied is found among women in the poorest households (22 percent).

7.3 IDEAL NUMBER OF CHILDREN

Women's reproductive behavior can be influenced by the ideal number of children they would like to have and the ideal number their husband/partner would like to have. In order to determine this ideal number, the RDHS-III asked all women surveyed one of the following two questions:

- To women with no living children: *If you could choose the exact number of children you would like to have in your lifetime, how many would you have?*
- To women with living children: *If you could go back to the time when you had no children and choose the exact number of children you would like to have in your lifetime, how many would you have chosen?*

These seemingly simple questions may be embarrassing, particularly for women with living children who may specify an ideal number that differs from the number of children they already have. It may also be difficult for a woman to specify an ideal number that is lower than her current cumulative fertility.

The responses to these questions are presented in Table 7.4. Four percent of women did not give a numeric response, giving instead a general answer such as "However many God gives me," "I don't know," or "any number." The proportion of women who gave this type of response varies between 3 and 6 percent. The average ideal number of children for all women and for married women at the time of the survey was 4.3 and 4.5, respectively.

This ideal number of children lower than the TFR (6.1), which means that women would like to have a lower cumulative fertility. An examination of the distribution of reported ideal family size shows that the ideal number of children for 40 percent of women is 4. However, 16 percent of women have an ideal number of 6 or more. This proportion ranges from 14 percent among women with no living children to 20 percent among women with 4 living children, to 29 percent among those with at least 6 living children.

In general, there is a positive correlation between current family size and ideal family size, which ranges from 4 children for all women with no children, to 4.8 for those with 6 children or more. Among women who were married at the time of the survey, ideal family size varies inconsistently from 4.4 children for women with no children to 4.9 for women with 6 or more children.

The ideal number of children for men is approximately 4 (all men and married men). As with women, men's ideal number of children is lower than the TFR.

Table 7.4 Ideal number of children

Percent distribution of all women and all men by ideal number of children, and mean ideal number of children for all women and currently married women and for all men and currently married men, according to the number of living children, Rwanda 2005

Ideal number of children	Number of living children [1]							Total
	0	1	2	3	4	5	6+	
WOMEN								
0	1.4	1.1	0.3	0.4	0.4	1.1	1.0	1.0
1	0.6	1.9	0.3	0.8	0.5	0.2	0.4	0.7
2	9.3	11.6	11.4	6.9	6.6	7.4	6.9	8.9
3	13.9	20.0	13.2	13.2	5.3	8.0	7.4	12.5
4	38.4	38.7	49.8	40.7	48.0	33.0	35.3	40.3
5	18.2	13.7	11.9	18.9	17.0	21.2	14.6	16.7
6+	14.1	9.7	9.7	16.2	19.6	25.6	28.8	16.3
Non-numeric responses	4.0	3.3	3.3	2.9	2.7	3.5	5.6	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	4,201	1,312	1,395	1,282	1,070	781	1,280	11,321
Mean ideal number of children[2] for:								
All women	4.2	3.9	4.0	4.3	4.5	4.7	4.8	4.3
Currently married women	4.4	4.1	4.1	4.4	4.6	4.8	4.9	4.5
MEN								
0	8.1	0.7	0.4	0.5	0.4	0.6	0.7	4.2
1	0.3	0.3	0.3	1.0	1.5	0.6	0.4	0.5
2	10.6	12.1	11.6	8.9	10.0	10.6	11.0	10.7
3	18.7	25.0	18.9	14.7	8.5	14.6	14.6	17.3
4	34.9	41.0	48.7	42.1	41.8	31.0	43.2	38.7
5	15.6	12.3	12.4	19.3	18.4	14.4	10.2	14.7
6+	11.2	7.8	7.3	13.0	18.2	25.8	18.5	13.1
Non-numeric responses	0.6	0.7	0.4	0.5	1.2	2.4	1.4	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	2,317	366	415	409	338	255	721	4,820
Mean ideal number of children[2] for:								
All men	3.8	3.8	3.9	4.2	4.3	4.5	4.3	4.0
Currently married men	3.8	3.8	3.9	4.2	4.3	4.5	4.4	4.2

[1] Includes current pregnancy
[2] Means are calculated excluding respondents who gave non-numeric responses.

Table 7.5 shows the mean ideal number of children for all women and all men according to current age and background characteristics. The ideal number of children does not vary much by age: for women age 20 to 29 it is 4.1 children and for women age 40 to 49 it is 4.5 children.

However, this ideal number varies significantly by residence, province, level of education, and household standard of living. For women in rural areas, the ideal family size is larger (4.4) than for women in urban areas (3.8).

With respect to province, the mean ideal number of children is lower among women in the City of Kigali (3.7) than among those in the other provinces, where it ranges from 4.2 in the East province to 4.6 in the West province. Also, the higher the level of education, the lower the mean ideal number of children: 4.6 for women with no education, compared with 3.6 for women with a secondary education or higher. As with level of education, the desired cumulative fertility decreases as household wealth increases, from 4.5 children in the poorest households to 3.9 in the richest.

Table 7.5 Mean ideal number of children

Mean ideal number of children for all women and all men, by age and background characteristics, Rwanda 2005

Background characteristic	Age							All women	All men
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Residence									
Urban	3.9	3.6	3.6	4.0	4.0	4.0	4.3	3.8	3.7
Rural	4.4	4.3	4.3	4.4	4.5	4.6	4.6	4.4	4.0
Province									
Kigali city	3.6	3.6	3.5	3.7	3.8	4.5	3.9	3.7	3.2
South	4.3	4.2	4.1	4.3	4.3	4.3	4.6	4.3	4.2
West	4.6	4.5	4.4	4.6	4.8	4.7	4.7	4.6	4.4
North	4.2	4.0	4.1	4.3	4.4	4.8	4.7	4.3	3.8
East	4.2	4.1	4.3	4.3	4.3	4.2	4.2	4.2	3.7
Education									
No education	4.5	4.4	4.4	4.5	4.7	4.8	4.6	4.6	4.3
Primary	4.3	4.2	4.2	4.3	4.4	4.4	4.5	4.3	4.0
Secondary or higher	3.4	3.5	3.4	3.7	3.8	4.0	(4.1)	3.6	3.5
Wealth quintile									
Lowest	4.5	4.4	4.3	4.5	4.3	4.7	4.4	4.5	4.1
Second	4.3	4.3	4.2	4.3	4.5	4.6	4.7	4.4	4.1
Middle	4.4	4.3	4.2	4.4	4.4	4.6	4.6	4.4	4.0
Fourth	4.3	4.2	4.3	4.3	4.5	4.4	4.6	4.3	4.1
Highest	3.9	3.7	3.7	4.0	4.2	4.1	4.3	3.9	3.6
All women	4.3	4.1	4.1	4.3	4.4	4.5	4.5	4.3	na
All men	4.0	3.7	3.7	4.1	4.3	4.1	4.1	na	4.0

Note: Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable

7.4 FERTILITY PLANNING STATUS

For each child born in the five years preceding the survey and for the current pregnancy (if the respondent was pregnant), each mother was asked if she had wanted to be pregnant at that time, if she would have preferred to be pregnant later, or had if she not wanted to become pregnant at all. The responses to these questions are used to measure couples' effectiveness in controlling their fertility. Such questions require a woman to concentrate in order to remember her desires accurately at one or more specific times during the past five years. The data may be subject to rationalization, as an undesired pregnancy often results in the birth of a child to which the mother has become attached.

Table 7.6 shows that more than four in five births (84 percent) were wanted. Most of these births (60 percent) occurred at the desired time; 24 percent occurred earlier than the women would have liked. Unwanted pregnancies represented approximately 15 percent of the births.

The great majority of births are desired and arrive according to the desired timing, regardless of birth order. However, first births are better planned than births 2, 3, 4, or higher. In the RDHS-III, 82 percent of first births arrived according to the desired timing, compared with 63 percent of second births, and 50 percent of births 4 or higher.

With respect to age of the mother, the best planned births occurred among women who had their children before the age of 20 and between the age of 20 and 29. Conversely, births among women who had children when they were older (age 45 to 49) seem to be less well planned: 37 percent arrived according to the desired timing, 8 percent arrived later, and 56 percent were unwanted.

Table 7.6 Fertility planning status

Percent distribution of births in the five years preceding the survey (including current pregnancy), by planning status of the birth, according to birth order and mother's age at birth, Rwanda 2005

Birth order and mother's age at birth	Planning status of birth: Wanted then	Wanted later	Wanted no more	Total[1]	Number of births
Birth order					
1	82.3	4.5	12.8	100.0	1,755
2	63.1	28.4	8.2	100.0	1,665
3	60.0	30.0	9.8	100.0	1,548
4+	50.1	28.6	20.9	100.0	4,648
Mother's age at birth					
<20	67.6	11.4	20.9	100.0	559
20-24	67.4	22.7	9.5	100.0	2,609
25-29	60.4	30.1	9.3	100.0	2,545
30-34	56.9	29.1	13.5	100.0	1,905
35-39	50.4	22.4	27.1	100.0	1,254
40-44	50.3	12.6	36.7	100.0	668
45-49	36.8	7.5	55.7	100.0	76
Total	59.8	24.4	15.4	100.0	9,615

[1] Includes those with missing information

Table 7.7 compares the total wanted fertility rate (TWFR) with the current total fertility rate (TFR) for the five years preceding the survey. Calculation of the TWFR is the same as for the TFR, except that unwanted births are omitted. If all unwanted births were eliminated, the TFR for Rwandan women would be 4.6 children, rather than 6.1 children.

The TWFR is higher in rural areas (4.8) than in urban areas (3.6) and, in particular, the City of Kigali (3.4). It decreases as level of education and wealth quintile increase. The lowest TWFRs are found among women with the highest levels of education (3.3 compared with 5.4 for women with no education) and the greatest household wealth (3.6 for the richest quintile; 4.7 to 5.0 for the other quintiles).

Table 7.7 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Rwanda 2005

Background characteristic	Total wanted fertility rate	Total fertility rate
Residence		
Urban	3.6	4.9
Rural	4.8	6.3
Province		
Kigali city	3.4	4.3
South	4.4	5.6
West	4.9	6.6
North	4.8	6.4
East	4.8	6.5
Education		
No education	5.4	7.0
Primary	4.6	6.1
Secondary or higher	3.3	4.3
Wealth quintile		
Lowest	4.8	6.1
Second	4.7	6.3
Middle	5.0	6.7
Fourth	4.8	6.4
Highest	3.6	5.0
Total	4.6	6.1

Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 4.2.

MATERNAL AND CHILD HEALTH 8

The RDHS-III collected information about the health of mothers and their children born in the five years preceding the survey. This chapter covers antenatal, postnatal, and delivery care, characteristics of neonates, childhood vaccination coverage, and the prevalence and treatment of common childhood illnesses, specifically, respiratory infections, fever, and diarrhea. The findings in this chapter help identify the most important problems in maternal and child health and reproductive health. Comparison of the results with those of previous surveys assists in the planning and evaluation of national health policies and programs.

8.1 ANTENATAL CARE

Monitoring of pregnant women through antenatal care visits helps reduce risks and complications during pregnancy and delivery. For this reason, the RDHS-III asked women who had had a live birth in the five years preceding the survey if they had received antenatal care (ANC). Table 8.1 shows the distribution of the women's most recent live births in the past five years according to type of medical personnel consulted by the mother during the pregnancy and the mother's background characteristics. During the RDHS-III, all categories of ANC providers consulted by the mother were recorded; however, if more than one provider was mentioned, only the provider with the highest qualifications was considered in the tabulations.

For the most recent live births in the five years preceding the survey, nearly all of the mothers (94 percent) received antenatal care from trained personnel. This proportion has remained relatively stable since 1992, when 94 percent of births benefited from antenatal care (Figure 8.1).

In the RDHS-III, ANC was mainly provided by nurses or midwives, auxiliary nurses/midwives, trained traditional birth attendants (88 percent) or, in very low percentages, doctors (7 percent). In the current Rwandan health system, ANC at public or certified health facilities is almost always provided by nurses (doctors only intervene if complications are noticed in the mother in the course of the ANC visit).

The data do not vary much by background characteristics: the proportion of mothers who received antenatal care is greater than 90 percent for all variables. However, the proportion of women who consulted with a doctor during these visits is higher in urban areas (15 percent) than in rural areas (5 percent), higher among women in the City of Kigali (19 percent) than among those in the other provinces (2 to 9 percent), and higher among women with a secondary education or higher (18 percent, compared with 4 percent for mothers with no education). The proportion of those who consulted with a doctor is also higher among women in the richest quintile (14 percent compared with 4 to 6 percent in the other quintiles). These results can be explained by the concentration of doctors in urban areas, particularly the City of Kigali.

To be effective, antenatal care must be sought early in the pregnancy and, more importantly, must continue regularly through to delivery. The World Health Organization (WHO) recommends at least four ANC visits at regular intervals throughout the pregnancy, as does the Rwandan health system.

Table 8.1 Antenatal care

Percent distribution of women who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent birth, according to background characteristics, Rwanda 2005

Background characteristic	Doctor	Nurse/midwife/ auxiliary nurse/midwife/ trained traditional birth attendant	Trained personnel	Untrained traditional birth attendant/ other	No one	Total[1]	Number
Mother's age at birth							
<20	7.6	84.7	92.3	0.0	7.7	100.0	276
20-34	6.8	88.4	95.2	0.0	4.6	100.0	3,777
35-49	6.8	85.9	92.8	0.0	7.0	100.0	1,372
Birth order							
1	6.9	87.7	94.6	0.0	5.1	100.0	875
2-3	7.7	87.7	95.4	0.1	4.4	100.0	1,706
4-5	6.9	87.6	94.5	0.0	5.3	100.0	1,349
6+	5.8	87.3	93.1	0.0	6.7	100.0	1,495
Residence							
Urban	15.4	77.4	92.8	0.2	7.0	100.0	774
Rural	5.4	89.3	94.7	0.0	5.1	100.0	4,651
Province							
City of Kigali	18.8	73.7	92.5	0.2	7.3	100.0	427
South	6.7	88.3	95.0	0.0	5.0	100.0	1,357
West	9.2	83.6	92.9	0.0	6.7	100.0	1,395
North	1.9	94.7	96.6	0.0	2.9	100.0	1,052
East	4.3	90.0	94.3	0.0	5.7	100.0	1,194
Education							
No education	4.2	87.6	91.8	0.0	7.6	100.0	1,552
Primary	6.5	88.7	95.2	0.0	4.7	100.0	3,404
Secondary or higher	18.1	79.2	97.3	0.2	2.5	100.0	469
Wealth quintile							
Lowest	6.0	85.7	91.6	0.0	8.1	100.0	1,163
Second	4.3	90.1	94.4	0.0	5.4	100.0	1,124
Middle	5.8	90.1	95.9	0.0	3.8	100.0	1,097
Fourth	4.6	90.6	95.2	0.0	4.5	100.0	1,069
Highest	14.4	80.9	95.3	0.1	4.6	100.0	972
Total	6.8	87.6	94.4	0.0	5.3	100.0	5,425

Note: If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered in this tabulation.

[1] Includes those with missing information

Figure 8.1 Trends in Antenatal Care and Delivery, Rwanda 1992, 2000, and 2005

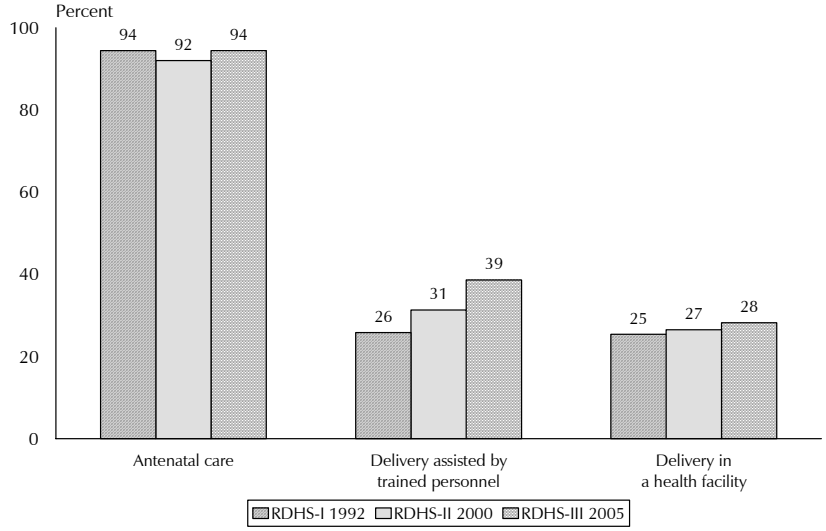


Table 8.2 shows the number of ANC visits and the timing of the first visit. Although the great majority of Rwandan mothers sought antenatal care, the number of visits was below the standard set by WHO and Rwandan health officials. Only 13 percent of women who had a live birth in the five years preceding the survey met the standard of at least four ANC visits. More than two-thirds of the women had 2 or 3 ANC visits (68 percent). This percentage has remained virtually unchanged since 2000, when it was 69 percent. It should also be noted that 13 percent of mothers had only one visit and 5 percent of mothers had no ANC visits at all. This situation has also remained unchanged since 2000.

Results by residence show that the proportion of women who made at least 4 ANC visits is slightly higher in urban areas (18 percent) than in rural areas (13 percent).

It should be noted that Rwandan women seek their first prenatal visit late in pregnancy. In fact, half of the women did not have an ANC visit until their sixth or seventh month of pregnancy; 27 percent had their first visit between the fourth and fifth month; and 9 percent did not receive antenatal care until the eighth month or later. Only 5 percent of women made their first visit before the fourth month of pregnancy, and this proportion is twice as high in urban areas (14 percent) as in rural areas (7 percent). The median number of months of pregnancy at the first ANC visit is 6.4

Table 8.2 Number of antenatal care visits and timing of first visit

Percent distribution of women who had a live birth in the five years preceding the survey by number of antenatal care (ANC) visits for the most recent birth, and by the timing of the first visit, and among women with ANC, median months pregnant at first visit, according to residence, Rwanda 2005

Number and timing of ANC visits	Residence		Total
	Urban	Rural	
Number of ANC visits			
None	7.0	5.1	5.4
1	9.5	13.5	13.0
2-3	65.5	68.6	68.1
4+	17.6	12.6	13.3
Total[1]	100.0	100.0	100.0
Number of months pregnant at time of first ANC visit			
No antenatal care	7.0	5.1	5.4
<4	13.5	7.0	7.9
4-5	26.5	27.4	27.3
6-7	45.3	50.5	49.8
8+	6.9	9.7	9.3
Total[1]	100.0	100.0	100.0
Median months pregnant at first ANC visit	6.2	6.5	6.4
Number of women	774	4,651	5,425

[1] Includes those with missing information

for the country as a whole, 6.2 in urban areas, and 6.5 in rural areas. The lateness of the first ANC visit can be explained by a Rwandan tradition whereby women do not speak of their pregnancy until it is visible. Also, it may be that women wait until the sixth month of pregnancy to have their first prenatal visit in order to receive a tetanus vaccination.

Components of ANC

The effectiveness of antenatal care depends not only on the type of examinations performed at the visit, but also on the counseling and preventive measures given to avoid the risk of miscarriage and other pregnancy complications. The RDHS-III collected data on this important aspect of prenatal monitoring by asking women if, during their ANC visits for the most recent birth: they were told about the danger signs of pregnancy complications, they received specific medical examinations (weight, height, and blood pressure measurements), and they were given blood and urine tests. In addition, women were asked if they had received iron supplements and antimalarial drugs. The answers to these questions are presented in Table 8.3 by background characteristics.

Table 8.3 Components of antenatal care

Percentage of women with a live birth in the five years preceding the survey who received antenatal care for the most recent birth, by content of antenatal care, and percentage of women with a live birth in the five years preceding the survey who received iron tablets or syrup or antimalarial drugs for the most recent birth, according to background characteristics, Rwanda 2005

Background characteristic	Among women who received antenatal care						Number of women who received antenatal care	Received iron tablets or syrup	Received anti-malarial drugs	Number of women
	Informed of signs of pregnancy complications	Weight measured	Height measured	Blood pressure measured	Urine sample taken	Blood sample taken				
Mother's age at birth										
<20	5.7	95.4	52.0	70.1	10.9	32.4	254	25.1	4.4	276
20-34	5.5	93.4	56.6	71.4	7.8	25.7	3 597	27.9	6.2	3,777
35-49	8.1	94.4	53.0	71.1	6.2	19.6	1 273	29.4	4.9	1,372
Birth order										
1	6.8	93.0	55.8	71.5	11.6	32.4	828	27.2	7.6	875
2-3	6.5	93.8	55.8	71.2	8.6	25.9	1 629	27.2	6.0	1,706
4-5	4.1	94.5	57.6	73.0	6.1	23.3	1 275	29.6	5.7	1,349
6+	7.3	93.3	53.0	69.6	5.5	19.4	1 392	28.5	4.6	1,495
Residence										
Urban	7.8	96.1	58.4	88.1	21.8	63.6	720	33.8	9.8	774
Rural	5.9	93.3	55.0	68.5	5.3	18.2	4 404	27.2	5.1	4,651
Province										
City of Kigali	8.5	97.2	59.5	84.1	28.4	62.8	396	31.0	8.7	427
South	7.2	96.2	64.1	86.2	7.5	24.1	1 289	36.2	8.3	1,357
West	8.2	90.9	48.6	67.2	6.8	27.1	1 296	33.6	4.0	1,395
North	3.4	95.5	48.4	62.8	3.6	16.6	1 017	20.6	2.6	1,052
East	4.3	91.4	58.5	62.0	4.9	16.0	1 126	18.3	6.8	1,194
Education										
No education	6.9	92.5	50.2	65.6	5.6	19.4	1 425	27.4	4.5	1,552
Primary	5.6	93.9	57.8	71.9	6.3	24.4	3 241	27.1	5.8	3,404
Secondary or higher	7.8	96.1	55.7	84.0	23.0	41.8	458	38.3	9.8	469
Wealth quintile										
Lowest	5.0	92.4	53.8	67.5	4.6	17.2	1 065	24.0	3.2	1,163
Second	5.4	93.9	56.2	68.1	4.4	18.3	1 061	22.9	5.0	1,124
Middle	6.2	94.1	52.9	65.5	4.6	21.9	1 052	27.4	5.3	1,097
Fourth	6.2	93.9	56.4	72.6	6.9	23.0	1 018	31.1	7.0	1,069
Highest	8.3	94.4	58.4	84.3	18.9	45.0	927	36.8	9.0	972
Total	6.2	93.7	55.5	71.3	7.6	24.6	5 124	28.2	5.8	5,425

Very few women (6 percent) were informed of the signs of pregnancy complications, a situation that has remained unchanged since 2000, when the proportion of women who received this information was also 6 percent. There is little variation in this percentage by background characteristic.

Weight is by far the most common ANC measurement taken (94 percent), regardless of the mother's background characteristics. Only 71 percent of women reported having their blood pressure measured; 56 percent said their height was measured. Taking blood and urine samples for testing was least likely to occur during an ANC visit (25 percent and 8 percent, respectively).

Overall, women in rural areas, women with no education, and women living in the poorest households are the least likely to receive blood pressure measurements or blood and urine analyses as part of their ANC visits.

The proportion of women who receive iron supplements and antimalarial drugs is very low: 28 percent receive iron supplements and 6 percent receive antimalarial medication. However, it should be noted that nutritional iron supplements are not systematically prescribed for pregnant women in Rwanda except in the case of anemia. It should also be noted that the practice of giving antimalarial drugs preventively has been introduced only recently. The results by residence and wealth quintile reveal large disparities. In rural areas, 27 percent of the women reported receiving iron tablets or syrups and 5 percent said they received antimalarial drugs; the levels are higher in urban areas (34 percent for iron tablets and 10 percent for antimalarial drugs). Results by wealth quintile reveal similar differentials: in the poorest households, 24 percent of women received iron supplements, compared with 37 percent in the richest households; 3 percent received antimalarial medication, compared with 9 percent in the richest households. Results by province show that the East and North provinces have the lowest rates for iron supplementation: 21 percent for the East and 18 percent for the North, compared with a high of 36 percent for the South province. Women in the North (3 percent) and West (4 percent) provinces were the least likely to have received antimalarial drugs.

Results for some ANC components have changed little since 2000: weight measurement (93 percent); information on inherent pregnancy risks (6 percent); and preventive treatment by antimalarial drugs (8 percent, compared with 6 percent currently), although proportions have increased for the other types of examinations.

Tetanus vaccinations

Neonatal tetanus is a major cause of death among newborns in most developing countries. Tetanus toxoid injections given to the mother during pregnancy protect both mother and child against this disease. To be fully protected, a pregnant woman should receive two doses of the vaccine during her pregnancy; however, if she has already been vaccinated, for example during a previous pregnancy, one more dose is sufficient. It is important to note that the information presented here does not take into account the woman's "vaccination history;" some women may have received the vaccine prior to the period under consideration. If the vaccination was received within the past 10 years, the woman will retain some immunity.

Table 8.4 shows that antitetanus vaccination coverage for pregnant mothers remains low, and it has dropped since the last survey. Only 63 percent of women who had a live birth in the five years preceding the survey received one or two or more doses of antitetanus vaccine during their most recent pregnancy, compared with 70 percent in 2000. Those who are fully protected (along with their newborns) because they received two or more doses of antitetanus vaccine, represent only 22 percent of pregnant women; those who are partially protected (unless they were vaccinated previously) by receiving one dose

of the vaccine, represent 41 percent of the mothers surveyed. The age of the mother seems to be an important factor in tetanus coverage: the proportion of women who received one or two or more doses is higher among younger mothers (84 percent for the youngest age group; 33 percent for the oldest). Similarly, first births are better protected than higher order births: 85 percent for first births, compared with 26 percent for births order 6 and above. In addition, mothers in rural areas (62 percent, compared with 71 percent in urban areas), mothers in the South province (64 percent), and mothers with no education (54 percent, compared with 73 percent for women with a secondary education or higher) are less likely to receive the tetanus vaccine. The data by wealth quintile show no major variations with respect to vaccination coverage.

Table 8.4 Tetanus toxoid injections

Percent distribution of women who had a live birth in the five years preceding the survey by number of tetanus toxoid injections received during pregnancy for the most recent birth, according to background characteristics, Rwanda 2005

Background characteristic	None	One injection	Two or more injections	Don't know/ missing	Total	Number
Mother's age at birth						
<20	15.1	45.2	39.1	0.6	100.0	276
20-34	25.9	47.7	25.4	1.0	100.0	3,777
35-49	66.4	22.2	10.3	1.1	100.0	1,372
Birth order						
1	13.5	37.9	47.2	1.4	100.0	875
2-3	16.0	55.9	27.1	1.0	100.0	1,706
4-5	33.4	50.4	15.3	1.0	100.0	1,349
6+	72.9	17.9	8.4	0.9	100.0	1,495
Residence						
Urban	26.4	43.9	27.4	2.3	100.0	774
Rural	37.1	40.7	21.4	0.8	100.0	4,651
Province						
City of Kigali	21.3	42.8	33.2	2.7	100.0	427
South	35.1	46.4	17.9	0.5	100.0	1,357
West	38.6	39.0	20.9	1.6	100.0	1,395
North	38.0	40.0	21.0	1.0	100.0	1,052
East	35.6	38.0	25.9	0.4	100.0	1,194
Education						
No education	45.1	34.0	19.6	1.3	100.0	1,552
Primary	32.8	44.2	22.3	0.6	100.0	3,404
Secondary or higher	24.4	42.1	30.5	2.9	100.0	469
Wealth quintile						
Lowest	37.6	41.3	20.5	0.6	100.0	1,163
Second	40.8	38.5	19.8	0.9	100.0	1,124
Middle	35.9	41.4	22.0	0.7	100.0	1,097
Fourth	33.5	43.1	22.4	0.9	100.0	1,069
Highest	29.0	41.4	27.4	2.2	100.0	972
Total	35.6	41.1	22.3	1.0	100.0	5,425

8.2 DELIVERY CARE

Place of delivery

Because every pregnancy may be subject to complications, women are advised to deliver their babies in a health facility so they will have access to emergency services if needed during labor and delivery. For this reason, the RDHS-III asked women where they had given birth and who had assisted the delivery. Table 8.5 shows that less than one-third of the women delivered their babies at a health facility. In fact, 70 percent of the births in the five years preceding the survey took place at home. The

incidence of home births increases with the age of the mother: 59 percent among mothers under the age of 20; 78 percent among mothers age 35 to 49. The proportion of home births also increases with the child's birth order: 49 percent of first births took place at home, compared with 80 percent of births order 6 and above. In addition, home births were more frequent in rural areas (75 percent, compared with 44 percent in urban areas), and among women with no education (81 percent) or only a primary education (71 percent) than among women with a secondary education or higher (32 percent). By province, with the exception of the City of Kigali, where only 42 percent of births take place at home, the proportion of home births ranges from a low of 69 percent in the North to 78 percent in the East province. Moreover, mothers who have not received ANC were more likely to give birth at home (89 percent, compared with 49 percent for women who made four or more ANC visits). Finally, the proportion of women who delivered at home decreases as household wealth increases, from 82 percent for women in the poorest households, to 40 percent for those in the richest households.

Table 8.5 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery, according to background characteristics, Rwanda 2005

Background characteristic	Health facility		Home	Total[1]	Number of births
	Public sector	Private sector			
Mother's age at birth					
<20	37.5	2.7	58.8	100.0	533
20-34	28.1	1.4	69.3	100.0	6,366
35-49	19.7	0.6	77.9	100.0	1,815
Birth order					
1	47.9	2.3	48.5	100.0	1,616
2-3	26.0	1.5	71.3	100.0	2,905
4-5	21.5	1.2	76.1	100.0	2,05
6+	17.6	0.4	80.4	100.0	2,138
Residence					
Urban	49.7	5.2	44.1	100.0	1,228
Rural	23.2	0.6	74.8	100.0	7,487
Province					
City of Kigali	50.1	7.4	41.7	100.0	655
South	27.5	0.7	70.7	100.0	2,122
West	24.1	0.5	73.4	100.0	2,290
North	28.3	1.5	69.3	100.0	1,716
East	20.6	0.6	77.5	100.0	1,932
Mother's education					
No education	17.1	0.7	80.6	100.0	2,470
Primary	26.8	0.9	71.0	100.0	5,513
Secondary or higher	61.2	5.9	31.7	100.0	732
Antenatal care visits[2]					
None	8.8	1.1	88.9	100.0	291
1-3	26.0	1.3	71.4	100.0	4,400
4 or more	46.4	2.6	48.9	100.0	724
Wealth quintile					
Lowest	16.0	0.6	82.0	100.0	1,845
Second	19.0	0.3	79.6	100.0	1,794
Middle	22.4	0.9	75.3	100.0	1,785
Fourth	27.2	0.7	70.6	100.0	1,742
Highest	54.1	4.4	40.3	100.0	1,548
Total	26.9	1.3	70.4	100.0	8,715

[1] Includes those with missing information
[2] Includes only the most recent birth in the five years preceding the survey

Conversely, in urban areas, more than 55 percent of births took place at a health facility; in the City of Kigali, this proportion is 58 percent. Similarly, 67 percent of women with a secondary education or higher delivered their babies at a health facility. Finally, it should be noted that these results show no change from the two previous DHS surveys with respect to place of delivery for women in Rwanda (Figure 8.1).

Assistance during delivery

To avoid the risk of maternal death, women should be assisted during delivery by personnel who have received training in normal childbirth and who are able, if needed, to diagnose, treat, and refer complications. Table 8.6 shows the distribution of births in the five years preceding the survey by person providing assistance during the delivery. These results show that still too few women are assisted by trained personnel during childbirth. This is a crucial problem that threatens the health of both mother and child. Six in ten women (61 percent) were not assisted by trained personnel during delivery (43 percent were assisted by untrained traditional birth attendants, and 17 percent received no assistance at all).

Table 8.6 Assistance during delivery

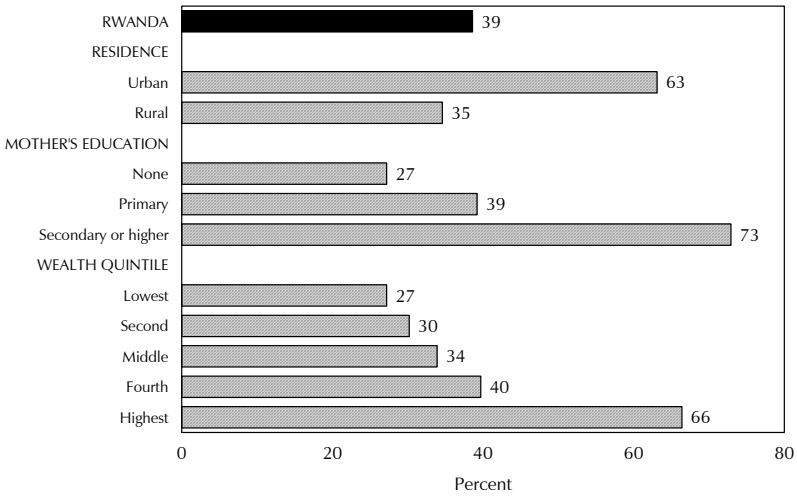
Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, according to background characteristics, Rwanda 2005

Background characteristic	Doctor	Nurse/midwife/ auxiliary midwife/trained traditional birth attendant	Trained personnel	Untrained traditional birth attendant	Relative/ other	No one	Total[1]	Number of births
Mother's age at birth								
<20	6.0	44.0	50.0	42.1	0.2	7.7	100.0	533
20-34	5.3	34.7	40.0	44.0	0.4	15.2	100.0	6,366
35-49	3.7	26.9	30.6	41.0	0.6	27.6	100.0	1,815
Birth order								
1	9.3	51.8	61.1	34.0	0.1	4.6	100.0	1,616
2-3	5.1	33.0	38.1	47.5	0.3	13.9	100.0	2,905
4-5	3.2	29.9	33.1	45.4	0.6	20.5	100.0	2,056
6+	3.4	24.4	27.8	42.6	0.7	28.7	100.0	2,138
Residence								
Urban	13.6	49.5	63.1	26.6	0.8	9.2	100.0	1,228
Rural	3.6	31.0	34.6	46.0	0.4	18.7	100.0	7,487
Province								
City of Kigali	15.0	46.7	61.8	26.9	1.2	9.8	100.0	655
South	6.4	33.5	39.9	43.0	0.2	16.9	100.0	2,122
West	5.2	29.2	34.4	45.1	0.7	19.4	100.0	2,290
North	2.2	31.9	34.1	50.3	0.5	14.9	100.0	1,716
East	2.4	36.1	38.5	40.9	0.1	20.2	100.0	1,932
Mother's education								
No education	2.7	24.5	27.2	46.4	0.4	25.9	100.0	2,470
Primary	4.6	34.7	39.2	44.8	0.5	15.1	100.0	5,513
Secondary or higher	16.3	56.6	72.9	21.6	0.0	5.4	100.0	732
Wealth quintile								
Lowest	2.1	25.1	27.2	51.1	0.6	20.9	100.0	1,845
Second	2.9	27.3	30.2	49.0	0.7	19.9	100.0	1,794
Middle	3.1	30.8	33.9	46.6	0.3	18.5	100.0	1,785
Fourth	3.8	35.9	39.7	44.1	0.2	15.9	100.0	1,742
Highest	14.5	51.9	66.4	22.7	0.4	10.4	100.0	1,548
Total	5.0	33.6	38.6	43.3	0.4	17.3	100.0	8,715

Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation.
[1] Includes those with missing information

Although only 39 percent of births were delivered with the assistance of qualified personnel, this proportion has increased since 1992 (Figure 8.1). The proportion of women who received no assistance increases with age of the mother (8 percent for women under age 20, 28 percent for women age 35-49) and with birth order (5 percent for first births, compared with 29 percent for birth order 6 or above). Unassisted deliveries are more frequent in rural areas (19 percent) than in urban areas (9 percent). Similarly, in the provinces, the proportion of unassisted deliveries ranges from a high of 20 percent in the East province to a low of 10 percent in the City of Kigali. A woman's level of education is related to the delivery conditions: 26 percent of women with no education delivered without assistance, compared with 15 percent of women with a primary education and 5 percent of women with higher educations. In addition, results by household wealth quintile show that deliveries assisted by trained personnel are more than twice as frequent in the richest quintile as in the poorest (66 percent, compared with 27 percent) (see Figure 8.2).

Figure 8.2 Children Whose Delivery Was Assisted by Trained Personnel



RDHS 2005

Delivery characteristics

For live births in the five years preceding the survey, mothers were asked if the delivery took place by caesarean section (C-section); they were also asked the child's birth weight and size. It should be noted that Rwandan health officials hold that C-sections should not exceed 10 percent of deliveries in a health facility.

Table 8.7 shows that only 3 percent of live births were delivered by C-section, a figure well below the Rwandan health stipulation. As expected, the frequency of this intervention, although very low, is higher among younger women, first births, births in urban areas, births among educated women, and births among women in the richest wealth quintile.

Table 8.7 Delivery characteristics

Percentage of live births in the five years preceding the survey delivered by caesarean section, and percent distribution by birth weight and by mother's estimate of baby's size at birth, according to background characteristics, Rwanda 2005

Background characteristic	Delivery by C-section	Birth weight				Size of child at birth				Number of births
		Not weighed	Less than 2.5 kg	2.5 kg or more	Total[1]	Very small	Smaller than average	Average or larger	Total[1]	
Mother's age at birth										
<20	3.5	61.1	2.7	32.9	100.0	3.2	11.9	84.5	100.0	533
20-34	3.3	67.2	1.7	29.5	100.0	3.2	9.4	86.9	100.0	6,366
35-49	1.5	73.4	1.2	23.9	100.0	3.7	9.6	86.4	100.0	1,815
Birth order										
1	5.6	50.9	3.7	42.6	100.0	5.1	13.1	81.2	100.0	1,616
2-3	3.3	69.2	1.5	27.9	100.0	2.6	8.6	88.4	100.0	2,905
4-5	1.8	71.8	1.2	25.5	100.0	3.1	8.5	87.6	100.0	2,056
6+	1.6	76.1	0.8	21.5	100.0	3.2	9.1	87.4	100.0	2,138
Residence										
Urban	7.5	37.3	2.5	58.1	100.0	3.8	8.8	86.7	100.0	1,228
Rural	2.2	73.1	1.6	23.7	100.0	3.3	9.7	86.7	100.0	7,487
Province										
City of Kigali	9.2	32.9	2.9	62.2	100.0	4.1	8.0	87.3	100.0	655
South	3.4	70.8	2.0	26.0	100.0	4.7	9.3	86.0	100.0	2,122
West	2.7	74.4	1.0	22.4	100.0	2.7	10.5	86.3	100.0	2,290
North	1.7	68.2	1.4	28.7	100.0	2.8	8.0	88.7	100.0	1,716
East	1.7	69.5	2.1	27.0	100.0	2.9	10.6	85.8	100.0	1,932
Mother's education										
No education	2.1	78.2	1.0	18.8	100.0	3.4	10.6	85.5	100.0	2,470
Primary	2.6	68.7	1.8	27.9	100.0	3.2	9.4	86.9	100.0	5,513
Secondary or higher	8.7	29.5	3.3	66.0	100.0	3.6	7.2	89.0	100.0	732
Wealth quintile										
Lowest	1.3	81.0	1.4	16.1	100.0	3.4	10.2	85.9	100.0	1,845
Second	2.2	76.0	1.2	21.6	100.0	3.3	9.6	86.9	100.0	1,794
Middle	1.7	72.4	1.5	23.9	100.0	2.8	10.1	86.5	100.0	1,785
Fourth	2.4	69.4	1.9	27.0	100.0	4.0	9.6	86.0	100.0	1,742
Highest	7.8	37.0	2.5	58.4	100.0	3.3	8.1	88.1	100.0	1,548
Total	2.9	68.1	1.7	28.5	100.0	3.3	9.5	86.7	100.0	8,715

[1] Includes those with missing information

Table 8.7 shows results for birth weight. According to mothers' reports, for 68 percent of live births, the infants were not weighed, the reason being that most of them were born at home. The proportion of children not weighed was particularly high for mothers age 35 to 49 (73 percent) and for birth order six and above (76 percent). Similarly, nearly three-quarters of children in rural areas were not weighed at birth (73 percent). The proportion not weighed among infants whose mothers had no education was 78 percent, and the highest proportion not weighed was found in the poorest quintile (81 percent). Because of the high proportion of births for which data are not available, and the wide variations by background characteristics, the figure for low-birth-weight babies is heavily biased (almost certainly underestimated) and therefore should be viewed with caution.

Mothers were also asked if they believed their child was very large, larger than average, average, smaller than average, or very small at birth. Eighty-seven percent of the mothers said they believed their child was average or larger than average. This belief does not vary significantly by respondents' background characteristics. Ten percent of mothers said their child was smaller than average and 3 percent said it was very small. Births believed to be smaller than average were reported most frequently for mothers under the age of 20 at the time of the birth (12 percent), first births (13 percent), mothers in rural areas (10 percent), mothers in the West (11 percent) and East (11 percent) provinces, mothers with no education (11 percent), and mothers in the poorest quintile (10 percent).

8.3 POSTNATAL CARE

A significant proportion of maternal and newborn deaths in the neonatal period take place within 48 hours following delivery. For this reason, Safe Motherhood programs have recently placed special emphasis on the importance of postnatal checkups, recommending that all women have a postnatal visit within two days following the delivery. During the survey, therefore, women whose most recent birth took place outside a health facility were asked if they had received a postnatal checkup, and the timing of this checkup following delivery.

Table 8.8 shows that more than one in four women (29 percent) delivered their babies in a health facility; it is presumed that these women received postnatal care prior to leaving the facility. However, practically none of the women who delivered outside a health facility received a postnatal checkup within the 42 days immediately following the delivery (95 percent), and this proportion remains very high for all background characteristics. Only 4 percent of women who did not deliver at a health facility received a postnatal checkup within two days following the delivery. The proportions who received postnatal care, though low, are highest in the City of Kigali (5 percent), among the most educated women (10 percent), and among women in the richest quintile (8 percent).

The proportion of mothers who did not receive a postnatal checkup has remained stable since 2000, when it was 96 percent, compared with 95 percent in 2005.

Table 8.8 Postnatal care

Percentage of live births in the five years preceding the survey for which the mother delivered in a health facility, and percent distribution of women whose last live birth in the five years preceding the survey occurred outside a health facility by timing of postnatal care, according to background characteristics, Rwanda 2005

Background characteristic	Delivered in a health facility	Number of births	Timing of first postnatal checkup for births occurring outside a health facility					Total	Number of births occurring outside a health facility
			0-2 days after delivery	3-6 days after delivery	7-41 days after delivery	Don't know/ missing	Did not receive postnatal checkup[1]		
Mother's age at birth									
<20	44.6	276	2.6	0.0	0.5	0.0	96.9	100.0	153
20-34	31.2	3,777	3.6	0.4	0.6	0.3	95.1	100.0	2,600
35-49	21.1	1,372	4.1	0.1	0.4	0.4	95.1	100.0	1,083
Birth order									
1	54.2	875	3.9	0.5	1.4	0.3	93.9	100.0	400
2-3	28.9	1,706	3.5	0.3	0.5	0.2	95.5	100.0	1,214
4-5	25.6	1,349	4.0	0.4	0.3	0.5	94.7	100.0	1,004
6+	18.5	1,495	3.6	0.1	0.4	0.3	95.7	100.0	1,218
Residence									
Urban	55.0	774	5.4	0.7	1.1	0.6	92.2	100.0	348
Rural	25.0	4,651	3.5	0.2	0.4	0.3	95.5	100.0	3,487
Province									
City of Kigali	58.1	427	5.2	0.9	0.9	1.3	91.6	100.0	179
South	29.2	1,357	3.9	0.2	0.5	0.2	95.2	100.0	961
West	25.8	1,395	4.3	0.2	0.5	0.4	94.5	100.0	1,036
North	30.3	1,052	2.9	0.5	0.1	0.6	95.9	100.0	734
East	22.4	1,194	3.1	0.1	0.7	0.0	96.2	100.0	926
Education									
No education	19.1	1,552	2.8	0.2	0.4	0.3	96.2	100.0	1,256
Primary	28.6	3,404	3.8	0.2	0.5	0.4	95.2	100.0	2,429
Secondary or higher	67.8	469	9.9	1.6	1.1	0.0	87.5	100.0	151
Wealth quintile									
Lowest	17.8	1,163	2.7	0.1	0.2	0.3	96.7	100.0	956
Second	21.2	1,124	2.5	0.3	0.1	0.0	97.1	100.0	886
Middle	22.5	1,097	3.3	0.3	0.6	0.5	95.2	100.0	850
Fourth	28.5	1,069	4.6	0.4	0.6	0.6	93.7	100.0	764
Highest	61.0	972	7.9	0.2	1.5	0.4	90.0	100.0	379
Total	29.3	5,425	3.7	0.3	0.5	0.3	95.2	100.0	3,836

[1] Includes women who received the first postnatal checkup after 41 days

8.4 VACCINATION OF CHILDREN

To assess Rwanda's Expanded Program on Immunization (EPI), the RDHS-III gathered information on vaccinations for all children who were born in the five years preceding the survey.

The EPI largely follows the World Health Organization's (WHO) guidelines for vaccinating children. These guidelines stipulate that, to be considered fully immunized, children should receive the following vaccines by the age of 12 months: one dose of BCG (against tuberculosis), three doses of DPT (against diphtheria, pertussis, and tetanus), three doses of the oral polio vaccine, and one dose of the measles vaccine. Vaccines against Haemophilus influenza and hepatitis were introduced in Rwanda in January 2001.

Each child who is vaccinated receives a card on which all of the vaccines received are recorded. The information on vaccinations was gathered from two sources: where vaccination cards were available,

the interviewer copied the information directly onto the questionnaire; where cards were not available—because the mother never had one, or it was unavailable at the time of the survey, or she had lost it—mothers were asked to recall whether or not the child had received each of the vaccines covered by the survey.

Table 8.9 presents vaccination coverage results by source of information for children age 12 to 23 months, thereby including only children who had reached the age by which they should be fully immunized. According to the vaccination cards, 66 percent of children age 12 to 23 months are fully immunized. When information from both information sources is considered, the percentage of children fully immunized reaches 75 percent. Vaccination coverage based solely on the mother's report occurred in only 9 percent of cases. Of the fully immunized children, 69 percent received their vaccinations before their first birthday as recommended by WHO and the Rwanda EPI. Only 3 percent of children age 12 to 23 months had not received any vaccinations at the time of the survey.

Table 8.9 Vaccinations by source of information

Percentage of children age 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, Rwanda 2005

Source of information	BCG	DPT			Polio[1]				Measles	All[2]	No vaccinations	Number of children
		1	2	3	0	1	2	3				
Vaccinated at any time before the survey												
Vaccination card	75.1	75.7	74.8	72.7	61.4	75.6	74.6	72.7	66.9	65.9	0.0	1,234
Mother's report	21.3	21.1	18.6	14.3	12.5	20.9	18.4	11.6	18.7	9.3	2.5	392
Either source	96.5	96.8	93.4	87.0	73.9	96.5	93.0	84.3	85.6	75.2	2.5	1,626
Vaccinated by 12 months of age[3]	96.4	96.5	93.0	86.4	73.8	96.2	92.6	83.7	79.4	69.3	3.8	1,626

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)
[3] 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.

According to the vaccination cards, 75 percent of children age 12 to 23 months have received the BCG vaccine; 21 percent more have received it based on mothers' reports. Therefore, a total of 97 percent of children had been immunized against tuberculosis at the time of the survey, almost all of them before their first birthday (12 months). According to both sources of information, the proportion of children who received the first dose of DPT is also very high (97 percent); however, DPT vaccination coverage gradually declines for subsequent doses, from 97 percent for the first dose, to 93 percent for the second dose, to 87 percent for the third dose. These figures represent a dropout rate of 10 percent between the first and third doses of DPT.

Because polio vaccine is given at the same time as DPT, its levels are expected to be similar, which is the case in Rwanda. For this vaccine as well, coverage gradually declines for subsequent doses, from 96 percent for the first dose, to 93 percent for the second dose, to 84 percent for the third dose. The dropout rate is 13 percent between the first and third doses. According to both sources of information, just under three-quarters of children received polio dose 0 at birth (74 percent).

According to both sources of information, 86 percent of children received the measles vaccine; however, only 79 percent received it before the age of 12 months. Although the proportion of fully immunized children had declined between the two previous surveys, from 87 percent in 1992 to 76 percent in 2000, the results of the current survey show some improvement in vaccination coverage, which has maintained its 2000 level (76 percent) (Figure 8.3).

Figure 8.3 Trends in Vaccination Coverage among Children Age 12-23 Months, Rwanda 1992, 2000, and 2005

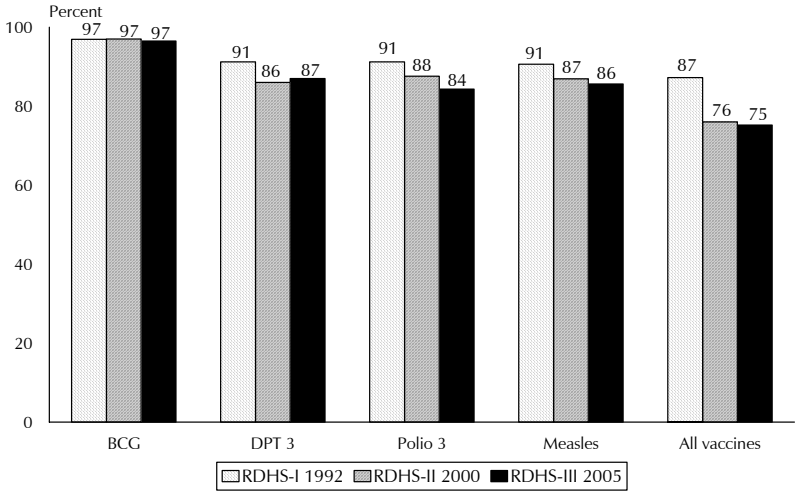


Table 8.10 shows the results for vaccination coverage among children age 12 to 23 months according to background characteristics of mother and child. The data show practically no disparity by sex (75 percent for males and females). However, complete coverage declines with children's birth order: 79 percent for the first birth; 75 percent for birth orders 2-3 and 4-5; and 73 percent for children of birth order 6 and above. By residence, complete vaccination coverage is higher in rural areas (76 percent) than in urban areas (71 percent), primarily because the City of Kigali has the lowest vaccination coverage in the country (62 percent). This low proportion in the City of Kigali is due in part to the high dropout rate between polio doses (22 percent between the first and third doses). The East province has the second lowest coverage rate (67 percent) after the City of Kigali.

Complete vaccination coverage increases steadily with the mother's level of education, although the differentials are not great: 72 percent for children whose mothers have no education; 76 percent for children whose mothers have a primary education; and 78 percent for children whose mothers have a secondary education or higher. However, the proportion of vaccinated children varies little according to household wealth: it is highest in the fourth quintile (79 percent); in the other quintiles the proportions are all approximately 74 percent.

Table 8.10 Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Rwanda 2005

Background characteristic	BCG	DPT			Polio[1]				Measles	All[2]	No vaccinations	Percentage with a vaccination card seen	Number of children
		1	2	3	0	1	2	3					
Sex													
Male	95.6	96.0	92.2	85.3	72.4	95.4	91.7	83.3	84.9	75.0	3.4	75.1	844
Female	97.4	97.6	94.8	88.8	75.5	97.6	94.4	85.3	86.4	75.4	1.7	76.8	782
Birth order													
1	95.9	96.1	92.2	87.6	76.8	96.4	93.4	84.8	90.7	79.0	3.1	77.5	324
2-3	97.7	97.7	96.3	88.8	73.8	97.1	93.7	84.1	85.5	74.6	1.7	75.6	519
4-5	96.2	97.2	92.6	85.9	73.4	96.9	93.7	84.2	85.6	74.7	2.4	75.5	380
6+	95.6	95.7	91.5	85.2	72.2	95.2	91.3	84.2	81.7	73.3	3.4	75.3	402
Residence													
Urban	97.6	96.4	90.7	84.9	81.9	98.3	93.6	81.0	89.6	71.0	1.5	69.3	214
Rural	96.3	96.8	93.8	87.3	72.7	96.2	92.9	84.8	85.0	75.8	2.7	76.9	1,412
Province													
City of Kigali	97.4	96.2	89.4	80.6	83.1	98.3	91.5	76.4	85.4	61.7	1.7	69.0	103
South	98.3	98.1	96.9	92.5	73.3	97.7	94.7	88.8	94.1	84.3	1.1	76.4	393
West	96.7	98.4	92.6	84.4	71.4	97.1	92.0	82.6	82.5	72.0	1.6	76.0	440
North	99.0	98.8	95.7	90.3	79.1	98.8	97.5	86.6	92.1	81.2	0.2	76.6	340
East	91.4	91.4	89.5	82.6	69.9	91.4	88.5	81.4	73.9	67.0	7.9	76.6	350
Education													
No education	94.2	94.7	91.0	83.7	69.7	94.1	90.5	80.4	82.6	71.8	4.7	71.0	423
Primary	97.2	97.5	94.8	88.3	75.0	97.2	93.6	86.0	86.0	76.2	1.8	78.8	1,067
Secondary or higher	98.2	97.2	90.3	86.4	78.2	98.2	96.9	82.8	92.0	77.7	1.8	67.9	135
Wealth quintile													
Lowest	95.8	96.0	92.9	85.7	68.6	96.0	91.8	82.3	84.9	74.3	3.7	71.4	335
Second	96.3	95.8	91.5	84.8	71.9	94.3	90.2	82.4	83.9	73.8	3.0	76.6	345
Middle	95.1	96.4	94.4	88.1	74.9	96.4	93.6	85.5	84.1	75.0	3.0	78.3	339
Fourth	97.0	97.7	95.3	90.1	71.3	97.7	95.1	87.6	88.1	78.7	1.4	77.7	329
Highest	98.5	98.1	93.0	86.0	84.6	98.3	94.9	83.7	87.6	74.0	1.3	75.3	277
Total	96.5	96.8	93.4	87.0	73.9	96.5	93.0	84.3	85.6	75.2	2.5	75.9	1,626

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

8.5 CHILDHOOD ILLNESSES

8.5.1 Acute Respiratory Infection (ARI) and Fever

Acute Respiratory Infections (ARI), particularly pneumonia, constitute one of the main causes of child deaths in developing countries. To assess the prevalence of these infections, mothers were asked if their children under five years had been ill with a cough during the two weeks preceding the survey. If the answer was yes, they were asked if the cough had been accompanied by short, rapid breathing. Fever is the primary symptom of many illnesses including malaria and measles, which cause numerous deaths in developing countries. For this reason, mothers were asked whether their children had suffered from a fever during the two weeks preceding the interview. In addition, for children who had presented

symptoms of ARI and fever, information was gathered concerning whether or not treatment or advice had been sought. The results are presented in Table 8.11.

Among children under the age of five, 17 percent had been ill with a cough accompanied by short, rapid breathing in the two weeks preceding the survey. These respiratory infections were the most frequent among children age 6-11 months (28 percent) and 12-23 months (21 percent) (see Figure 8.4). There is no notable difference in ARI prevalence between boys and girls (17 percent for both). The prevalence of AIR is similar in rural and urban areas (17 percent and 18 percent, respectively).

Table 8.11 Prevalence and treatment of symptoms of ARI and fever

Percentage of children under five years who had a cough accompanied by short, rapid breathing (symptoms of ARI), and percentage of children who had fever in the two weeks preceding the survey, and percentage of children with symptoms of ARI and/or fever for whom treatment was sought from a health facility or provider, by background characteristics, Rwanda 2005

Background characteristic	Percentage of children with symptoms of ARI	Percentage of children with fever	Number of children	Among children with symptoms of ARI and/or fever, percentage for whom treatment was sought from a health facility/provider[1]	Number of children
Age in months					
<6	15.5	19.5	891	24.4	228
6-11	27.5	38.9	830	35.8	374
12-23	21.3	36.9	1,626	30.9	684
24-35	15.8	24.0	1,732	26.8	500
36-47	14.2	20.8	1,373	18.6	362
48-59	11.2	18.4	1,346	18.8	302
Sex					
Male	17.2	26.5	3,959	27.8	1,258
Female	16.9	26.0	3,839	26.0	1,192
Residence					
Urban	18.4	25.3	1,144	40.6	362
Rural	16.9	26.4	6,653	24.5	2,088
Province					
City of Kigali	17.4	25.2	599	43.6	188
South	17.7	29.5	1,909	28.1	652
West	15.5	23.6	2,075	20.0	593
North	14.9	22.9	1,571	32.1	437
East	20.4	29.3	1,644	23.2	580
Education					
No education	18.6	28.3	2,172	23.7	719
Primary	16.7	26.0	4,938	26.5	1,549
Secondary or higher	14.7	21.0	687	43.0	183
Wealth quintile					
Lowest	18.1	27.8	1,612	21.7	531
Second	16.3	24.8	1,605	24.5	481
Middle	17.0	25.8	1,620	23.9	505
Fourth	16.7	27.5	1,525	23.8	492
Highest	17.4	25.2	1,436	42.7	441
Total	17.1	26.2	7,797	26.9	2,450

[1] Excludes pharmacy, shop, and traditional practitioner

Results according to province show a higher prevalence of ARI in the East (20 percent) and South (18 percent) provinces and in the City of Kigali (17 percent) than elsewhere. Results according to mother's level of education vary somewhat: from a high of 19 percent for children of mothers with no education, to 17 percent for children of mothers with primary education, to 15 percent for children of mothers with secondary or higher education. ARI prevalence does not vary much by wealth quintile.

In the two weeks preceding the survey, just over one-quarter of the children had had a fever (26 percent). As with ARI, age seems to be the most important factor affecting fever prevalence: children age 6-11 months (39 percent) and 12-23 months (37 percent) were the most likely to have had a fever (Figure 8.4). Fever prevalence does not vary much by gender of child (27 percent for boys; 26 percent for girls) or residence (25 percent for urban; 26 percent for rural), and there are only slight variations between provinces, prevalence being highest in the South (30 percent) and East (29 percent) provinces and in the City of Kigali (27 percent). Similarly, children whose mothers have no education (28 percent) were more likely to have suffered from fever (28 percent, compared with 21 percent for those whose mothers have a secondary education or higher). Household wealth does not significantly affect the prevalence of fever in children under the age of five.

The table also shows the proportion of children for whom treatment was sought. Treatment or advice was sought from a health facility or provider for only 27 percent of children with the symptoms of acute respiratory infection and/or fever. Treatment was sought most often for children age 6-11 months (35 percent) and 12-23 months (31 percent), who, as seen above, have the highest prevalence of fever and ARI.

Whether or not treatment is sought from a health facility for ARI or fever is influenced by residence, mother's level of education, and wealth quintile. In urban areas, treatment was sought for 41 percent of children, compared with only one in four children in rural areas (25 percent). Similarly, treatment or advice was sought for 43 percent of children whose mothers have a secondary education or higher, compared with only 27 percent of children whose mothers have a primary education, and 24 percent of those whose mothers have no education.

Finally, treatment was sought for 43 percent of children in the richest households, while in the poorest households, this proportion was only 22 percent. The data for treatment seeking show no significant variation by gender of child.

The results according to province show that seeking treatment is not necessarily linked to prevalence of ARI or fever. Apart from the City of Kigali, which has a high proportion of children for whom treatment or advice was sought (44 percent), treatment was most often sought in the North province (32 percent), which has the lowest prevalence of ARI and/or fever. However, the proportion of children for whom advice or treatment was sought was only 23 percent in the East province, which has relatively high levels of ARI and fever.

8.5.2 Diarrhea

Prevalence of diarrhea

Diarrheal diseases constitute one of the main causes of death among young children in developing countries because of associated dehydration and malnutrition. To combat the effects of dehydration, WHO promotes the use of oral rehydration therapy (ORT), which includes a prepared solution of oral rehydration salts (ORS), from packets; a solution prepared at home using water, sugar, and salt (recommended home fluids, or RHF); or simply increased intake of fluids.

To assess the prevalence of diarrheal diseases in children under the age of five, mothers were asked whether their children had suffered from diarrhea during the two weeks preceding the survey (Table 8.12). Information was also gathered on the percentage of mothers who had heard of ORS packets (Table 8.13), the percentage of children for whom treatment or advice was sought, and the type of treatment used to treat the diarrhea. Regarding treatment, mothers were asked whether they had used ORS packets and/or RHF, or other treatments during the diarrheal episodes (Table 8.14).

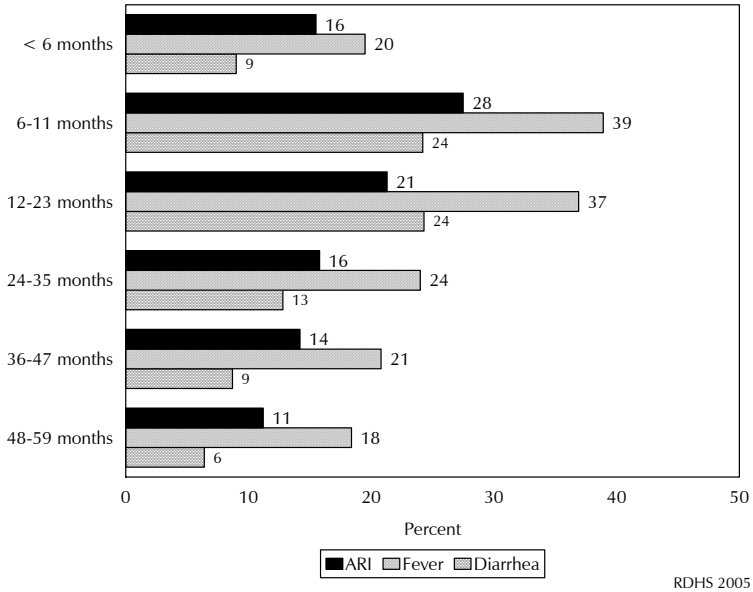
Table 8.12 shows that, according to mothers' reports, 14 percent of children had suffered from diarrhea in the two weeks preceding the survey. The prevalence of diarrhea is especially high among children age 6-23 months (24 percent) (Figure 8.4). These high-prevalence ages are also the ages at which children begin to be weaned and consume foods other than breast milk. They also correspond to the ages at which children begin to explore their environment, resulting in greater exposure to pathogens. Diarrhea prevalence seems to have little relation to a child's gender or residence: 15 percent of male children suffered from diarrhea, compared with 13 percent of female children, and 13 percent of children in rural areas were affected by diarrhea, compared with 14 percent in urban areas. By province, the City of Kigali has the lowest diarrhea prevalence (11 percent); variations are small among the other provinces, the proportion of children with diarrhea ranging between 14 percent and 15 percent. However, mother's level of education seems to play an important role, with prevalences being higher among children whose mothers have no education or have a primary education than among those whose mothers have a secondary education or higher (15 percent, compared with 9 percent). Moreover, children who drink piped (tap) water have the lowest prevalence of diarrhea (12 percent). Although unclean water is an increased risk factor for contracting diarrheal diseases, surprisingly, the prevalence of diarrhea among children in households that drink water from open wells (14 percent) or surface water (from lakes or marsh creeks—15 percent) does not differ substantially from the prevalence of diarrhea among children who consume piped water (12 percent). Moreover, children who drink protected well water have the highest prevalence of diarrhea (16 percent). There also does not appear to be a strong link between diarrhea prevalence and household wealth. In households in the poorest quintile, 16 percent of children had diarrhea in the two weeks preceding the survey, compared with 11 percent among children in the richest quintile, but diarrhea prevalence in the fourth quintile is identical to that of the poorest quintile (16 percent).

Table 8.12 Prevalence of diarrhea

Percentage of children under five years with diarrhea in the two weeks preceding the survey, by background characteristics, Rwanda 2005

Background characteristic	Diarrhea in the two weeks preceding the survey	Number of children
Age in months		
<6	9.0	891
6-11	24.2	830
12-23	24.3	1,626
24-35	12.8	1,732
36-47	8.7	1,373
48-59	6.4	1,346
Sex		
Male	15.2	3,959
Female	13.1	3,839
Residence		
Urban	12.7	1,144
Rural	14.4	6,653
Province		
City of Kigali	11.2	599
South	14.5	1,909
West	13.7	2,075
North	14.5	1,571
East	15.1	1,644
Mother's education		
No education	15.1	2,172
Primary	14.5	4,938
Secondary or higher	8.5	687
Source of drinking water		
Piped	12.1	2,216
Protected well	15.8	484
Open well	14.0	1,046
Surface	15.3	3,975
Other	5.2	76
Wealth quintile		
Lowest	16.0	1,612
Second	14.2	1,605
Middle	13.6	1,620
Fourth	16.0	1,525
Highest	10.8	1,436
Total	14.1	7,797

Figure 8.4 Prevalence of ARI, Fever, and Diarrhea, by Age



Knowledge of ORS packets

Table 8.13 shows that 87 percent of women with births in the five years preceding the survey reported knowing about oral rehydration salt (ORS) packets. This proportion is slightly higher than that of the RDHS-II survey (86 percent).

The level of knowledge of ORS packets increases with the age of the mother, ranging from a low of 63 percent for mothers age 15 to 19, to a high of 91 percent for mothers age 35 to 49. There is not much variation between urban and rural areas (90 percent and 86 percent, respectively). Neither is there any significant difference between the provinces, knowledge of ORS ranging between 83 percent and 89 percent. However, knowledge of ORS packets increases with mother's level of education and household wealth. The proportion of women who had heard of ORS packets increases from 85 percent among women with no education to 95 percent among the most educated women; similarly, it rises from 84 percent among the poorest women to 91 percent among women in the richest quintile.

Table 8.13 Knowledge of ORS packets

Percentage of mothers with births in the five years preceding the survey who know about ORS packets for treatment of diarrhea, by background characteristics, Rwanda 2005

Background characteristic	Percentage of mothers who know about ORS packets	Number of mothers
Age		
15-19	63.2	84
20-24	79.0	1,060
25-29	85.9	1,359
30-34	90.3	1,175
35-49	91.1	1,747
Residence		
Urban	90.0	774
Rural	86.3	4,651
Province		
City of Kigali	88.3	427
South	87.8	1,357
West	82.9	1,395
North	89.3	1,052
East	87.7	1,194
Education		
No education	84.5	1,552
Primary	86.9	3,404
Secondary or higher	94.5	469
Wealth quintile		
Lowest	84.4	1,163
Second	84.3	1,124
Middle	88.9	1,097
Fourth	86.8	1,069
Highest	90.5	972
Total	86.9	5,425

ORS = Oral rehydration salts

Treatment of diarrhea

Table 8.14 shows that advice or treatment was sought for only 14 percent of children with diarrhea. Treatment was most often sought for children age 12-35 months (17 percent). Only 12 percent of children age 6-11 months—who have the highest prevalence of diarrhea—received treatment. Boys (16 percent) were more likely to be taken to health facilities for treatment than girls (12 percent).

There is little difference in treatment seeking for diarrhea between urban (16 percent) and rural (14 percent) areas. However, there are major differences with respect to provinces; the proportion of children taken to a health facility ranges from a high of 23 percent in the North province to a low of 10 percent in the East province. Children whose mothers have a secondary education or higher (24 percent, compared with 16 percent for those whose mothers have no education) and those living in the richest households (18 percent, compared with 13 percent in the poorest quintile) received treatment more frequently than other children.

Table 8.14 Diarrhea treatment

Percentage of children under five years who had diarrhea in the two weeks preceding the survey taken for treatment to a health provider, percentage who received oral rehydration therapy (ORT), and percentage given other treatments, according to background characteristics, Rwanda 2005

		Oral rehydration therapy (ORT)					Other treatments				
Background characteristic	Percentage taken to a health provider[1]	ORS packets	RHF	Either ORS or RHF	Increased fluids	ORS, RHF, or increased fluids	Pill/ syrup	Injection	Home remedy/ other	No treat-ment	Number of children
Age in months											
<6	7.1	2.5	7.4	9.9	7.4	16.0	9.7	0.0	29.0	52.1	80
6-11	11.7	12.8	9.3	19.3	17.0	30.9	13.5	1.3	36.5	36.1	201
12-23	16.6	12.0	9.1	19.5	17.9	31.9	20.2	1.3	31.3	31.8	395
24-35	15.5	16.0	6.7	21.1	22.5	36.2	22.4	0.5	34.4	25.0	222
36-47	14.7	9.0	8.5	16.6	25.3	36.1	24.8	0.3	28.7	30.0	119
48-59	10.5	7.3	9.6	16.9	16.6	32.1	10.3	0.0	29.2	42.4	86
Sex											
Male	16.1	11.5	7.7	17.7	18.4	31.0	19.9	1.0	31.9	34.5	600
Female	11.8	11.7	9.5	19.6	18.9	33.1	16.6	0.6	32.6	31.9	503
Residence											
Urban	16.2	14.6	13.0	26.8	25.4	39.5	25.0	0.9	26.8	27.9	145
Rural	13.8	11.1	7.8	17.3	17.6	30.8	17.4	0.8	33.1	34.1	958
Province											
City of Kigali	18.6	20.3	11.6	30.4	26.6	40.9	23.3	1.3	27.1	28.5	67
South	10.9	6.6	11.8	17.7	24.7	35.9	14.4	0.8	28.9	35.0	277
West	13.2	17.0	7.9	22.5	14.6	32.8	17.6	0.9	27.9	35.9	284
North	22.5	14.7	4.9	18.8	14.2	27.6	22.1	0.9	26.8	36.8	227
East	9.9	5.6	8.0	11.7	18.3	28.0	19.0	0.7	47.4	26.5	248
Mother's education											
No education	16.0	12.8	6.8	18.6	16.1	29.9	19.8	0.9	30.9	33.3	328
Primary	12.5	10.4	9.1	18.0	18.3	31.5	16.5	0.7	32.9	34.7	717
Secondary or higher	24.4	18.4	11.0	26.1	36.9	48.7	33.9	1.5	32.6	16.4	58
Wealth quintile											
Lowest	13.3	10.6	7.0	15.2	15.8	27.1	16.4	0.3	34.0	36.0	257
Second	11.5	6.6	8.1	13.0	18.7	27.2	16.1	1.2	36.2	31.9	227
Middle	13.5	10.2	6.5	15.2	18.8	29.3	15.7	0.0	29.4	39.7	220
Fourth	15.4	14.3	10.7	24.5	16.0	37.9	16.6	1.2	33.3	31.7	243
Highest	18.3	18.1	10.9	27.8	26.9	41.3	31.6	1.7	26.0	24.4	155
Total	14.1	11.6	8.5	18.6	18.6	31.9	18.4	0.8	32.3	33.3	1,103

Note: ORT includes solution prepared from oral rehydration salt (ORS) packets, recommended home fluids (RHF), and increased fluids.
[1] Excludes pharmacy, shop and traditional practitioner

During diarrheal episodes, only 12 percent of children received ORS, 9 percent received RHF, and 19 percent received either ORS or RHF. In addition, 19 percent of children received increased fluids. Overall, 32 percent of children were treated with some form of oral rehydration. In addition, 18 percent of children received pills or syrup, and a very small proportion of children (1 percent) received treatment by injection. The proportion of children treated with traditional remedies is high (33 percent), and nearly identical to that of children who received ORT (32 percent). One-third of children (33 percent) received no treatment at all. This proportion is particularly high among children younger than 6 months (52 percent).

Feeding practices during diarrhea

During diarrheal episodes, it is recommended that children consume more food and liquids than usual. Table 8.15 shows that 42 percent of children who had diarrhea were offered the same amount of liquids as usual while they were ill; 22 percent were offered less than usual; and 8 percent were offered much less than usual. Only 19 percent of children were offered more liquids than usual. Nine percent of children were offered no liquids at all.

Regarding food intake, 36 percent of children with diarrhea were offered the same amount of food as usual, 29 percent were offered less than usual, and 11 percent were offered much less than usual. Only 6 percent of children were offered more food than usual. Finally, 2 percent were not given any food.

Table 8.15 Feeding practices during diarrhea

Percent distribution of children under five years who had diarrhea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, Rwanda 2005

Liquid/food offered	Percentage
Amount of liquids offered	
Same as usual	41.9
More	18.6
Somewhat less	21.7
Much less	7.8
None	8.8
Total[1]	100.0
Amount of food offered	
Same as usual	36.2
More	5.7
Somewhat less	28.8
Much less	11.2
None	1.6
Never gave food	15.6
Total[1]	100.0
Number of children	1,103

[1] Includes those with missing information

8.6 PROBLEMS IN ACCESSING HEALTH CARE

Access to health care is a key priority for improving a country's overall health status. Therefore, the survey sought to obtain information on the problems women perceive as barriers to accessing health care.

The results are presented in Table 8.16. First, 71 percent of women reported lack of money for treatment as the primary barrier. The extent of this problem increases with age, with the oldest women encountering this problem more frequently than the youngest women (68 percent at age 15-19, compared with 76 percent at age 40-49). Divorced, separated, and widowed women (83 percent) reported having this problem more frequently than married women (70 percent) and never-married women (68 percent). Lack of money was also more of a barrier for women in rural areas (73 percent) than for women in urban areas (60 percent). With respect to provinces, women in the West province were proportionately more likely to mention this problem (82 percent). Similarly, women with no education mentioned this problem more often (82 percent) than women with a secondary education or higher (42 percent), and women in the poorest wealth quintile were more affected by lack of money (83 percent) than women in the richest quintile (52 percent).

Forty percent of women mentioned distance to the health facility as a problem, and 39 percent of women mentioned having to take public transport. These problems were much more frequent in rural areas than in urban areas, and even more frequent among women with little or no education and women in poorer households. This confirms the fact that women with no education who live in rural areas are in the parts of the country that are the least equipped to provide adequate health care.

Overall, more than eight in ten women (81 percent) reported having at least one of the problems mentioned. Divorced, separated, and widowed women (90 percent), women in rural areas (83 percent), women with no education (88 percent), women in the poorest households (89 percent), and women performing unpaid labor (84 percent) were the most likely to encounter barriers to accessing health care.

Table 8.16 Problems in accessing health care

Percentage of women who reported they have big problems in accessing health care for themselves when they are sick, by type of problem and background characteristics, Rwanda 2005

Background characteristic	Problems in accessing health care								Number of women
	Knowing where to go for treatment	Getting permission to go for treatment	Getting money for treatment	Distance to health facility	Having to take transport	Not wanting to go alone	Concern there may not be a female provider	Any of the specified problems	
Age									
15-19	7.6	6.2	68.1	40.0	38.4	17.3	18.5	79.9	2,585
20-29	3.8	2.9	69.6	38.8	37.6	15.4	8.4	79.8	4,092
30-39	3.5	1.4	71.2	39.5	39.4	17.4	4.9	80.1	2,600
40-49	4.2	1.4	76.4	42.9	42.1	19.2	4.9	84.7	2,045
Number of living children									
0	6.4	5.2	67.5	40.0	38.5	16.9	15.5	79.3	4,363
1-2	4.0	2.1	71.9	39.4	39.8	17.5	6.2	81.9	2,722
3-4	3.4	1.6	72.6	39.2	38.0	17.5	4.8	80.7	2,266
5 or more	3.2	1.2	74.7	41.5	40.4	16.2	4.9	82.7	1,970
Marital status									
Never married	6.3	5.3	68.2	39.1	37.5	16.8	15.3	79.4	4,263
In union	3.2	1.8	69.5	39.1	38.9	15.6	5.7	79.3	5,510
Divorced, separated, widowed	5.3	1.4	82.9	45.3	43.8	22.8	5.3	89.6	1,548
Residence									
Urban	5.4	4.5	59.6	28.5	30.0	16.4	10.0	70.5	1,921
Rural	4.5	2.7	73.1	42.3	40.9	17.1	9.1	82.9	9,400
Province									
City of Kigali	5.8	3.5	62.0	35.1	35.3	17.2	9.2	72.5	1,127
South	3.5	2.5	70.6	44.3	43.9	17.1	7.4	83.6	2,958
West	5.4	4.4	81.8	44.1	43.6	19.1	12.2	89.4	2,824
North	3.4	1.4	59.5	22.6	23.1	11.3	5.7	66.9	2,063
East	5.8	3.3	72.2	47.1	43.0	19.3	11.3	83.1	2,348
Education									
No education	5.0	2.7	82.1	43.5	42.6	18.7	8.6	88.2	2,646
Primary	4.8	3.2	71.1	40.6	39.5	16.9	10.0	81.9	7,591
Secondary or higher	2.8	2.6	41.7	26.5	26.6	13.2	5.4	54.8	1,084
Employment									
Not employed	5.4	4.6	69.4	36.9	34.9	14.9	10.8	78.3	3,055
Working for cash	3.9	3.4	64.9	38.6	37.5	16.4	8.0	77.2	2,522
Working, not for cash	4.6	2.0	74.2	42.2	41.9	18.4	9.0	83.7	5,738
Wealth quintile									
Lowest	5.8	2.8	83.1	46.4	45.3	20.7	10.0	89.0	2,421
Second	4.4	2.5	74.1	44.3	43.3	17.5	10.2	85.0	2,325
Middle	4.2	2.7	74.7	40.7	39.0	15.8	8.4	83.0	2,099
Fourth	4.4	3.2	70.4	40.3	39.3	16.4	8.3	82.6	2,133
Highest	4.5	3.9	51.9	28.0	28.0	14.4	9.2	64.5	2,342
Total	4.7	3.0	70.8	40.0	39.0	17.0	9.3	80.8	11,321

8.7 TOBACCO CONSUMPTION

The consumption of tobacco has a negative impact on children's health, because it affects the health of those who consume it and the health of those around people who consume it. For this reason, the RDHS-III asked questions to determine the level of tobacco consumption among the women surveyed.

Table 8.17 shows that the vast majority of women in Rwanda do not smoke tobacco (95 percent). The proportion of women who smoke cigarettes is insignificant, although 3 percent of women reported smoking a pipe and 2 percent consume tobacco in other forms.

The oldest women (7 percent), women in rural areas (3 percent), and women with no education (6 percent) smoke pipes or consume tobacco more frequently than other women. The proportion of pregnant or breastfeeding women who smoke is very low.

Table 8.17 Use of smoking tobacco

Percentage of women who smoke cigarettes or tobacco, according to background characteristics and maternity status, Rwanda 2005

Background characteristic	Cigarettes	Pipe	Other tobacco	Does not use tobacco	Number of women
Age					
15-19	0.0	0.0	0.1	99.7	2,585
20-34	0.2	1.3	1.4	97.1	5,557
35-49	0.7	6.7	3.9	88.7	3,179
Residence					
Urban	0.4	0.4	0.9	98.2	1,921
Rural	0.3	2.9	2.0	94.7	9,400
Education					
No education	0.3	6.1	3.9	89.6	2,646
Primary	0.2	1.6	1.3	96.8	7,591
Secondary or higher	0.6	0.1	0.2	99.1	1,084
Maternity status					
Pregnant	0.0	2.0	2.5	95.1	901
Breastfeeding (not pregnant)	0.1	2.9	2.3	94.5	3,867
Neither	0.4	2.3	1.4	95.8	6,553
Total	0.3	2.5	1.8	95.3	11,321

MALARIA 9

9.1 INTRODUCTION

Malaria is a potentially fatal parasitic disease found in intertropical regions. It is caused by protozoa of the genus Plasmodium transmitted to humans through the bite of the female Anopheles mosquito. Malaria is one of the world's major public health concerns, particularly in sub-Saharan Africa. Each year it afflicts 300 to 500 million people worldwide, killing between one and two million. More than 80 percent of these cases, and over 90 percent of the deaths, occur in Africa. Malaria also has an enormous negative socioeconomic impact in countries with endemic wetlands (losses estimated at USD 3.6 billion and 1.3 percentage points in GDP growth annually), and is a major contributor to school absenteeism. It aggravates poverty, contributes to inequality, and impedes development.

Malaria affects males and females of all ages. However, its most serious consequences are felt by pregnant women and children under the age of five. In pregnant women, malaria can lead to severe anemia, loss of a pregnancy, and a greater likelihood of low birth weight babies. In young children, it increases the risk of anemia, delays physical and mental growth and, all too often, results in death.

Combating malaria in Africa

In October 1998, WHO, UNICEF, UNDP, and the World Bank launched the worldwide "Roll Back Malaria" (RBM)[1] initiative. One of its aims is to promote social and economic growth in Africa by combating malaria. Its goals are to reduce mortality directly related to malaria by 50 percent by 2010, 30 percent by 2015, and 20 percent by 2025. If the program is successful, by 2030 malaria should cease to be a major cause of sickness, death , and socioeconomic loss in Africa.

The currently recommended strategies for combating malaria are: (1) Prompt access to effective treatment; (2) Increased use of insecticide-treated mosquito nets (ITNs); (3) Improved prevention and treatment of malaria in pregnant women, and (4) Early detection and response to malaria epidemics.

In April 2000, a summit of African Heads of State and Government held in Abuja, Nigeria, renewed political will in this struggle and established the following goals for 2005:

- Provide access to the most effective preventive treatment measures to at least 60 percent of children under the age of 5 and 60 percent of pregnant women.
- Provide appropriate treatment within 24 hours of the onset of symptoms to at least 60 percent of children suffering from malaria.

The malaria situation in Rwanda

The Rwandan plains are considered malaria-endemic, while the high plateaus are subject to malaria epidemics (Ivorra, 1967; Vermylen, 1967).

[1] In French, *Faire Reculer le Paludisme*.

Malaria is the main cause of morbidity and mortality in Rwanda. In 2005, approximately 30 percent of all cases were among children under the age of five. Hospitals reported more than 80,000 cases of severe malaria, approximately 900 of them resulting in death. Thirty-five percent of those who died were children under the age of five. These data reflect reported cases, which represent only a fraction of the overall number of cases.

Malaria stratification mapping and predisposing factors

The country is divided into four natural "malarial ecozones" based on elevation, climate, plasmodic index (Plasmodium infestation),[2] and disease vectors (Meyus et al., 1962).

The first stratum extends from Lake Kivu to the Congo-Nile Divide at elevations ranging between 1,460 and 1,800 meters. The plasmodic indices among children here are generally between 5 percent and 30 percent.

The second stratum consists of a north-south band 160 km long and 20 to 50 km wide, located east of the first stratum between the elevations of 1,800 and 3,000 meters. The plasmodic index here is under 2 percent.

The third stratum is situated on the central plateau between the elevations of 1,000 and 2,000 meters. The plasmodic indices vary widely here, ranging from 10 to 50 percent. This area is at risk of malaria epidemics, many of which have been recorded at elevations ranging between 1,675 and 1,860 meters. Malaria-endemic pockets in the valleys provide the starting points for these epidemics.

The fourth stratum covers the lower eastern shelf of the central plateau at elevations ranging between 1,000 and 1,500 meters, where malaria is endemic and appears to be stable.

Within these four large strata, micro stratification is also possible because of topographical variations and agricultural activity in the valleys (Rusanganwa, 1999). Malaria is now present in sectors and at altitudes where the disease was not previously a major public health concern. Residents in these locations are poorly prepared to combat malaria and are therefore highly predisposed to malaria epidemics.

Combating malaria in Rwanda

In 1999, the Government established the National Malaria Control Program, or PNILP (*Programme National Intégré de Lutte contre le Malaria*) with strategies and activities focused on: managing cases of malarial illness, malaria prevention, epidemiological surveillance, IEC (health education) and community participation, and operational research.

a. Management of malarial illness focuses on early and effective diagnosis, early and appropriate treatment, training, staff supervision, and monitoring of drug efficacy. Because of increasing disease resistance resulting in high rates of therapeutic failure, chloroquine was discontinued as a treatment at the beginning of 2002. Now an AQ+SP (amodiaquine, sulfadoxine-pyrimethamine) combination regimen is used to treat uncomplicated cases of malaria (PNILP, 2001). This is only a transitional measure because SP is used for Intermittent Preventive Treatment (IPT) (WHO, 2003). In addition, in 2005, Rwanda began using artemisinin-based combination therapies, which, although costly, are the most effective and long-lasting solutions (Attaran et al., 2004; Yamey, 2003). Quinine is used for

[2] Percentage of subjects examined having malaria parasites in the blood.

the most serious cases with an initial loading dose. Community-based malaria management is currently operational under the RBM 2004-2010 Strategic Plan.

b. Malaria prevention. Malaria is prevented through the use of ITNs, indoor residual spraying of homes with insecticides, and the destruction of mosquito breeding grounds. Mosquito nets are distributed through two channels: health care facilities and PSI/Rwanda, which involves the private sector. ITNs have been distributed to pregnant women during antenatal care visits at a cost of FRw 200, subsidized by UNICEF. The promotion of Long-Lasting Insecticide-treated Mosquito Nets (LLITNs) is also operational, along with IPT (Intermittent Preventive Treatment) for pregnant women.

c. Epidemiological surveillance consists of monitoring areas at risk for malaria epidemics by collecting and analyzing data from health care facilities and representative sentinel sites.[3] The 20 areas at risk for epidemics are located in the former provinces of Byumba (1 zone), Cyangugu (4 zones), Gikongoro (2 zones), Gisenyi (3 zones), Gitarama (1 zone), Kibuye (4 zones), Kigali Ngali (1 zone), and Ruhengeri (4 zones). This means that the former provinces of Butare, Kibungo, and Umutara, which are malaria-endemic, contain no zones considered at risk of malaria epidemics.

d. IEC and community participation. The aim of this activity is to inform the population about combating malaria by targeting political and governmental authorities and the most vulnerable groups. Messages in Kinyarwanda are distributed through various media, including radio, television, and local newspapers, and are reinforced on Africa Malaria Day. However, IEC is not yet fully deployed and needs to be scaled up, particularly in rural communities.

e. Operational research. Research is the weak link in the Rwanda health system. In order to increase control of malaria, more study and interventions are needed in biomedical research (entomological, parasitological, clinical, reevaluation of Plasmodia resistance to antimalarial drugs and Anopheles to resistance pyrethroids) and socioanthropology (disease presentation, mosquito net acceptability, etc.).

The third Demographic and Health Survey gathered data on the use of malaria prevention methods. The results are presented in this chapter.

9.2 MALARIA PREVENTION

The survey asked each household whether it owned a mosquito net, how many mosquito nets it possessed, and how long it had owned each mosquito net. Respondents were then asked if the mosquito net had been treated with an insecticide and how long it had been since it was last treated. Respondents were also asked whether the mosquito net had been washed since it was last treated.

For this section, mosquito nets were grouped into three categories: any type of mosquito net; ever-treated mosquito nets, i.e., factory-treated mosquito nets that do not require further treatment or nets that were not pretreated but were soaked in insecticide at some time; and insecticide-treated nets (ITNs), i.e., factory-treated nets that do not require further treatment, pretreated nets obtained within the previous 12 months, or nets that were soaked in insecticide within the past 12 months.

[3] An epidemic threshold has been defined corresponding to twice the monthly average over the past three years.

9.2.1 Household Possession of Mosquito Nets

Table 9.1 shows the responses to questions about net ownership. Table 9.1 and Figure 9.1 show that 18 percent of Rwandan households possess at least one mosquito net. The percentage varies by province, reaching a high of 40 percent in the City of Kigali, and a low of 10 percent in the North province. Net possession varies by residence from 40 percent in urban areas to 14 percent in rural areas. Households in the richest wealth quintile were the most likely to own at least one mosquito net (45 percent, compared with 6 percent in the poorest quintile).

Table 9.1 Household possession of mosquito nets

Percentage of households with at least one and more than one mosquito net (treated or untreated), ever-treated mosquito net, and insecticide-treated net[1] (ITN), and the average number of nets per household, by background characteristics, Rwanda 2005

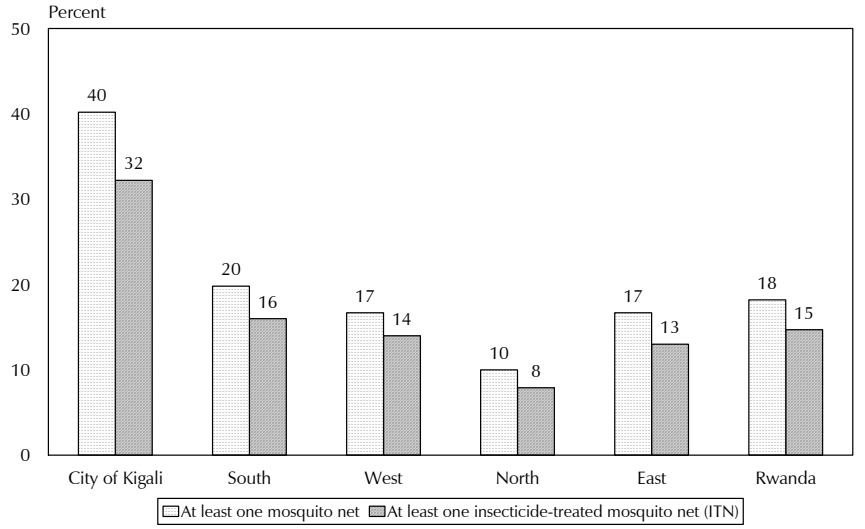
	Any type mosquito net			Ever-treated mosquito net[1]			Insecticide-treated mosquito nets (ITNs)[2]			
Background characteristic	Percentage with at least one	Percentage with more than one	Average number per household	Percentage with at least one	Percentage with more than one	Average number per household	Percentage with at least one	Percentage with more than one	Average number per household	Number of households
Residence										
Urban	40.3	18.5	0.7	39.7	18.1	0.7	31.6	13.9	0.5	1,510
Rural	14.4	3.4	0.2	14.3	3.4	0.2	11.8	2.5	0.2	8,762
Province										
Kigali city	40.2	21.2	0.7	39.7	20.7	0.7	32.2	15.9	0.6	864
South	19.8	4.5	0.3	19.7	4.5	0.3	16.0	3.2	0.2	2,722
West	16.7	4.9	0.2	16.5	4.9	0.2	14.0	3.8	0.2	2,522
North	10.0	2.6	0.1	9.9	2.5	0.1	7.9	1.9	0.1	1,946
East	16.7	4.4	0.2	16.6	4.3	0.2	13.0	3.4	0.2	2,218
Wealth quintile										
Lowest	6.1	0.7	0.1	6.1	0.7	0.1	4.8	0.5	0.1	2,217
Second	13.7	2.0	0.2	13.6	2.0	0.2	11.1	1.1	0.1	1,907
Middle	11.7	1.8	0.1	11.6	1.8	0.1	8.8	1.1	0.1	2,119
Fourth	17.8	3.4	0.2	17.6	3.3	0.2	14.5	2.6	0.2	2,105
Highest	44.5	21.6	0.8	44.0	21.0	0.8	36.5	16.8	0.6	1,925
Total	18.2	5.6	0.3	18.1	5.5	0.3	14.7	4.2	0.2	10,272

[1] An ever-treated net is (1) a pretreated net or (2) a nonpretreated net that which has subsequently been soaked with insecticide at some time.
[2] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Table 9.1 shows the proportion of households that reported owning at least one ever-treated mosquito net, i.e. a mosquito net that had been soaked in insecticide at some time, and the proportion of households that possessed at least one insecticide-treated net (ITN), i.e., a factory-treated net that does not require further treatment, a pretreated net obtained within the past 12 months, or a mosquito net that was soaked in insecticide within the past 12 months. Only 18 percent of all households reported owning an ever-treated mosquito net. However, 40 percent of households in Kigali reported owning one.

Forty-four percent of the richest households reported owning a pretreated mosquito net, more than twice as high as the national average (18 percent). The percentage of households owning at least one ever-treated mosquito net is higher in urban areas than in rural areas (40 percent compared with 14 percent). The percentage of all households owning an ITN at the time of the survey is lower (15 percent), although it reaches as high as 32 percent in Kigali and 37 percent in the richest quintile, compared with 12 percent in rural areas and 5 percent in the poorest quintile.

Figure 9.1 Household Ownership of Mosquito Nets



RDHS 2005

9.2.2 Use of Mosquito Nets by Children

Households that reported owning at least one mosquito net were asked who had slept under the net the night before the survey. Results are shown for all women age 15 to 49, and for two particularly vulnerable groups: pregnant women and children under the age of five (Tables 9.2 and 9.3). Table 9.2 and Figure 9.2 show the proportion of children under age five who slept under a mosquito net the night before the survey (16 percent)

The results do not show major differences by age group: at most, older children can be said to be somewhat less likely to have slept under a mosquito net than younger children (over 15 percent of children age 24 to 35 months, compared with 14 percent of children age 36 to 47 months, and 10 percent of children age 48 to 59 months). There are no differences with respect to gender (16 percent for both sexes). However, the percentage of children who slept under a mosquito net varies widely by residence: in the City of Kigali, 31 percent of children under the age of five had slept under a mosquito net, compared with only 20 percent in the South province, 14 percent in the West and East provinces, and 9 percent in the North province. By residence, the percentages are from 33 percent in urban areas and 13 percent in rural areas. The richest households show the highest proportion of children under the age of five who had slept under a mosquito net the night before the survey (37 percent).

Table 9.2 Use of mosquito nets by children

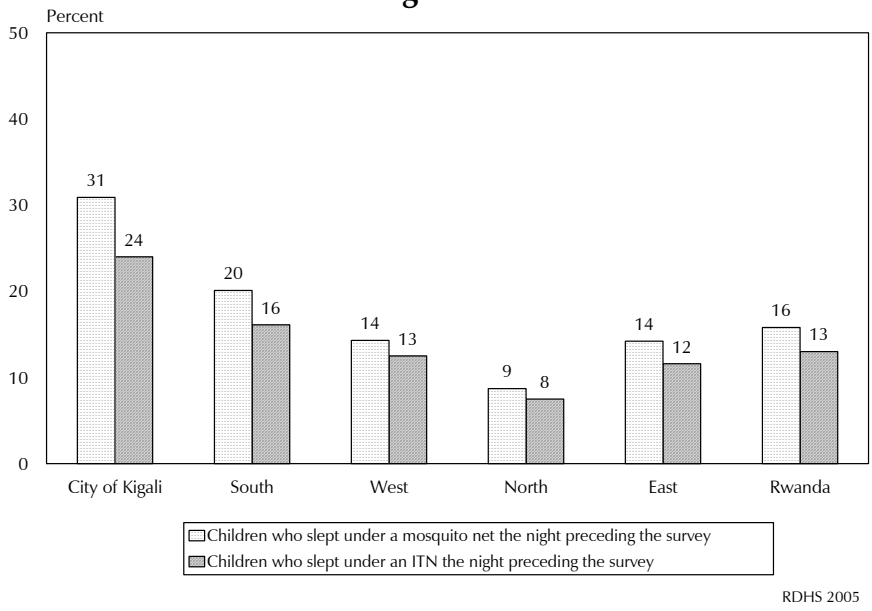
Percentage of children under five years of age who slept under a mosquito net (treated or untreated), an ever-treated mosquito net[1], and an insecticide-treated net[2] (ITN) the night before the survey, by background characteristics, Rwanda 2005

Background characteristic	Percentage who slept under any net the preceding night	Percentage who slept under an ever-treated net[1] the preceding night	Percentage who slept under an ITN[2] the preceding night	Number of children
Age				
< 12	19.4	19.3	16.2	1,709
12-23	19.5	19.4	15.9	1,601
24-35	14.7	14.7	11.9	1,665
36-47	13.5	13.4	11.2	1,292
48-59	9.9	9.9	8.5	1,267
Sex				
Male	15.8	15.8	12.6	3,833
Female	15.8	15.6	13.5	3,701
Residence				
Urban	32.6	32.0	25.7	1,075
Rural	13.0	13.0	10.9	6,459
Province				
Kigali city	30.9	29.8	24.0	544
South	20.1	20.1	16.1	1,864
West	14.3	14.3	12.5	2,012
North	8.7	8.7	7.5	1,527
East	14.2	14.2	11.6	1,588
Wealth quintile				
Lowest	5.9	5.9	4.5	1,575
Second	12.5	12.5	10.5	1,547
Middle	9.9	9.9	8.1	1,577
Fourth	16.4	16.4	13.5	1,478
Highest	37.1	36.6	31.0	1,357
Total	15.8	15.7	13.0	7,534

[1] An ever-treated net is (1) a pretreated net or (2) a non-pretreated net that has subsequently been soaked with insecticide at some time.
[2] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

The proportion of children under the age of five who slept under an ever-treated mosquito net the night before the survey is slightly higher than the proportion who slept under an ITN: 16 percent for ever-treated nets and 13 percent for ITNs. In the City of Kigali, the percentages are 30 percent for ever-treated nets and 24 percent for ITNs; for households in the richest quintile they are 37 percent and 31 percent, respectively.

Figure 9.2 **Use of Mosquito Nets by Children Under Age 5, According to Province**



9.2.3 Use of Mosquito Nets by Women

Table 9.3 shows the percentage of all women and pregnant women age 15 to 49 who slept under a mosquito net the night before the survey (Figure 9.3). A total of 13 percent of women slept under a mosquito net. The proportion of pregnant women who did so is higher (20 percent). In rural areas, 10 percent of all women slept under a mosquito net while in urban areas, 27 percent did so. The percentages for pregnant women are 18 percent for rural areas and 35 percent for urban areas. The results show that women were more likely to have slept under a mosquito net in the City of Kigali, although the use of mosquito nets by pregnant women does not seem widespread there (24 percent). Women with higher levels of education and women in the richest quintile were proportionally more likely to have protected themselves against malaria by sleeping under a mosquito net (22 percent and 30 percent, respectively) than other women.

Eleven percent of all women slept under an ITN; the percentage of pregnant women using ITNs is slightly higher, 17 percent, but still low. These results indicate that in Rwanda, mosquito nets are not being used by pregnant women—who are more vulnerable to infection—in significantly greater numbers than by women in general. This is one of the major challenges to be addressed by the PNILP.

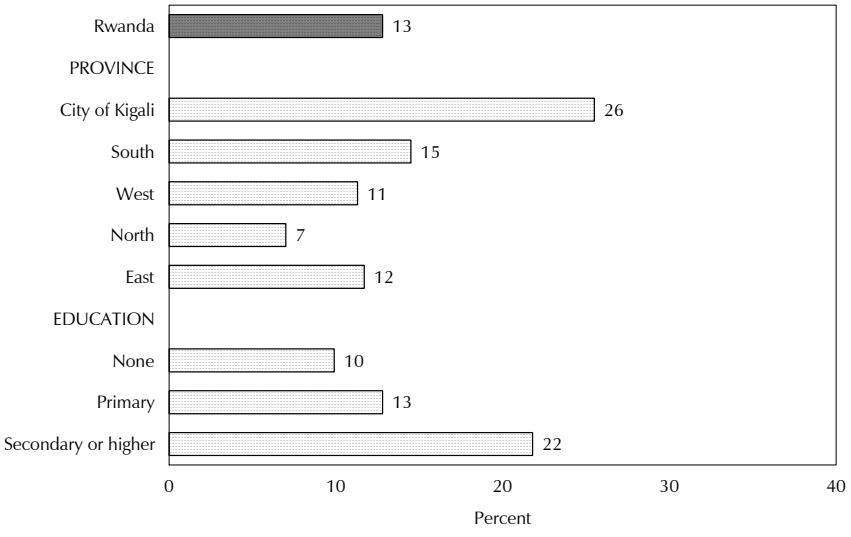
Table 9.3 Use of mosquito nets by women

Percentage of all women age 15-49 and pregnant women age 15-49 who slept under a mosquito net (treated or untreated), an ever-treated mosquito net[1], and an insecticide-treated net[2] (ITN) the night before the survey, by background characteristics, Rwanda 2005

	Percentage of all women age 15-49 who				Percentage of pregnant women age 15-49 who			
Background characteristic	Slept under any net the preceding night	Slept under an ever-treated net[1] the preceding night	Slept under an ITN[2] the preceding night	Number of women	Slept under any net the preceding night	Slept under an ever-treated net[1] the preceding night	Slept under an ITN[2] the preceding night	Number of women
Residence								
Urban	26.5	26.4	21.6	1,890	34.6	34.6	28.6	118
Rural	10.1	10.0	8.3	9,388	17.8	17.7	15.5	776
Province								
Kigali city	25.5	25.3	21.1	1,106	24.1	24.1	22.5	76
South	14.5	14.5	11.6	2,959	21.8	21.8	19.1	224
West	11.3	11.3	9.6	2,804	18.8	18.4	16.4	221
North	7.0	7.0	5.9	2,053	14.1	14.1	11.7	161
East	11.7	11.7	9.3	2,356	22.6	22.6	18.4	212
Education								
No education	9.9	9.9	8.3	2,534	13.7	13.7	9.6	183
Primary	12.8	12.7	10.5	7,861	19.8	19.7	17.5	643
Secondary or higher	21.8	21.7	17.5	884	39.9	39.9	35.3	67
Wealth quintile								
Lowest	4.0	4.0	3.1	2,414	9.4	9.4	7.6	203
Second	9.3	9.3	7.5	2,329	18.7	18.7	16.8	178
Middle	8.3	8.2	6.4	2,092	16.6	16.2	12.1	170
Fourth	12.8	12.7	10.8	2,128	20.5	20.5	18.7	207
Highest	29.7	29.6	24.9	2,315	41.1	41.1	36.3	136
Total	12.8	12.8	10.5	11,278	20.0	20.0	17.2	894

[1] An ever-treated net is (1) a pretreated net or (2) a non-pretreated net that has subsequently been soaked with insecticide at some time.
[2] An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Figure 9.3 Pregnant Women Who Slept Under a Mosquito Net the Night Preceding the Survey



RDHS 2005

9.2.4 Intermittent Preventive Treatment during Pregnancy

Rwanda has adopted a new malaria prevention policy for pregnant women involving a change in therapy from weekly preventive doses of chloroquine to Intermittent Preventive Treatment (IPT) with SP Fansidar, with one restriction: the new treatment is not given to pregnant women in the first trimester.

The RDHS-III asked women who had had a live birth in the past five years several questions about whether or not they had taken antimalarial drugs preventively during their last pregnancy, and what type of antimalarial drugs they had taken. According to Table 9.4, 6 percent of pregnant women took antimalarial drugs preventively during their last pregnancy. The percentages are higher in urban areas (10 percent), in the City of Kigali (9 percent), among women with at least a secondary education (10 percent), and among women in the richest quintile (9 percent).

Table 9.4 Use of Intermittent Preventive Treatment by women during pregnancy

Percentages of women who took any antimalarial drugs for prevention, who took SP/Fansidar, and who received Intermittent Preventive Treatment (IPT), during the pregnancy for their last live birth in the five years preceding the survey, by background characteristics, Rwanda 2005

Background characteristic	Percentage of women who took any antimalarial drug to prevent or treat malaria during an ANC visit during the last pregnancy	Percentage of women who received Intermittent Preventive Treatment during an ANC visit[1]	Number of last-born children in the five years preceding the survey
Residence			
Urban	9.8	0.6	774
Rural	5.1	0.2	4,651
Province			
Kigali city	8.7	0.9	427
South	8.3	0.4	1,357
West	4.0	0.0	1,395
North	2.6	0.2	1,052
East	6.8	0.2	1,194
Education			
No education	4.5	0.4	1,552
Primary	5.8	0.2	3,404
Secondary or higher	9.8	0.5	469
Wealth quintile			
Lowest	3.2	0.1	1,163
Second	5.0	0.3	1,124
Middle	5.3	0.2	1,097
Fourth	7.0	0.1	1,069
Highest	9.0	0.5	972
Total	5.8	0.3	5,425

[1] Intermittent Preventive Treatment is treatment with at least two doses of SP/Fansidar during antenatal care (ANC) visits.

Table 9.5 shows that, of the women surveyed, 31 percent had taken Fansidar preventively during their last pregnancy in the five years preceding the survey.

Nearly half took it once, 26 percent twice, and 24 percent took it at least three times. Women in urban areas (36 percent), uneducated women (41 percent), and women in the middle wealth quintile (37 percent) took the drug most frequently.

Table 9.5 Use of SP/Fansidar by women during pregnancy

Among women who took antimalarial drugs for prevention of malaria during the pregnancy for their last live birth in the 5 years preceding the survey, percentage who took SP/Fansidar, the number of times taken, by background characteristics, Rwanda 2005

Background characteristic	Percentage who took any SP/Fansidar	Number of women who took any antimalarial medication	Among those who took any SP/Fansidar, number of times taken			Number of women who took any SP/Fansidar
			Once	Twice	Three times or more	
Residence						
Urban	36.1	76	(50.0)	(23.1)	(26.9)	27
Rural	29.1	238	46.9	27.0	22.7	69
Education						
No education	41.2	70	(48.8)	(32.1)	(19.0)	29
Primary	27.9	198	48.2	25.6	26.2	55
Secondary or higher	(27.2)	46	*	*	*	12
Wealth quintile						
Lowest	(33.5)	37	*	*	*	13
Second	25.5	57	*	*	*	14
Middle	37.3	58	*	*	*	22
Fourth	32.4	74	*	*	*	24
Highest	27.3	88	*	*	*	24
Total	30.8	314	47.8	25.9	23.9	97

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

9.3 TREATMENT OF MALARIA IN CHILDREN UNDER THE AGE OF FIVE

In addition to questions on the availability of mosquito nets and preventive antimalarial treatment in pregnant women, the RDHS-III asked whether children under the age of five had had a fever in the two weeks prior to the survey. If the answer was affirmative, respondents were asked questions about how the fever was treated, including whether or not antimalarial drugs were given and when they were given for the first time. The results are shown in Tables 9.6 and 9.7.

Table 9.6 shows the percentage of children under age five who had a fever, the percentage of those with fever who received any type of antimalarial drug, and the percentage of those who took an antimalarial drug who took the drug promptly after the fever appeared.

In Rwanda, more than one-quarter of children under the age of five (26 percent) had a fever with or without convulsions in the two weeks preceding the survey. Results according to age show a higher prevalence of fever in children age 6 to 11 months (39 percent) than among those age 48 to 59 months (18 percent). However, analysis by residence shows no significant differential between rural (26 percent) and urban (25 percent) areas. In the provinces, however, there are significant differentials: of the 30 percent of children who had a fever, the highest prevalence was in the South province (30 percent); the lowest was in the North province (23 percent). by level of education, the highest prevalence of fever was among children whose mothers had no education (28 percent). Prevalence by wealth quintile showed only minor, inconsistent variations.

Table 9.6 Prevalence and prompt treatment of children with fever

Percentage of children under age five with fever in the two weeks preceding the survey, and among children with fever, the percentage who took antimalarial drugs and the percentage who took the drugs the same or next day following the onset of fever, by background characteristics, Rwanda 2005

Background characteristic	Among children under age five:		Among children under age five with fever:		
	Percentage with fever in the two weeks preceding the survey	Number of children	Percentage who took antimalarial drugs	Percentage who took antimalarial drugs same or next day	Number of children
Age in months					
< 6	19.5	891	5.2	1.1	174
6-11	38.9	830	13.5	3.8	323
12-23	36.9	1,626	13.9	2.4	600
24-35	24.0	1,732	13.5	2.5	416
36-47	20.8	1,373	11.5	3.2	286
48-59	18.4	1,346	10.6	1.0	247
Residence					
Urban	25.3	1,144	10.5	1.3	289
Rural	26.4	6,653	12.6	2.7	1,757
Province					
Kigali city	25.2	599	14.8	0.5	151
South	29.5	1,909	16.2	3.4	563
West	23.6	2,075	6.5	1.5	490
North	22.9	1,571	4.6	1.0	360
East	29.3	1,644	18.5	4.1	482
Education					
No education	28.3	2,172	10.0	1.3	616
Primary	26.0	4,938	13.7	3.0	1,286
Secondary or higher	21.0	687	9.0	3.3	145
Wealth quintile					
Lowest	27.8	1,612	11.7	2.0	448
Second	24.8	1,605	12.5	2.1	398
Middle	25.8	1,620	11.3	2.9	418
Fourth	27.5	1,525	12.7	2.3	420
Highest	25.2	1,436	13.3	3.2	361
Total	26.2	7,797	12.3	2.5	2,046

With respect to treatment, the results show that of all the children who had a fever, only 12 percent received antimalarial drugs and only 3 percent took them early, that is, either the day the fever appeared or the following day. This means that, in Rwanda, a very small proportion of children with fever receive effective treatment.

Results according to age show little variation regarding antimalarial treatment, except for children under six months (5 percent) who were treated less frequently than older children (11 percent of those age 48-59 months).

Although the results do not show significant differences with respect to fever prevalence, the proportion of children treated is higher in rural (13 percent) than in urban (11 percent) areas. The same trend is seen with respect to early administration of treatment (3 percent for rural areas, compared with 1 percent for urban areas). By province, the East (29 percent) and South (30 percent) provinces have the highest fever prevalences. These provinces also have the highest proportions of children who received antimalarial treatment (19 percent in the East, 16 percent in the South), and the highest proportions of children who received treatment promptly (4 percent in the East, 3 percent in the South). Finally, children whose mothers attended primary school not only benefited most frequently from antimalarial treatment, but also benefited from it earliest (3 percent). Results do not vary significantly by wealth quintile.

Table 9.7 shows the type and timing of antimalarial treatment received by children with fever. Six percent of those who had a fever in the two weeks preceding the survey were treated with amodiaquine. Only 1 percent took this medication the same or next day after the fever appeared. This drug was given far less frequently to younger children under the age of 6 months (2 percent) than to children in the other age groups (7 percent on average). Use of this drug was more widespread in rural areas (7 percent) than in urban ones (3 percent). By province, the proportion of children treated with amodiaquine ranges from 10 percent in the East province to 3 percent in the North province. Results by level of education and wealth quintile reveal no significant differentials. Five percent of all children with fever received quinine but less then 1 percent received it promptly.

Finally, 4 percent of children were treated with SP/Fansidar, but the proportion of those who were treated promptly is negligible (less than 1 percent); this is true for all variables. Overall, it appears that Rwandan households are only infrequently observing any of the procedures for treatment of malaria in children under the age of five.

Table 9.7 Type and timing of antimalarial drugs taken by children with fever

Among children under age five with fever in the two weeks preceding the survey, the percentage who took specific antimalarial drugs and the percentage who took each type of drug the same or next day after developing fever, by background characteristics, Rwanda 2005

Background characteristic	Percentage of children who took drug:			Percentage or children who took drug the same or next day:			Number of children with fever
	SP/Fansidar	Amodiaquine	Quinine	SP/Fansidar	Amodiaquine	Quinine	
Age in months							
< 6	1.2	1.9	3.4	0.0	0.0	1.1	174
6-11	3.1	7.2	5.1	1.2	2.5	0.4	323
12-23	4.3	5.4	7.7	0.5	0.8	1.5	600
24-35	5.3	7.2	4.9	1.6	1.3	0.8	416
36-47	2.6	6.8	4.6	1.0	2.8	0.4	286
48-59	4.8	7.8	2.2	0.0	0.8	0.2	247
Residence							
Urban	1.6	2.8	7.1	0.6	0.2	0.7	289
Rural	4.2	6.8	4.9	0.8	1.6	0.9	1,757
Province							
Kigali city	4.0	6.3	7.7	0.0	0.0	0.5	151
South	3.9	7.2	7.4	1.3	1.7	0.9	563
West	2.4	4.2	2.3	0.2	1.0	0.5	490
North	1.1	2.6	2.0	0.0	0.2	0.8	360
East	7.3	9.9	7.4	1.8	2.9	1.2	482
Education							
No education	3.5	5.0	3.3	0.0	0.8	0.5	616
Primary	4.3	7.2	6.2	1.3	1.7	0.9	1,286
Secondary or higher	1.4	3.5	5.2	0.0	1.2	2.1	145
Wealth quintile							
Lowest	3.1	5.3	5.4	0.3	1.6	0.4	448
Second	5.1	6.5	4.4	0.7	1.5	0.6	398
Middle	4.1	6.6	4.8	1.2	0.8	1.7	418
Fourth	4.3	6.8	5.2	1.4	1.1	0.3	420
Highest	2.8	6.0	6.6	0.4	2.0	1.2	361
Total	3.9	6.2	5.3	0.8	1.4	0.8	2,046

BREASTFEEDING AND NUTRITION OF MOTHERS AND CHILDREN

10

As stated in the Health Sector Strategic Plan 2005-2009, malnutrition is not only a leading and direct cause of death, particularly among women and children, it is also the underlying cause of numerous other health problems affecting Rwandans. Malnutrition is the result of inadequate food consumption due to inappropriate feeding practices[1] and infectious and parasitic diseases that develop under conditions of poor hygiene at the environmental, collective, and individual levels.

This chapter analyzes feeding practices for children born in the five years preceding the survey and women and children's nutritional status. It is divided into three parts: the first part discusses feeding practices including breastfeeding and supplementary feeding; the second part analyzes micronutrient deficiencies (iodine, vitamin A) and anemia; and the third part discusses women and children's nutritional status based on anthropometric indices (height and weight measurements).

10.1 BREASTFEEDING AND SUPPLEMENTATION

Knowledge of feeding practices is crucial to determining children's nutritional status, which in turn determines their morbidity and mortality. Among these practices, breastfeeding plays a pivotal role. Breast milk has special properties—it is sterile, transmits antibodies from mother to child, and contains all of the nutrients children need during the first six months of life—that prevent nutritional deficiencies and limit the prevalence of diarrhea and other diseases. In addition, prolonged breastfeeding on demand extends postpartum amenorrhea, thereby limiting the mother's risk of becoming pregnant again too soon and, by lengthening the birth interval, further safeguarding both the health of the mother and the development of the child.

Because of the importance of breastfeeding to infant nutrition, mothers were asked whether they had breastfed those of their children who were born in the five years preceding the survey and how old their children were when they initiated breastfeeding. In addition, mothers were asked how long they had breastfed, how frequently, the children's age when they were introduced to supplementary foods, the type of supplementary foods they were given and, finally, how frequently the different types of foods were given to the child. Mothers were also asked if they had fed their children using a bottle.

Initiation of breastfeeding

Table 10.1 shows the percentage of children born in the five years preceding the survey who were breastfed and, among breastfed children, the percentage who were breastfed within one hour or within one day following birth, according to background characteristics.

Nearly all children born in the five years preceding the survey were breastfed (97 percent); this is true regardless of background characteristic. The proportion is lower only for children whose mothers delivered outside a health facility or at home (92 percent). The high proportion of breastfed children has remained stable since the RDHS-I and RDHS-II surveys (97 percent in 1992 and 2000).

[1] Inappropriate feeding practices refer not only to the quality and quantity of food given to children, but also to the timing of introduction of these foods into children's diets.

Although breastfeeding is widespread, only 41 percent of Rwandan children began breastfeeding within one hour of birth and only 56 percent began within on day of birth.

Table 10.1 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, and for last-born children, the percentage who started breastfeeding within one hour and within one day of birth, and the percentage who received a prelacteal feed, by background characteristics, Rwanda 2005

Background characteristic	Percentage ever breastfed	Number of children	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Percentage who received a prelacteal feed[2]	Number of breastfed children
Sex						
Male	96.9	4,428	41.5	56.6	23.9	4,289
Female	97.4	4,287	40.4	55.7	23.9	4,175
Residence						
Urban	96.6	1,228	43.8	58.0	21.4	1,186
Rural	97.2	7,487	40.5	55.8	24.3	7,277
Province						
Kigali city	96.3	655	45.9	59.2	21.3	631
South	97.1	2,122	45.9	60.5	24.2	2,061
West	97.2	2,290	35.0	51.6	23.6	2,226
North	97.5	1,716	41.2	52.7	23.9	1,673
East	97.0	1,932	40.7	58.9	24.8	1,873
Mother's education						
No education	97.1	2,470	39.1	54.3	26.1	2,398
Primary	97.2	5,513	41.3	56.5	23.3	5,361
Secondary or higher	96.3	732	44.4	59.7	20.9	704
Assistance at delivery						
Health personnel [3]	96.0	2,479	44.8	58.6	19.3	2,379
Traditional birth attendant	97.6	4,662	39.2	55.1	25.7	4,549
Other	(99.1)	38	(45.0)	(59.0)	(13.5)	38
No one	97.6	1,511	40.6	56.0	26.0	1,475
Place of delivery						
Health facility	96.0	2,460	45.0	58.7	19.0	2,360
At home	97.7	6,139	39.6	55.0	25.6	5,995
Other	91.7	94	34.7	68.7	40.6	86
Wealth quintile						
Lowest	96.8	1,845	40.2	56.5	26.5	1,785
Second	97.8	1,794	41.4	55.8	26.4	1,755
Middle	97.2	1,785	41.3	55.9	21.6	1,734
Fourth	96.5	1,742	38.7	55.0	23.9	1,682
Highest	97.3	1,548	43.5	57.7	20.6	1,507
Total[4]	97.1	8,715	41.0	56.1	23.9	8,464

Note: Table is based on all births whether the children were living or dead at the time of the survey.
[1] Includes children who started breastfeeding within one hour of birth.
[2] Children given something other than breast milk during the first three days of life before the mother started breastfeeding regularly
[3] Doctor, nurse/midwife, or auxiliary midwife
[4] Total includes 23 cases where assistance at delivery and place of delivery is unknown.

Unfortunately, these percentages represent a decline compared with the RDHS-II 2000 survey in which 48 percent of children were breastfed within one hour of birth and 73 percent were breastfed within one day of birth. In the RDHS-III, three-fifths of children (59 percent) did not begin breastfeeding within one hour of birth and more than four in ten children (44 percent) did not receive breast milk within one

day of birth. This trend can have negative consequences for children, even affecting their chances of survival. This is because the breast milk that is produced in the first twenty-four hours following birth contains colostrum, which transmits the mother's antibodies to the child, providing crucial resistance to numerous diseases. In addition, newborns who are not breastfed within 24 hours of birth are usually given other liquids in place of breast milk, and these may carry pathogens. Overall, these results indicate that a major effort is needed to inform mothers of the benefits of breastfeeding in the first hours of a child's life.

Although breastfeeding is widely practiced across all subgroups of women, the timing of initial breastfeeding varies by background characteristics. The results show that in urban areas, 44 percent of children are breastfed within one hour of delivery, compared to 41 percent in rural areas. With respect to provinces, the lowest proportion of children breastfed within one hour of birth occurs in the West province (35 percent), followed by the East and North provinces (41 percent for both). The City of Kigali and the South province have the highest proportions of children breastfed within one hour of birth (46 percent for both).

The place of delivery seems to be associated with the timing of initial breastfeeding: children born at a health facility (45 percent) are more likely to begin breastfeeding within one hour of birth than children who are born at home (40 percent). Children born outside of a health facility or at home are the most disadvantaged in this regard. The proportion of children breastfed also varies according to the type of assistance received by the mother during childbirth. Children whose birth was assisted by a health professional are more likely to begin breastfeeding in the first 24 hours of life (59 percent) and in the first hour of life (45 percent). Among those whose birth was assisted by a traditional birth attendant, the proportions are lower, 55 percent and 39 percent, respectively.

The mother's level of education affects breastfeeding practices. Children whose mothers have no education are less likely to be breastfed within one hour of birth (39 percent) or within one day of birth (54 percent). As a result, these children are more likely to receive some form of prelacteal food (26 percent). However, children whose mothers have a secondary education or higher—who are also more likely to be born in a health facility with the assistance of trained personnel (see Chapter 8, Maternal and Child Health)—are more likely to begin breastfeeding within one hour of birth (44 percent) and one day of birth (60 percent); these children are also less likely to receive prelacteal food (21 percent). Similar results are seen according to wealth quintile, where differentials in the timing of initial breastfeeding between the poorest and the richest quintiles can be explained by differences in place of delivery and type of assistance received during delivery.

Overall, one-quarter of Rwandan children (24 percent) received some form of prelacteal food. The proportion varies from 21 percent in urban areas to 24 percent in rural areas, and from a low of 21 percent in the City of Kigali to a high of 25 percent in the East province. The proportion of children receiving prelacteal food is also higher among children born at home (26 percent), among children in the poorest wealth quintile (27 percent), and among those whose mothers have no education (26 percent).

Introduction of supplementary foods

According to the recommendations of WHO and UNICEF (which have been adopted by Rwanda), all children should be breastfed exclusively for the first six months of life. Introducing supplementary foods earlier is not recommended because it exposes children to pathogens, thereby increasing their risk of contracting infectious diseases, particularly diarrhea. In addition, it reduces the amount of milk taken from the breast, thereby reducing suckling, which in turn causes a reduction in milk production. Finally, in poorer populations, supplementary foods are often of poor nutritional value.

After six months, breast milk alone does not cover all of the child's nutritional needs. It must be supplemented with other appropriate foods to satisfy the child's needs and to support optimum growth. Information concerning supplemental feeding was obtained by asking the mother whether her child was breastfeeding and what type of food (solid or liquid) it had consumed in the past 24 hours. Although questions about breastfeeding were asked for all children born in the five years preceding the survey, questions on nutritional supplementation were asked only for the most recently born child, and results are presented only for children under the age of three. this is because about half of all children are weaned by the age of three.

Table 10.2 and Figure 10.1 show that nearly all children are breastfed at birth and that this practice continues for a long time: at 32-35 months, more than half of all children are still breastfeeding (55 percent). It should also be noted that a high proportion of children under the age of six months are breastfed exclusively (88 percent). While few children under six months receive anything other than breast milk, it should be emphasized that approximately 12 percent of children were not breastfed in accordance with the international recommendations to which Rwanda subscribes.

Table 10.2 Breastfeeding status by age

Percent distribution of youngest children under three years living with the mother by breastfeeding status and percentage of all children under three years using a bottle with a nipple, according to age in months, Rwanda 2005

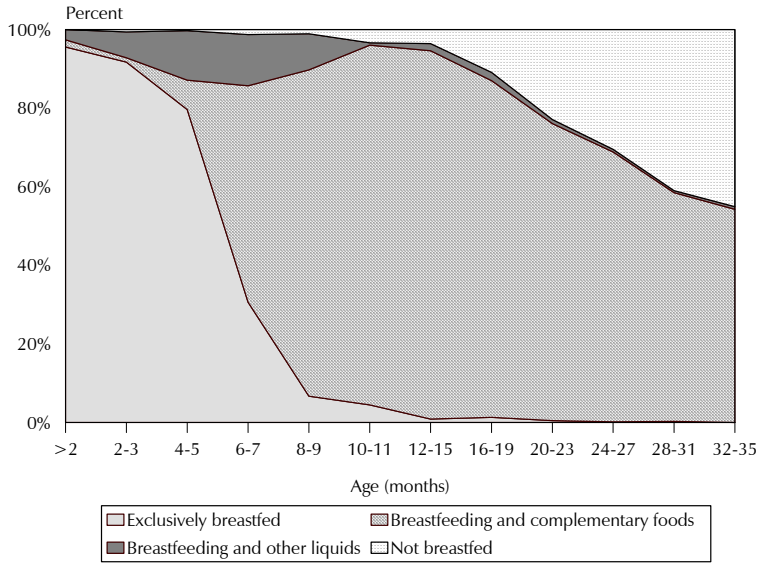
Age in months	Not breastfed	Exclusively breastfed	Breastfeeding and consuming: Plain water only	Water-based liquids/ juice	Other milk	Comple-mentary foods	Total	Number of children	Percentage using a bottle with a nipple[1]	Number of children
<2	0.0	94.5	0.5	1.6	1.5	1.8	100.0	260	0.3	261
2-3	0.6	91.7	0.9	1.3	4.4	1.1	100.0	322	2.2	324
4-5	0.3	79.7	2.4	2.0	8.2	7.5	100.0	303	6.4	305
6-7	1.3	30.6	1.9	1.6	9.5	55.0	100.0	273	8.4	274
8-9	1.1	6.7	2.1	0.5	6.6	83.0	100.0	275	7.4	279
10-11	3.4	4.5	0.3	0.0	0.3	91.5	100.0	276	4.9	277
12-15	3.6	0.9	1.1	0.5	0.2	93.7	100.0	589	3.2	595
16-19	10.9	1.3	1.0	0.3	0.8	85.7	100.0	497	2.5	532
20-23	22.9	0.5	0.8	0.2	0.0	75.5	100.0	446	2.2	499
24-27	30.5	0.2	0.5	0.0	0.2	68.6	100.0	470	0.9	600
28-31	41.0	0.3	0.3	0.0	0.2	58.2	100.0	315	2.0	490
32-35	45.1	0.0	0.4	0.0	0.3	54.3	100.0	308	0.5	643
<6	0.3	88.4	1.3	1.6	4.9	3.5	100.0	885	3.1	891
6-9	1.2	18.6	2.0	1.0	8.0	69.1	100.0	548	7.9	553

Note: Breastfeeding status refers to a "24-hour" period (yesterday and the past night). Children classified as breastfeeding and consuming plain water only consume no supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, water-based liquids/juice, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and water-based liquids and who do not receive complementary foods are classified in the water-based liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

[1] Based on all children under three years

Breastfeeding should continue until the child turns two. However, because breast milk alone does not meet all of the infant's nutritional needs after six months, it must be supplemented with appropriate foods to support normal growth and development. The results of the survey show that 31 percent of children age 6 to 9 months do not receive supplementary foods and, for this reason, are not being adequately nourished.

Figure 10.1 Breastfeeding Practices Among Children Under Age 3



RDHS 2005

Feeding with a bottle is not recommended for young children because it is often associated with increased risk of diseases, particularly diarrheal diseases. Inadequately cleansed bottles with poorly sterilized nipples cause gastric disorders, diarrhea, and vomiting in babies. Table 10.2 shows that Rwandan mothers rarely use bottles: only 0.3 percent of children under the age of two months were fed with a bottle in the 24 hours preceding the survey . This proportion reaches a high of 8 percent among children age 6 to 7 months. Overall, 3 percent of children under the age of six months and 8 percent of children 6-9 months were fed with a bottle.

Duration and frequency of breastfeeding

The median duration of breastfeeding is calculated for most recently born children under the age of three. Table 10.3 indicates that Rwandan children are breastfed for a long period of time. Half of all children are breastfed for 25.2 months. The median durations of exclusive breastfeeding (5.6 months) and predominant breastfeeding (5.9 months) are fairly high. There is no significant difference with respect to gender (26.1 months for boys, 24.4 months for girls).

Children are breastfed longer in rural areas (25.6 months) than in urban areas (21.9 months). Results by province show that the median duration of any breastfeeding varies from a high of 27.5 months in the South province to a low of 21.5 months in the City of Kigali. The median duration drops slightly as the mother's level of education rises: from 25.9 months for children whose mothers have no education, to 25.1 months for children whose mothers have a primary education, to 23.9 months for children whose mothers have a secondary education or higher. Finally, the median duration of any breastfeeding decreases with household wealth. It is highest in the two poorest quintiles (26.7 and 27.7 months) and lowest in the richest quintile (23 months). Overall, the median duration of any breastfeeding has dropped significantly from 32.6 months in 2000 to 25.2 in 2005, a decline of 7.4 months.

The mean duration of breastfeeding in Rwanda is 24.9 months, making it one of the longest durations among the sub-Saharan countries surveyed that calculate mean duration in the same way.

Table 10.3 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey, percentage of breastfeeding children under six months of age living with the mother who were breastfed six or more times in the 24 hours preceding the survey, and mean number of feeds (day/night), by background characteristics, Rwanda 2005

	Median duration (months) of breastfeeding				Frequency of breastfeeding among children under six months of age			
Background characteristic	Any breastfeeding	Exclusive breastfeeding	Predominant breastfeeding	Number of children	Percentage breastfed 6+ times in past 24 hours	Mean number of day feeds	Mean number of night feeds	Number of children
Sex								
Male	26.1	5.7	5.9	2,828	98.1	8.1	6.0	431
Female	24.4	5.6	5.8	2,708	98.2	7.8	5.7	443
Residence								
Urban	21.9	4.8	5.1	771	97.7	7.2	5.9	114
Rural	25.6	5.8	6.0	4,765	98.2	8.0	5.9	760
Province								
Kigali city	21.5	4.2	4.6	416	98.2	6.8	5.6	58
South	27.5	5.7	5.8	1,324	98.0	7.9	4.7	200
West	25.9	5.6	6.0	1,454	97.3	7.2	5.9	239
North	24.9	6.2	6.3	1,088	99.4	8.8	6.9	171
East	22.0	5.6	5.9	1,253	98.0	8.3	6.2	207
Mother's education								
No education	25.9	5.7	5.9	1,538	97.5	8.3	6.4	233
Primary	25.1	5.8	6.0	3,558	98.3	7.9	5.7	581
Secondary or higher	23.9	4.2	4.7	439	98.6	7.0	5.6	60
Wealth quintile								
Lowest	26.7	6.2	6.4	1,174	98.1	7.8	5.9	194
Second	27.7	5.7	5.9	1,140	97.4	8.3	6.0	174
Middle	24.6	5.8	6.1	1,156	99.2	7.9	6.2	190
Fourth	26.0	5.5	5.7	1,123	98.7	8.1	5.5	174
Highest	23.0	5.0	5.3	943	97.0	7.3	5.7	142
Total	25.2	5.6	5.9	5,535	98.1	7.9	5.9	874
Mean for all children	24.9	6.3	6.7	na	na	na	na	na

Note: Median and mean durations are based on current status.
na = Not applicable

Table 10.3 shows that 98 percent of breastfeeding children under six months were breastfed six or more times in the 24 hours preceding the survey. The mean number of feedings is higher during the day than at night (an average of 7.9 times during the day compared with 5.9 times at night). The proportion of children breastfed six or more times in the past 24 hours varies little by background characteristics. This is also true for the mean number of feedings, day or night.

Type of supplementary food

Table 10.4 shows the types of food consumed by most recently born children under the age of three, according to breastfeeding status. In Rwanda, prior to the age of six months, the introduction of liquids other than breast milk and solid or semi-solid foods is relatively rare. Only 3 percent of children under two months received other liquids and 2 percent received infant formula. Among children age 2-3 months, 3 percent received infant formula and 2 percent received solid or semi-solid foods. Among children age 4-5 months, 9 percent consumed solid or semi-solid foods and 7 percent consumed infant formula. At 6-9 months, only 47 percent of children were receiving fruits and vegetables rich in vitamin

A, but by age 12-15 months, the great majority of children (over three-quarters) were receiving foods rich in vitamin A (77 percent).

The introduction of solid or semi-solid foods is recommended starting at the age of six months. Since several types of complementary foods can be given at once, the total of the various percentages can exceed 100 percent. In Rwanda, only a small proportion (4 percent) of children are already consuming solid or semi-solid foods prior to the age of six months. And at 6-7 months, 42 percent of children are not consuming any solid or semi-solid foods as a supplement to breast milk. However, at 6-9 months, 52 percent are consuming fruits and/or vegetables, 40 percent are eating grain-based foods, 32 percent are consuming food made from roots/tubers, and 6 percent are eating meat, poultry, fish, and/or eggs. When the data are limited to children in the 6-7 month age group—the age at which it is generally recommended that supplementary foods be introduced—the proportions are only 38 percent for fruits and/or vegetables, 32 percent for grain-based foods, 19 percent for root/tuber-based foods, and 5 percent for meat, poultry, fish and/or eggs. In the 16-19, 20-23, and 24-35 month age groups, the proportions of nonbreastfeeding children consuming these different types of foods are, in general, slightly higher than those for breastfeeding children, except for grains in the 20-23 month age group.

Table 10.4 Foods consumed by children in the day or night preceding the interview

Percentage of youngest children under three years of age living with the mother who consumed specific types of food groups in the day or night preceding the interview, by breastfeeding status and age, Rwanda 2005

Age in months	Infant formula	Other milk/ cheese/ yogurt	Other liquids[1]	Food made from grains	Fruits/ vegetables[2]	Food made from roots/ tubers	Food made from legumes	Meat/fish/ shellfish/ poultry/ eggs	Food made with oil/fat/ butter	Fruits and vegetables rich in vitamin A[3]	Any solid or semisolid food	Number of children
BREASTFEEDING CHILDREN												
<2	1.9	1.2	2.6	0.9	1.5	1.5	1.5	0.6	1.5	1.5	1.8	260
2-3	2.8	2.0	1.4	0.4	0.6	0.4	0.6	0.0	0.6	0.6	2.4	320
4-5	7.0	6.9	2.9	3.7	4.4	2.8	1.7	0.3	1.0	3.9	8.7	302
6-7	44.5	13.3	17.8	32.3	37.6	18.8	15.0	4.9	11.9	33.4	58.4	269
8-9	57.9	15.6	28.4	46.6	66.1	44.5	44.3	7.8	33.5	60.1	87.0	272
10-11	61.1	18.1	33.7	49.1	78.1	57.0	63.4	13.5	44.8	72.6	96.7	266
12-15	63.6	14.8	38.4	55.1	82.1	63.1	75.2	14.2	49.6	77.4	98.8	568
16-19	59.4	12.1	37.3	47.4	80.3	65.8	74.3	11.2	47.0	77.2	98.4	443
20-23	56.6	11.1	37.5	50.6	82.9	60.6	77.3	13.5	46.7	78.8	99.4	344
24-35	50.2	10.5	35.9	45.5	84.7	64.3	79.8	10.4	46.9	79.1	99.4	682
<6	4.0	3.4	2.3	1.7	2.1	1.5	1.2	0.3	1.0	2.0	4.4	882
6-9	51.2	14.5	23.2	39.5	51.9	31.7	29.7	6.3	22.8	46.8	72.8	541
NONBREASTFEEDING CHILDREN												
0-11	*	*	*	*	*	*	*	*	*	*	*	19
12-15	(60.4)	(41.1)	(59.2)	(52.2)	(80.2)	(51.8)	(66.5)	(33.4)	(52.9)	(63.6)	(100.0)	21
16-19	70.7	32.9	38.8	65.5	77.5	55.7	78.8	11.1	60.0	67.3	100.0	54
20-23	74.7	16.4	42.8	43.5	81.8	68.1	80.5	13.8	49.0	79.0	96.9	102
24-35	60.7	18.3	46.0	55.2	83.0	64.2	79.8	19.8	57.2	77.7	98.6	411

Note: Breastfeeding status and food consumed refer to a "24-hour" period (yesterday and the past night). An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based o n 25-49 unweighted cases.
[1] Does not include plain water
[2] Includes fruits and vegetables rich in vitamin A
[3] Includes pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, green leafy vegetables, mangoes, papayas, and other locally grown fruits and vegetables that are rich in vitamin A

10.2 MICRONUTRIENT INTAKE AND ANEMIA PREVALENCE

Deficiencies in micronutrients such as vitamin A, iodine, iron, calcium, and zinc, are the root cause of various health disorders the symptoms for which can often appear simultaneously. Vitamin A deficiency can cause night blindness; iodine deficiency can cause goiter and impaired mental function;

and insufficient iron causes anemia. These deficiencies also have less visible effects, in particular the weakening of the immune system.

Household intake of iodized salt

Low iodine consumption is often the source of serious and sometimes irreversible health problems that can increase the risk of miscarriage, perinatal and infant mortality, premature childbirth, congenital anomalies, stunted growth, learning disabilities, impaired mental function, and goiter (the latter being the most visible manifestation of iodine deficiency). Insufficient iodine in food is generally due to poor iodine content in the soil that produced it. In Rwanda, salt falls under ministerial regulation, which maintains tight control over the mandatory import of iodized kitchen salt.

During the survey, interviewers tested the kitchen salt of each household they visited. This rapid test, performed with a kit, provides an immediate measurement of iodine content, determining whether or not the salt is iodized and, if it is, whether it contains 15 parts per million (ppm) of iodine. Salt containing at least 15 ppm is considered adequately iodized; salt containing less than 15 ppm is considered inadequately iodized. It should be noted that salt was tested in 87 percent of all households; 10 percent did not have any salt at the time the survey team visited.

Table 10.5 shows that 99 percent of households that had salt were using iodized salt: 88 percent of the samples were adequately iodized; 11 percent were inadequately iodized (less than 15 ppm). The percentage of households with adequately iodized salt is slightly higher in urban areas (90 percent) than in rural areas (87 percent), and varies considerably by region, from a low of 71 percent in the West province to a high of 96 percent in the North province. The results do not vary significantly by household wealth. Overall, the proportion of households using iodized salt has risen compared with the 2000 level of 92 percent.

Table 10.5 Iodization of household salt

Percent distribution of households with salt tested for iodine content, by level of iodine in salt (parts per million), percentage of households tested, and percentage of households with no salt, according to background characteristics, Rwanda 2005

Background characteristic	Iodine content among households tested			Total	Number of households	Percentage of households tested	Percentage of households with no salt	Number of households
	None (0 ppm)	Inadequate (<15 ppm)	Adequate (15+ ppm)					
Residence								
Urban	0.4	9.3	90.3	100.0	1,263	83.7	10.4	1,510
Rural	1.3	11.3	87.4	100.0	7,652	87.3	9.8	8,762
Province								
Kigali city	0.3	10.3	89.4	100.0	722	83.5	8.6	864
South	0.4	5.3	94.3	100.0	2,411	88.6	9.3	2,722
West	3.3	26.1	70.6	100.0	2,116	83.9	12.1	2,522
North	0.6	3.8	95.6	100.0	1,706	87.7	10.1	1,946
East	0.6	8.3	91.2	100.0	1,960	88.4	8.6	2,218
Wealth quintile								
Lowest	1.1	10.6	88.2	100.0	1,899	85.7	11.4	2,217
Second	1.4	8.5	90.1	100.0	1,680	88.1	9.5	1,907
Middle	1.5	11.4	87.1	100.0	1,825	86.1	10.8	2,119
Fourth	1.2	13.0	85.8	100.0	1,865	88.6	9.1	2,105
Highest	0.5	11.3	88.2	100.0	1,646	85.5	8.5	1,925
Total	1.2	11.0	87.8	100.0	8,915	86.8	9.9	10,272

Micronutrient intake by children

Vitamin A deficiency is the main cause of preventable blindness in Africa and a contributor to morbidity and mortality. Even moderate deficiencies in vitamin A affect the immune system, reducing resistance to infection. Vitamin A is indispensable to growth, vision, and the maintenance of epithelial cells. Groups that are vulnerable to vitamin A deficiency include children under the age of five, pregnant women, and nursing mothers. UNICEF and WHO recommend systematic vitamin A supplementation according to a defined protocol for countries whose child mortality rates exceed 70 per thousand. Rwanda follows these main strategies for combating vitamin A deficiency:

- Supplementation using vitamin A capsules.
- Promotion of the consumption of foods rich in vitamin A.
- Promotion of the cultivation of foods rich in vitamin A.

Table 10.6 shows the percentage of most recently born children under age three who consumed foods rich in vitamin A in the seven days preceding the survey.[2] It also shows the percentage of children age 6-59 months who received at least one dose of vitamin A (capsule or ampoule) in the 6 months preceding the survey.

In Rwanda, 84 percent of children age 6-59 months have received vitamin A supplements. There are no significant variations by background characteristics. The youngest children, age 6-9 months, were less likely to receive supplements (75 percent) than children age 10-11 months (88 percent) and 12-23 months (87 percent). In the provinces, the proportions range from a low of 76 percent in the West, to a high of 90 percent in the North province. The data by level of education show that children whose mothers have a secondary education or higher were most likely to benefit from this nutritional supplement (87 percent). However, the proportion of breastfeeding children (85 percent) who received a vitamin A supplement is virtually the same as for nonbreastfeeding children (84 percent). There are no differentials by gender of child or residence. The data vary slightly by wealth quintile: the second wealth quintile has the highest proportion of children who received a vitamin A supplement (87 percent); the fourth quintile and the poorest quintile have the lowest proportions (81 percent and 82 percent, respectively). Finally, there are differentials by age of the mother at the birth of the child, proportions ranging from a low of 80 percent for women under age 20, to a high of 86 percent for women age 25 to 29.

To avoid vitamin A deficiency, it is also recommended that children consume foods rich in vitamin A. Nearly six in ten (58 percent) of the most recently born children under age three consumed foods rich in vitamin A in the seven days preceding the survey.

The consumption of foods rich in vitamin A increases with age, from 2 percent at under 6 months to 79 percent at age 24-35 months. There is no differential by gender of child.

It should be emphasized that breastfeeding children (55 percent) are less likely to consume foods rich in vitamin A than nonbreastfeeding children (77 percent). For this reason, breastfeeding children have an increased risk of vitamin A deficiency, especially if the foods given in place of breast milk during weaning are not rich in this micronutrient.

[2] Foods rich in vitamin A are listed in a footnote to tables 10.4 and 10.6.

Table 10.6 Micronutrient intake among children

Percentage of youngest children under age three living with the mother who consumed fruits and vegetables rich in vitamin A in the seven days preceding the survey, percentage of children age 6-59 months who received vitamin A supplements in the six months preceding the survey, and percentage of children under five living in households using adequately iodized salt, by background characteristics, Rwanda 2005

Background characteristic	Consumed fruits and vegetables rich in vitamin A[1]	Number of children under age 3	Received vitamin A supplement	Number of children age 6-59 months	Lives in household using adequately iodized salt[2]	Number of children under age 5
Age in months						
<6	2.0	885	na	na	88.6	812
6-9	47.1	548	75.0	553	83.3	484
10-11	73.2	276	88.1	277	91.7	253
12-23	77.2	1,532	86.9	1,626	87.0	1,470
24-35	78.5	1,093	84.1	1,732	88.2	1,577
36-47	na	na	83.7	1,373	87.5	1,243
48-59	na	na	84.1	1,346	86.0	1,215
Sex						
Male	57.8	2,238	83.9	3,519	87.0	3,589
Female	58.4	2,095	84.3	3,387	87.6	3,465
Breastfeeding status						
Breastfeeding	55.2	3,725	84.5	3,117	87.0	3,631
Not breastfeeding	76.7	601	83.7	3,721	87.6	3,356
Residence						
Urban	61.8	594	85.1	1,028	89.1	1,025
Rural	57.6	3,740	83.9	5,879	87.0	6,029
Province						
Kigali city	64.1	318	79.9	540	88.0	542
South	60.6	1,056	89.2	1,708	94.4	1,758
West	56.3	1,140	75.7	1,831	70.5	1,829
North	61.8	864	90.4	1,397	96.4	1,398
East	52.4	956	84.2	1,431	90.7	1,527
Mother's education						
No education	56.8	1,195	82.2	1,935	87.2	1,902
Primary	57.6	2,781	84.5	4,348	87.1	4,509
Secondary or higher	67.0	358	87.0	624	89.1	643
Mother's age at birth						
<20	53.3	204	80.3	408	87.9	402
20-24	55.6	1,136	84.1	1,868	87.5	1,913
25-29	58.4	1,156	86.3	1,821	87.6	1,871
30-34	58.5	882	83.7	1,357	86.0	1,392
35-49	61.5	956	82.9	1,453	87.7	1,476
Wealth quintile						
Lowest	58.0	919	82.0	1,415	87.0	1,413
Second	57.9	914	86.7	1,428	89.7	1,446
Middle	56.7	906	85.3	1,426	86.2	1,451
Fourth	58.5	861	81.2	1,346	86.5	1,415
Highest	59.9	733	85.2	1,292	87.0	1,329
Total[3]	58.1	4,333	84.1	6,907	87.3	7,054

Note: Information on vitamin A supplements is based on mother's recall.
na = Not applicable
[1] Includes pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, green leafy vegetables, mango, papaya, and other locally grown fruits and vegetables that are rich in vitamin A
[2] Salt containing 15 ppm of iodine or more. Excludes children in households in which salt was not tested.
[3] Includes children for whom breastfeeding status is unknown

The data by residence show a higher proportion of children who consume foods rich in vitamin A in urban areas (62 percent) than in rural areas (58 percent). By province, the proportion of children who consume foods rich in vitamin A varies from a low of 52 percent in the East province to a high of 64 percent in the City of Kigali.

Children whose mothers have a secondary education or higher (67 percent) consume more vitamin A-rich foods that those whose mothers have no education or only a primary education (57 percent for both). There appears to be a positive correlation between the age of the mother and child's consumption of foods rich in vitamin A. The proportions of children who consume this type of food increases with the age of the mother, from a low of 53 percent for children whose mothers were under age 20 when they were born, to a high of 62 percent for those whose mothers were age 35-49. Results according to household wealth show no significant differentials, the proportion of children consuming foods rich in vitamin A ranging from 58 percent in the poorest quintile to 60 percent in the richest quintile.

Table 10.6 shows that 87 percent of children under age five live in households with adequately iodized salt. The proportion is highest in the North province (96 percent).

Micronutrient intake and night blindness in women

Mothers who gave birth in the five years preceding the survey were asked whether they had received a dose of vitamin A in the two months following childbirth. Thirty-four percent of mothers had received the supplement (Table 10.7).

The proportion of mothers who received vitamin A varies considerably by province and level of education. In the South province, 43 percent of women received vitamin A within two months of childbirth. In the West province, the proportion was 25 percent. There are significant differentials by level of education: 40 percent of women with a secondary education received this nutritional supplement, compared with only 31 percent of women with no education. Results by other background characteristics show no significant differentials.

The first clinical manifestation of vitamin A deficiency is night blindness, which is essentially caused by insufficient vitamin A in the diet. This disorder primarily affects children, pregnant women, and nursing mothers. During the survey, women were asked whether they had suffered from night blindness during pregnancy; that is, whether they had problems seeing at dawn or dusk.

Table 10.7 indicates that 8 percent of women who gave birth in the five years preceding the survey reported having vision difficulties at dawn or dusk while pregnant. Some women reported also having vision difficulties during the day. These women appear to have eye problems that are not necessarily related to night blindness. To eliminate these cases, an *adjusted* night blindness prevalence was calculated. The *adjusted* night blindness prevalence is 3 percent.

Table 10.7 shows the proportion of women who took iron tablets during pregnancy. Overall, nearly three-quarters of the women (71 percent) took no iron during pregnancy. Among those who did take it, 24 percent took it for less than 60 days, 0.6 percent took it for two to three months, and 0.5 percent took it for three months or more. There are differentials in iron consumption by residence: the proportion of women who reported taking iron for less than 60 days is 28 percent in urban areas, compared with 23 percent in rural areas. The data according to province also show significant differentials, from a low of 16 percent in the North province, to a high of 32 percent in the South province.

Table 10.7 Micronutrient intake among mothers

Percentage of women with a birth in the five years preceding the survey who received a vitamin A dose in the first two months after delivery, percentage who experienced night blindness during pregnancy, percentage who took iron tablets or syrup for specific numbers of days, and percentage who live in households using adequately iodized salt, by background characteristics, Rwanda 2005

Background characteristic	Received vitamin A dose postpartum[1]	Experienced night blindness during pregnancy		Number of days took iron tablets or syrup during pregnancy					Number of women	Lives in household using adequately iodized salt[3]	Number of women
		Reported	Adjusted[2]	None	<60	60-89	90+	Missing			
Mother's age at birth											
<20	32.2	4.8	2.4	74.9	23.0	0.0	0.0	2.1	276	87.5	245
20-24	33.4	7.5	2.1	72.0	23.1	0.3	0.7	3.9	1,331	87.6	1,203
25-29	35.1	8.2	3.1	70.3	25.0	1.0	0.5	3.2	1,344	88.0	1,226
30-34	32.0	6.8	1.7	72.0	23.3	0.2	0.5	3.9	1,102	86.7	988
35-49	33.4	9.3	3.2	70.0	24.5	1.0	0.4	4.1	1,372	86.9	1,242
Number of living children											
1	32.8	7.3	2.2	71.9	24.1	0.6	0.5	3.0	875	85.8	792
2-3	32.8	6.3	2.1	72.3	23.7	0.3	0.6	3.2	1,706	88.9	1,553
4-5	36.6	8.2	3.1	69.8	24.3	0.8	0.5	4.6	1,349	86.9	1,220
6 or more	31.8	9.6	2.8	70.8	23.9	0.9	0.5	3.9	1,495	86.8	1,339
Residence											
Urban	34.3	7.2	2.0	65.8	27.9	0.6	0.5	5.2	774	89.3	686
Rural	33.3	8.0	2.7	72.1	23.3	0.6	0.5	3.4	4,651	87.0	4,217
Province											
Kigali city	28.0	8.2	2.6	68.5	24.4	0.2	0.6	6.3	427	88.0	383
South	42.8	6.3	2.2	63.6	31.7	1.5	0.5	2.7	1,357	94.2	1,249
West	25.3	11.5	3.4	65.2	28.6	0.5	0.6	5.1	1,395	70.3	1,221
North	32.8	5.8	2.3	78.6	16.2	0.3	0.6	4.2	1,05	96.3	942
East	35.1	7.1	2.3	81.2	16.5	0.3	0.2	1.8	1,194	90.3	1,109
Education											
No education	30.7	8.7	3.1	71.7	23.4	0.5	0.6	3.8	1,552	87.2	1,365
Primary	33.8	7.8	2.4	72.4	23.3	0.7	0.4	3.3	3,404	87.3	3,098
Secondary or higher	40.0	5.2	1.6	60.6	31.0	1.1	0.8	6.5	469	88.0	441
Wealth quintile											
Lowest	30.8	7.2	3.0	75.3	20.1	0.5	0.5	3.6	1,163	87.5	1,022
Second	34.2	6.7	2.3	76.3	20.1	0.7	0.0	2.9	1,124	90.0	1,012
Middle	33.9	8.4	2.7	71.9	23.9	0.5	0.4	3.3	1,097	86.3	986
Fourth	34.0	8.6	2.7	68.5	27.1	0.8	0.8	2.8	1,069	85.8	987
Highest	34.9	8.6	2.0	62.5	29.7	0.7	1.0	6.1	972	86.9	897
Total	33.5	7.9	2.6	71.2	24.0	0.6	0.5	3.7	5,425	87.3	4,904

Note: For women with two or more live births in the five-year period, data refer to the most recent birth.
[1] In the first two months after delivery
[2] Women who reported night blindness but did not report difficulty with vision during the day
[3] Salt containing 15 ppm of iodine or more. Excludes women in households in which salt was not tested.

With respect to education, women with higher education have the highest level of iron supplementation (31 percent, compared with 23 percent among women with no education). There is also a positive correlation between iron consumption during pregnancy and household wealth: the proportion of women who received iron supplements during pregnancy increases with wealth, from 20 percent in the poorest households to 30 percent in the richest. Eighty-seven percent of women live in households with adequately iodized salt. By province, the West province has the lowest percentage (70 percent) and the North province has the highest (96 percent).

10.3 Prevalence of Anemia Due to Iron Deficiency

Insufficient iron is the most widespread micronutrient deficiency in the world, affecting more than 3.5 billion people in developing countries (ACC/SCN, 2000). Anemia is characterized by a reduced number of red blood cells and lower concentrations of hemoglobin in the blood. It is generally the result of diets deficient in iron, vitamin B_{12}, and other nutrients. Although anemia can be caused by parasites, hemorrhaging, and congenital or chronic diseases, it is most often due to nutritional deficiencies based on insufficient iron (DeMaeyer, 1989; Yip, 1994). However, in parasite endemic zones such as Rwanda (see Chapter 9, Malaria), malaria and other parasitic diseases contribute to a high prevalence of anemia.

Iron deficiency in children increases the risk of impaired coordination and motor development, learning disabilities, and reduced physical activity. Anemia in women can cause lowered resistance, fatigue and, particularly for pregnant women, increased risk of maternal and fetal morbidity and mortality, and low-birth-weight babies.

During the survey, men, women, and children in half of the households surveyed were measured for height and weight and asked to give blood samples to assess hemoglobin content. Samples were collected in the following manner: a) capillary blood was taken by pricking the finger with a retractable blade (Tenderlette); b) a drop of blood was squeezed into a microcuvette, which was then introduced into a portable hemoglobin reader (HemoCue), and the reader produced a hemoglobin value in grams per deciliter of blood (g/dl) in less than one minute; c) the value given was recorded on the questionnaire.

There is a three-level classification system for anemia based on blood hemoglobin content that was developed by researchers at WHO (DeMaeyer, 1989). For children over the age of five, nonpregnant women, and men, anemia is considered severe if the hemoglobin content per deciliter of blood is less than 7.0 g/dl; it is considered moderate if the value is between 7.0 and 9.9 g/dl; and it is considered mild if the value is between 10.0 and 10.9 g/dl.

The amount of hemoglobin in the blood increases with altitude. This is because the partial pressure of oxygen decreases at high altitudes, as does blood oxygen saturation. There is also a compensation factor that causes increased production of red blood cells to ensure adequate oxygen carrying capacity in the blood (CDC, 1998). In other words, the higher the altitude, the more hemoglobin needed by the blood. Because three-quarters of Rwanda's population live at high altitudes, the hemoglobin values were adjusted for altitude according to CDC formulas.

Prevalence of anemia in children

Table 10.8 indicates that more than half of Rwandan children age 6 to 59 months (56 percent) have anemia: 20 percent are mildly anemic, 27 percent are moderately anemic, and 9 percent are severely anemic. More than three-quarters of children age 6-9 months are anemic (77 percent). At age 12-23 months, 11 percent are severely anemic, which may be explained by improper weaning. The results do not vary according to gender or residence, although the proportion of children who are severely anemic is higher in urban areas (13 percent) than in rural areas (8 percent). There are variations by province: the City of Kigali has the highest proportion of anemic children (70 percent); the South province has the lowest proportion (47 percent). Twenty-five percent of children in the City of Kigali are severely anemic.

Table 10.8 Prevalence of anemia in children

Percentage of children age 6 to 59 months classified as having anemia, by background characteristics, Rwanda 2005

Background characteristic	Any anemia	Anemia status by hemoglobin level: Mild (10.0-10.9 g/dl)	Moderate (7.0-9.9 g/dl)	Severe (<7.0 g/dl)	Number of children
Age in months					
6-9	77.4	20.7	46.9	9.8	254
10-11	67.9	21.4	37.2	9.3	149
12-23	64.1	21.8	30.9	11.4	796
24-35	54.8	21.5	25.0	8.2	898
36-47	51.2	21.7	23.2	6.3	708
48-59	44.9	16.1	21.4	7.4	732
Sex					
Male	56.9	21.9	26.5	8.5	1,741
Female	55.7	19.0	28.1	8.6	1,797
Residence					
Urban	54.3	17.1	24.2	13.0	495
Rural	56.6	21.0	27.8	7.8	3,042
Province					
Kigali city	69.6	13.0	31.4	25.1	226
South	47.2	20.6	24.2	2.4	908
West	59.3	26.0	30.8	2.6	933
North	56.2	18.8	23.6	13.9	729
East	59.6	17.2	29.2	13.3	741
Mother's education[1]					
No education	57.3	21.4	28.7	7.1	923
Primary	57.8	20.7	28.5	8.7	1,656
Secondary or higher	53.4	18.7	24.7	10.0	588
Wealth quintile					
Lowest	59.8	20.3	30.6	8.9	721
Second	61.1	22.9	28.2	10.1	755
Middle	54.1	18.7	26.5	8.9	733
Fourth	54.5	20.5	27.8	6.1	740
Highest	50.7	19.6	22.5	8.6	588
Total	56.3	20.4	27.3	8.5	3,537

Note: Table is based on children who stayed in the household the night before the interview. Prevalence is adjusted for altitude using CDC formulas (1998).
g/dl = grams per deciliter
[1] For women who were not interviewed, information is taken from the Household Questionnaire.

The prevalence of anemia varies somewhat by mother's level of education: it is lower among children whose mothers have a secondary education or higher (53 percent) than among children whose mothers have no education (57 percent) or only a primary education (58 percent). However, children whose mothers have secondary education or higher have the highest prevalence of severe anemia (10 percent). The data according to household wealth show that anemia prevalence decreases as wealth increases, from 60 percent in the poorest quintile, to 51 percent in the richest.

The majority of children who are anemic are moderately so, and they share practically the same characteristics as all anemic children. Paradoxically, children living in the City of Kigali (25 percent), those in urban areas (13 percent), and those whose mothers have a secondary education or higher (10 percent) are more affected by severe anemia than other children.

Prevalence of anemia in women

Table 10.9 shows the results of anemia tests among women. One-third of the women (33 percent) have anemia: 19 percent are mildly anemic, 11 percent are moderately anemic, and 3 percent are severely anemic. The results according to age show the highest prevalence of anemia among women age 35 and older (36-37 percent). There are differentials between women with no children (30 percent) and those with children, particularly those who have 6 children or more (36 percent). Breastfeeding is not significantly associated with increased risk of anemia.

Table 10.9 Prevalence of anemia in women

Percentage of women with anemia, by background characteristics, Rwanda 2005

Background characteristic	Any anemia	Anemia status: Mild anemia	Moderate anemia	Severe anemia	Number of women
Age[1]					
15-19	29.0	18.0	8.7	2.3	1,317
20-24	33.2	18.9	11.4	2.9	1,145
25-29	32.0	18.2	10.9	2.9	826
30-34	32.3	17.3	11.3	3.7	811
35-39	37.0	21.6	12.3	3.1	536
40-44	35.7	22.2	11.7	1.8	555
45-49	36.7	22.0	12.2	2.5	466
Number of children ever born[2]					
None	30.2	18.1	9.6	2.5	2,142
1	35.0	17.6	13.3	4.2	539
2-3	32.6	20.1	9.8	2.7	1,028
4-5	34.6	19.2	13.1	2.3	876
6 or more	35.5	21.3	11.2	3.0	1,072
Maternity status[2]					
Pregnant	35.0	13.1	17.6	4.3	432
Breastfeeding	32.6	19.9	10.1	2.6	1,923
Neither	32.6	19.6	10.4	2.6	3,302
Residence					
Urban	33.3	16.4	14.0	3.0	938
Rural	32.7	19.7	10.2	2.7	4,719
Province					
Kigali city	45.9	17.7	21.4	6.7	547
South	28.0	20.8	6.7	0.5	1,518
West	26.2	18.5	6.7	1.1	1,397
North	31.6	13.3	12.0	6.3	1,020
East	41.6	23.7	15.2	2.8	1,175
Education[1]					
No education	34.9	20.6	11.9	2.4	1,273
Primary	32.3	19.1	10.5	2.8	3,824
Secondary or higher	31.0	16.7	10.9	3.4	560
Wealth quintile					
Lowest	34.3	19.5	11.9	2.9	1,197
Second	34.6	21.9	10.7	2.0	1,197
Middle	34.1	19.3	11.2	3.6	1,044
Fourth	30.9	18.5	9.2	3.1	1,115
Highest	29.9	16.5	11.3	2.2	1,103
Total	32.8	19.2	10.9	2.7	5,657

Note: Table is based on women who stayed in the household the night before the interview. Prevalence is adjusted for altitude and for smoking status if known using CDC formulas (1998). Women with <7.0 g/dl of hemoglobin have severe anemia, women with 7.0-9.9 g/dl have moderate anemia, and pregnant women with 10.0-10.9 g/dl and nonpregnant women with 10.0-11.9 g/dl have mild anemia.

[1] For women who were interviewed, information is taken from the Household Questionnaire.

[2] Excludes women who were not interviewed

The prevalence of anemia in women varies according to province. The highest prevalence is found in the City of Kigali (46 percent). High prevalence is also observed in the East province (42 percent). The lowest prevalence is found in the West province (26 percent).

Anemia prevalence varies slightly according to level of education, from a high of 35 percent among women with no education, to a low of 31 percent among women with higher educational levels. The data show no major differentials by wealth quintile, the proportion of anemic women varying from a low of 30 percent in the richest quintile, to highs of 34 percent and 35 percent in the poorest and middle quintiles.

Table 10.10 shows anemia prevalence among children according to the mother's level of anemia. Anemia measurements exist for both children and their mothers in a total of 3,285 cases. Overall, the prevalence of anemia is higher among children whose mothers are anemic than among all children (71 percent, compared with 55 percent, respectively). Sixteen percent of children whose mothers are anemic are mildly anemic, 32 percent are moderately anemic, and 24 percent are severely anemic. Results according to the mother's severity of anemia show correspondence between the anemia status of mother and that of the child. Approximately one-fifth of children whose mothers have mild anemia are also mildly anemic (21 percent). When the mother is moderately anemic, 30 percent of children are moderately anemic as well, and 40 percent are severely anemic. When the mother is severely anemic, 100 percent of the children show some form of anemia, 11 percent are moderately anemic, and the majority (88 percent) are severely anemic.

Table 10.10 Prevalence of anemia in children by anemia status of mother

Percentage of children age 6-59 months classified as having anemia, by anemia status of mother, Rwanda 2005

		Anemia status of child			
Anemia status of mother	Any anemia	Mild anemia	Moderate anemia	Severe anemia	Number of children
Any anemia	71.3	15.9	31.8	23.5	1,019
Mild anemia	61.9	20.5	35.3	6.1	613
Moderate anemia	81.8	11.0	30.4	40.4	325
Severe anemia	100.0	1.1	11.4	87.5	81
Total	54.9	20.0	26.7	8.2	3,285

Note: Table is based on children who stayed in the household the night before the interview. Prevalence is adjusted for altitude (and for smoking in the case of mothers with information on smoking status) using CDC formulas (1998). Tables includes only cases with anemia measurements for both mothers and children.

Prevalence of anemia in men

Table 10.11 shows the prevalence of anemia in men. Approximately three in ten men (29 percent) are anemic: 10 percent are mildly anemic, 15 percent are moderately anemic, and 4 percent are severely anemic. The proportion of men who are anemic varies widely by age, but anemia prevalence is highest in the youngest and oldest age groups: 35 percent of teenagers and more than one-third of men age 45 and above are anemic (32 percent at age 45-49; 36 percent at age 50-59).

The results show no differential by residence: the proportion of men with anemia is 29 percent in rural areas, 27 percent for urban areas. Results by province show the highest prevalences in the East province (38 percent) and, as with women and children, the City of Kigali (34 percent).

Table 10.11 Prevalence of anemia in men

Percentage of men age 15-59 with anemia, by background characteristics, Rwanda 2005

Background characteristic	Any anemia	Anemia status by hemoglobin level: Mild (12.0-12.9 g/dl)	Moderate (9.0-11.9 g/dl)	Severe (< 9.0 g/dl)	Number of men
Age[1]					
15-19	34.9	12.9	18.2	3.9	1,082
20-24	24.3	9.9	11.1	3.4	918
25-29	24.8	7.4	12.8	4.6	615
30-34	23.6	6.7	13.2	3.8	486
35-39	27.1	8.7	15.8	2.6	432
40-44	27.6	9.3	14.0	4.2	398
45-49	32.1	11.0	15.1	6.0	373
50-54	35.8	12.8	16.2	6.8	256
55-59	35.6	10.0	17.4	8.2	145
Residence					
Urban	26.8	8.4	14.4	4.0	782
Rural	29.3	10.3	14.7	4.3	3,922
Province					
Kigali city	33.8	7.5	17.9	8.4	476
South	26.4	11.8	13.2	1.4	1,230
West	21.1	8.4	11.1	1.6	1,161
North	29.7	7.9	12.1	9.7	838
East	37.9	12.6	21.1	4.2	1,000
Education[1]					
No education	30.4	9.2	17.4	3.8	827
Primary	30.0	10.7	14.7	4.6	3,317
Secondary or higher	19.6	7.0	10.0	2.7	560
Wealth quintile					
Lowest	31.5	11.9	14.4	5.2	846
Second	33.3	9.8	17.7	5.9	877
Middle	30.4	9.9	15.5	5.0	963
Fourth	27.3	10.2	14.4	2.6	988
Highest	22.9	8.6	11.6	2.7	1,031
Total	28.9	10.0	14.6	4.2	4,705

Note: Table is based on men who stayed in the household the night before the interview. Prevalence is adjusted for altitude using CDC formulas (1998).
[1] For men who were not interviewed, information is taken from the Household Questionnaire.

Anemia prevalence varies according to men's level of education. Men with no education are more likely to have anemia (30 percent) than men with the highest levels of education (20 percent). According to household wealth, the prevalence of anemia decreases as wealth increases, from 32 percent and 33 percent in the two lowest quintiles, to 23 percent in the richest quintile.

10.4 NUTRITIONAL STATUS OF CHILDREN

Indicators of child nutritional status were developed to assist in evaluating progress toward meeting the objectives of 20/20 Vision, the Millennium Development Goals (MDG), and the Poverty Reduction Strategy Papers.

Methodology

Nutritional status depends both on feeding practices that affect the child's nutrient consumption and the child's exposure to infectious diseases. Malnourished children are also more vulnerable to infectious diseases and, for this reason, have an increased risk of morbidity.

Nutritional status is evaluated by means of anthropometric indices calculated on the basis of the child's age and height and weight measurements taken during the survey. Weight and height measurements are used to develop three indices: height in relation to age (height-for-age), weight in relation to height (weight-for-height), and weight in relation to age (weight-for-age).

During the survey, all children under age five who were present in the households surveyed were weighed and measured. Data were collected for 3,859 children meeting the defined criteria.

Evaluation of child nutritional status follows the recommendations of WHO, based on the rationale that in a well nourished population there is a statistically predictable distribution of height and weight among children of a given age. The survey data are compared with an international reference population known as the NCHS/CDC/WHO[3] standard population. This international reference is based on a population of American children under age five in good health, and is applicable to all children of a given age group. It was standardized to follow a normal distribution in which the median and mean are identical. Each of the three indices analyzed is expressed in standard deviations from the median of the international reference population. Children whose nutritional status is below minus two (- 2) standard deviations from the median of the reference population are considered moderately malnourished; children below minus three (- 3) standard deviations are considered severely malnourished.

Table 10.12 shows the percentage of children with malnutrition (based on the three anthropometric indices) by background characteristics. Among the 3,859 children for whom data on nutritional status were analyzed, 3,679 lived in the same household as their mother. The mothers of 3,623 of these children were surveyed. For these mothers, nutritional status was also analyzed according to birth interval and the mother's level of education, using the women's individual questionnaire. For the 236 other children (6 percent of the 3,859 children analyzed), the mother was not surveyed. In addition, in 54 cases, the mother lived in the same household as her child but was not surveyed because she was either absent or ill at the time of the survey. In 180 cases, the mother was not surveyed because she lived elsewhere or was dead. This latter category is of particular interest because of the assumption that children whose mothers do not live in the household will have different living conditions from children who live with their mother.

Stunting

Children who suffer from chronic undernourishment (in terms of protein-energy consumption), or chronic malnutrition, are short for their age, or stunted. Stunting reflects failure to receive adequate nourishment over a long period of time and may also be caused by chronic or recurrent illness. Beyond the age of two, children have "little chance of improving growth no matter what interventions are taken" (Delpeuch, 1991). Thus, stunting at the earliest ages is almost never reversed. Height-for-age, therefore, reflects the quality of a child's environment and, more generally, the society's level of socioeconomic development. However, children who are short for their age may have weights that correspond to their height. For this reason, chronic malnutrition is not always immediately discernible in a population because a stunted three-year-old may look like a well-fed two-year-old child. Therefore, the height-for-age index, which measures a child's height in relation to his or her age, is a measure of the long-term effects of malnutrition in a population and does not vary appreciably with the season in which the data were collected.

[3] NCHS: the U.S. National Center for Health Statistics; CDC: the U.S. Centers for Disease Control and Prevention; WHO: the World Health Organization.

Table 10.12 Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Rwanda 2005

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]	
Age in months							
<6	1.4	8.4	0.7	2.3	0.0	2.3	387
6-9	5.1	20.6	1.1	5.4	1.8	17.0	253
10-11	11.3	34.0	0.7	6.6	6.3	26.9	146
12-23	25.3	54.9	1.6	8.6	7.4	35.4	781
24-35	23.0	50.7	0.9	3.2	6.0	27.0	888
36-47	21.8	52.7	0.0	1.2	2.3	17.5	693
48-59	22.2	52.2	0.7	2.1	3.9	19.4	712
Sex							
Male	19.7	46.3	1.1	4.2	4.8	22.9	1,898
Female	18.9	44.4	0.6	3.6	4.0	22.1	1,961
Birth interval in months[2]							
First birth	16.7	42.3	2.2	6.2	5.1	22.5	597
<24	20.9	48.8	0.3	2.7	4.4	21.7	660
24-47	19.4	44.8	0.7	4.0	3.8	23.3	1,839
48+	17.0	44.4	0.7	3.2	4.5	21.7	527
Size at birth							
Very small	36.5	65.0	2.9	9.7	12.9	54.3	87
Small	21.5	48.1	0.5	5.9	6.0	32.4	323
Average or larger	18.0	44.2	0.9	3.7	3.8	20.8	3,197
Residence							
Urban	13.6	33.1	0.7	3.8	3.2	16.2	543
Rural	20.3	47.3	0.9	3.9	4.6	23.5	3,316
Province							
Kigali city	12.9	29.2	2.5	7.5	5.0	14.4	250
South	21.5	44.8	1.4	5.0	5.4	27.6	987
West	19.0	46.9	0.5	2.8	3.2	20.3	999
North	22.8	52.2	0.2	2.9	5.7	23.6	793
East	15.8	42.4	0.8	3.8	3.1	20.2	831
Mother's education							
No education	21.9	50.3	0.8	3.7	6.5	25.4	1,017
Primary	19.0	44.3	0.9	4.0	3.7	22.4	1,829
Secondary or higher	15.8	43.3	1.3	5.5	3.5	22.1	633
Mother's age							
15-19	(10.7)	(27.1)	(5.4)	(5.4)	(3.7)	(18.6)	34
20-24	16.7	43.2	1.2	5.5	3.4	23.0	621
25-29	18.5	43.9	0.7	3.1	4.9	20.7	943
30-34	20.7	47.2	1.0	5.0	3.7	22.0	953
35-49	19.5	45.9	0.7	3.2	5.0	24.6	1,127
Wealth quintile							
Lowest	27.4	55.1	1.0	4.0	7.4	30.5	792
Second	19.7	48.3	1.5	5.8	4.6	25.8	822
Middle	17.7	45.1	0.7	3.6	4.1	22.0	805
Fourth	20.0	45.4	0.5	2.9	4.0	21.8	798
Highest	10.1	29.7	0.4	3.1	1.0	9.7	642
Mother's status							
Interviewed	18.9	45.0	0.9	4.0	4.3	22.6	3,623
Not interviewed, but in household	28.1	48.5	2.2	6.4	10.2	20.3	54
Not interviewed, and not in household	26.1	50.5	0.0	1.7	4.7	20.0	180
Total	19.3	45.3	0.9	3.9	4.4	22.5	3,859

Note: Table is based on children who stayed in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO International Reference Population. The percentage of children who are more than three or more than two standard deviations below the median of the International Reference Population (-3 SD and -2 SD) are shown according to background characteristics. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. Figures in parentheses are based on 25-49 unweighted cases.

[1] Includes children who are below –3 SD

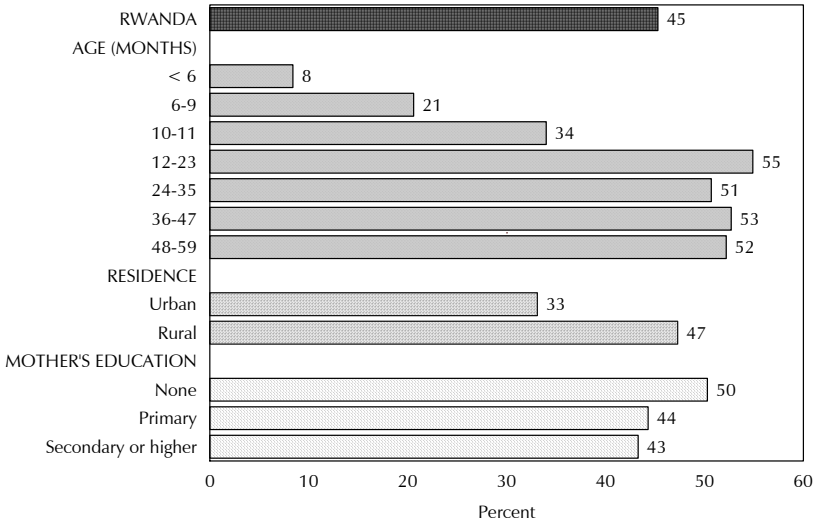
[2] First born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

Table 10.12 shows height-for-age results, which indicate that 45 percent of Rwandan children under age five have moderate chronic malnutrition (height-for-age below -2 standard deviations from the median of the reference population) and 19 percent have severe chronic malnutrition (height-for-age below -3 standard deviations from the median of the reference population). These proportions are much higher than would be expected in a well-nourished population (2.3 percent below -2 standard deviations and 0.1 percent below -3 standard-deviations).

The nutritional status of children whose mothers do not live in the same household is more worrisome than that of children who live with their mother: 51 percent (compared with 45 percent) have moderate chronic malnutrition; and 26 percent (compared with 19 percent) have severe chronic malnutrition. According to age, the data show large variations in the prevalence of chronic malnutrition, both moderate and severe. The proportion of children with moderate stunting increases steadily with age. It is 8 percent at under 6 months, the period during which children benefit from exclusive breastfeeding. But at 6-9 months, the prevalence is more than twice as high: 21 percent, indicating inadequate introduction of supplementary foods. Between 10 and 11 months, the prevalence of stunting reaches 34 percent, revealing once more the negative impact of inappropriate introduction of supplementary foods. Beginning at the age of 12 months, 51 to 55 percent of children are stunted. The period following, age 12 to 59 months, is critical: not only are children's increased nutritional needs not being met, but children are also more susceptible to infection at this time (Figure 10.2).

The severe form of chronic malnutrition affects less than 1 percent of children under the age of 6 months, 5 percent of those age 6 to 9 months, and 11 percent of those age 10 to 11 months. However, starting at 12 months, more than one in five children (22 to 25 percent) have severe chronic malnutrition. The nutritional status of these children is particularly worrisome insofar as stunting is considered irreversible after two years. Moderate chronic malnutrition affects boys slightly more (46 percent) than girls (44 percent).

Figure 10.2 Percentage of Children Under Age 5 Who Are Stunted



RDHS 2005

Birth intervals affect the prevalence of moderate chronic malnutrition. Children born less than two years after an older sibling are slightly more affected by malnutrition than other children: 49 percent, compared with 45 percent when the birth interval is 24-47 months.

Moderate chronic malnutrition is associated with child's size at birth. The smaller the size at birth, the higher the prevalence of moderate chronic malnutrition: 65 percent for very small children, 48 percent for small children, and 44 percent for average or large children. The same trend is observed for the severe form of chronic malnutrition.

Level of chronic malnutrition varies significantly by residence. Moderate chronic malnutrition affects nearly half the children in rural areas (47 percent), compared with 33 percent in urban areas. For severe malnutrition, the proportion of children who are stunted varies from 20 percent in rural areas to 14 percent in urban areas. By province, the highest prevalence of chronic malnutrition is in the North province (52 percent), followed by the West province (47 percent). Severe chronic malnutrition is highest in the North (23 percent) and the South (22 percent) provinces.

Mother's level of education influences the nutritional status of children, although less than expected. Children whose mothers have no education (50 percent) suffer most from moderate stunting; for those whose mothers have a primary or a secondary education, prevalence is more or less identical (44 percent and 43 percent, respectively). For severe malnutrition, prevalence is highest among children whose mothers have no education (22 percent).

By age of the mother, chronic malnutrition is highest among children whose mothers are age 30 to 34 (47 percent for moderate; 21 percent for severe).

With respect to household wealth, the results show a strong decrease in chronic moderate malnutrition as wealth increases (from 55 percent in the poorest households to 30 percent in the richest). The results for severe malnutrition are less consistent, although prevalence is more than twice as high in the poorest quintile (27 percent) as in the richest (10 percent).

Wasting

Table 10.12 also shows results for acute malnutrition, represented by the weight-for-height index. This index, which measures body mass in relation to height, reflects current nutritional status (at the time of the survey). It can therefore vary considerably with the season in which the data are collected. Infectious diseases (measles, diarrhea, etc.), drought, and hunger periods (during food shortages) can affect children's weight and height. These factors are all very sensitive to seasonal variations. Acute malnutrition reflects insufficient nourishment during the period immediately preceding the survey, or weight loss resulting from illness (severe diarrhea, measles, or anorexia, for example). A child with this form of malnutrition is too thin for his height, or wasted. Children whose weight-for-height is below -2 standard deviations from the median of the reference population have moderate acute malnutrition; those whose weight-for-height is below -3 standard deviations have severe acute malnutrition.

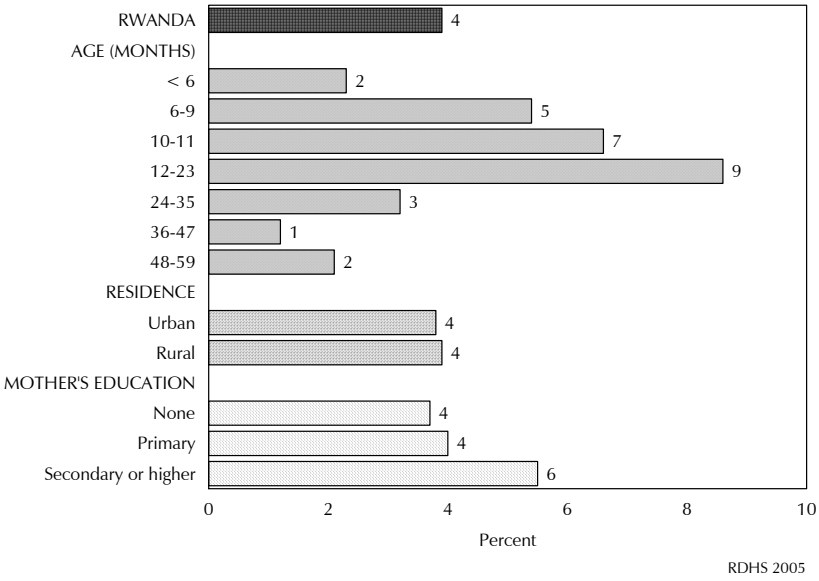
In Rwanda, the proportion of children under age five with acute malnutrition, though relatively low, is nearly twice as high for the moderate form (3.9 percent), and more than ten times as high for the severe form (0.9 percent), as would be expected in a well-nourished population (2.3 percent for moderate acute malnutrition; 0.1 percent for severe acute malnutrition).

Overall, 4 percent of children under age five are affected by moderate acute malnutrition and nearly 1 percent are affected by the severe form. With respect to age, children age 10 to 23 months suffer most from acute malnutrition, particularly those in the 12-23 month age group (9 percent for moderate; 2 percent for severe) (Figure 10.3). After 24 months, the proportions decrease with age, dropping to 2

percent at age 48 to 59 months for moderate acute malnutrition, and to less than 1 percent for the severe form. This form of malnutrition particularly affects children who do not receive supplementary foods of sufficient quantity and/or quality to meet their increased nutritional needs, resulting in nutritional deficiencies that weaken their resistance to infection. This age group also corresponds to the developmental stage when children begin to explore their immediate environment and place objects in their mouths, making them particularly vulnerable to pathogens. The fact that the proportion of wasted children decreases after the second birthday is not necessarily a sign of improved nutritional status. It can also reflect high mortality among the most vulnerable children, the less vulnerable having survived past their second birthday.

There is no difference in the level of wasting by gender (4 percent for both sexes). Results by birth interval show only slight, inconsistent variations.

Figure 10.3 Percentage of Children Under Age 5 Who Are Wasted



As with chronic malnutrition, the smaller the size of the child at birth, the higher the prevalence of acute malnutrition. Thus, in its moderate form, acute malnutrition prevalence varies from 10 percent among very small children, to 6 percent among small children, to 4 percent among average or large children.

There is no variation in wasting by residence for either moderate or severe acute malnutrition. With respect to province, the results show a higher prevalence of moderate acute malnutrition in the City of Kigali (8 percent) and the South province (5 percent) than in other provinces.

Results by level of education show no major differentials. However, contrary to expectation, children whose mothers have a secondary education or higher have the highest prevalence of wasting (6 percent). This proportion is four times higher than that of the reference population (Figure 10.3). Finally, it should be noted that children who live with their mothers suffer more from moderate acute malnutrition (at least 4 percent) than those whose mothers do not live in the household (2 percent). It should also be emphasized that the proportion of wasted children is twice as high in the second quintile (6 percent) as in the two richest quintiles (3 percent).

Underweight

Table 10.12 shows the nutritional status of children by weight-for-age (underweight). This is a composite index of height-for-age and weight-for-height 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, wasted, or both. Weight-for-age is a useful tool in clinical settings for continual assessment of nutritional progress and growth. However, its use is limited because it does not distinguish long-term nutritional deficiencies (stunting) from recent ones (wasting). Like weight-for-height, this index is sensitive to seasonal variations and its value is limited when there is only one measurement over time. It is presented here for comparison with the results of studies on growth monitoring that use this measurement. Children whose weight-for-age is below -2 standard deviations from the median of the reference population are classified as moderately underweight; those whose weight-for-age is below -3 standard deviations from the median of the reference population are classified as severely underweight.

Nearly one in four children (23 percent) under age five in Rwanda is moderately underweight; 4 percent are severely underweight. This situation is worrisome, because these proportions are significantly higher than those expected in a well-nourished population (2.3 percent for moderately underweight; 0.1 percent for severely underweight).

There are significant differentials in underweight by background characteristic. Variations by age are similar to those for stunting. Like the two other indices, this form of malnutrition, which is seen already in infants (approximately 2 percent at under 6 months), increases rapidly, affecting more than one-quarter of children by the time they reach age 10 to 11 months (27 percent) and more than one-third of children age 12 to 23 months (35 percent).

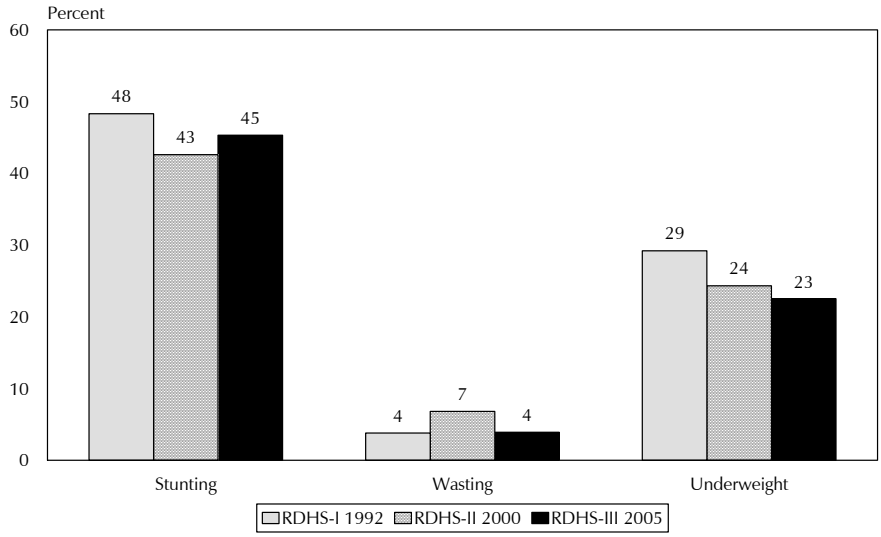
The data show no significant variations by gender of child or birth interval. However, children living in rural areas are more likely to be moderately underweight (24 percent) than those in urban areas (16 percent). By province, the results show that more than one-quarter of children in the South province (28 percent) and one-quarter in the North province (24 percent) are moderately underweight.

Mother's level of education has a slight influence on the prevalence of underweight: 22 percent of children whose mothers have a secondary education or higher and 22 percent of children whose mothers have a primary education are moderately underweight, compared with 25 percent of those whose mothers have no education. Differences according to the age of the mother are slight: prevalence varies from 25 percent for children whose mother is between ages 35 and 49, to 21 percent for children whose mothers are age 25 to 29. Finally, in the poorest households, 31 percent of children are moderately underweight, compared with 10 percent in the richest households. Trends by background characteristics for severely underweight children follow the same pattern as for moderately underweight children.

Trends in nutritional status of children

Figure 10.4 shows the level of malnutrition among children under the age of three in the RDHS-I (1992), RDHS-II (2000), and RDHS-III (2005) surveys. The findings indicate that the nutritional status of children has not improved significantly since 2000, particularly with respect to stunting. The prevalence of stunting in children age 0-5 years was 48 percent in 1992, 43 percent in 2000, and 45 percent in 2005 (19 percent of which represents the severe form). The prevalence of wasting, which had increased from 4 percent in 1992 to 7 percent in 2000, seems to have declined slightly between 2000 and 2005 to 4 percent, which is the same as the 1992 level. Similarly, the prevalence of underweight decreased slightly from 29 percent in 1992, to 24 percent in 2000, to 23 percent in 2005, nearly the same as the 2000 level.

Figure 10.4 **Trends in Malnutrition among Children Under 5 Years), Rwanda 1992, 2000, and 2005**



10.5 NUTRITIONAL STATUS OF WOMEN

The nutritional status of women age 15 TO 49 years is a determining factor FOR maternal mortality because it has a major impact on the development and outcome of a pregnancy. It also plays a major role in morbidity and mortality among young children. The nutritional status of mothers is conditioned by dietary intake, health status, and birth spacing. Fertility rates and mortality rates are therefore closely related to the nutritional status of women. For these reasons, it is especially important to assess the nutritional status of women of reproductive age, in order to identify high-risk groups.

Although genetic factors contribute to height variations in all populations, short stature can result from chronic malnutrition during childhood, and it is an indirect indicator of a woman's socioeconomic status. Moreover, given the relationship between height and pelvis size, a woman's height can be used to predict the risk of complications during pregnancy and delivery. Short women are also more likely to give birth to underweight children. While the cutoff point below which women can be considered at risk varies, it is generally taken to be between 140 and 150 centimeters.

To determine the nutritional status of women, the RDHS-III measured the height and weight of all women age 15 to 49 in half of the households surveyed. Table 10.13 shows that the average height of

Rwandan women (156.6 centimeters). Only 4 percent of women have a height under 145 centimeters, which is considered the cutoff point. The proportion of short women is higher among very young women, age 15 to 19 years (9 percent), women in rural areas (4 percent, compared with 3 percent to for urban areas), women in the West and South provinces (5 percent), and women in the fourth wealth quintile (5 percent).

Being underweight at the start of a pregnancy is a major risk factor affecting pregnancy development and outcome. However, because weight varies considerably according to height, the height-weight relationship must be factored in using an indicator known as the Quetelet or Body Mass Index (BMI).[4] This index controls for height in order to distinguish underweight and overweight and has the added advantage of doing away with the reference tables needed to assess weight-for-height. A cutoff point of 18.5 is used to define underweight or undernutrition. A BMI of 25 or above usually indicates overweight or obesity.

In Rwanda, the average BMI is 21.8, with a relatively high proportion of women (10 percent) being below the cutoff point of 18.5, indicating chronic undernourishment, 7 percent show the mild form; 2 percent show the moderate form; and 1 percent show the severe form. Low BMI levels correlate with low birth weight and malnourishment in children under age five.

In general, the average BMI for women does not vary significantly by background characteristics. However, there are differentials in the proportion below the cutoff point of 18.5. The highest levels of chronic undernourishment are found among the youngest women (age 15 to 19: 17 percent) and the oldest women (age 45 to 49: 13 percent). There is no variation by residence (10 percent for urban and rural), but the prevalence of undernourished women by province varies from a low of 7 percent in the North province to a high of 13 percent in the South province.

According to level of education, women with a primary education (10 percent) and women with no education (9 percent) are relatively more likely to be undernourished than women with a secondary education or higher (7 percent). Household wealth also impacts this indicator: women in the poorest households (11 percent) are more likely to be undernourished than women in the richest households (7 percent).

Just as chronic undernourishment can be dangerous to overall health, obesity is a risk factor for numerous diseases, including hypertension, cardiovascular disease, and diabetes. Overweight affects only a minority of Rwandan women. Table 10.13 shows that just over one in ten women (12 percent) have a high BMI of 25 or more, and are therefore considered overweight or obese. Overweight mainly affects women age 20 to 34 (12 percent to 14 percent). The problem is more widespread in urban areas (19 percent) than in rural areas (10 percent).

[4] The BMI is calculated by dividing weight in kilograms by height in meters squared (kg/m^2).

By province, women in the City of Kigali (22 percent) and women in the North (13 percent) and East (12 percent) provinces are more likely to be overweight. The problem seems to be more widespread among women with a secondary education or higher (23 percent) and among those in the richest quintile (23 percent).

Table 10.13 Nutritional status of women

Among women, mean height, the percentage under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics, Rwanda 2005

	Height			BMI (kg/m^2) [1]							
Background characteristic	Mean (in cm)	Percentage < 145 cm	Number of women	Mean Body Mass Index (BMI)	18.5-24.9 (normal)	<18.5 (thin)	17.0-18.4 (mildly thin)	16.0-16.9 (moderately thin)	<16.0 (severely thin)	≥25.0 (overweight/obese)	Number of women
Age											
15-19	154.1	8.9	1,316	21.3	73.6	16.8	11.5	3.5	1.8	9.6	1,300
20-24	156.4	3.3	1,140	22.4	82.1	4.1	3.5	0.4	0.3	13.8	1,001
25-29	156.9	2.6	839	22.3	82.0	5.8	3.9	1.2	0.7	12.3	672
30-34	157.6	1.4	809	22.1	79.2	7.1	5.6	1.0	0.4	13.7	684
35-39	157.8	2.8	540	21.8	80.4	8.4	6.8	0.9	0.8	11.2	462
40-44	158.5	1.1	553	21.6	79.2	10.3	8.8	1.5	0.0	10.5	523
45-49	158.1	1.5	466	21.3	77.7	13.4	10.2	2.3	0.9	9.0	458
Residence											
Urban	158.3	2.6	934	22.6	70.9	9.9	6.8	2.3	0.7	19.3	862
Rural	156.3	4.1	4,729	21.7	80.3	9.8	7.4	1.6	0.8	9.9	4,238
Province											
Kigali city	158.1	2.5	539	22.7	68.1	9.7	6.8	2.3	0.6	22.2	493
South	156.5	4.5	1,514	21.3	79.8	13.1	8.7	3.1	1.3	7.1	1,367
West	155.9	4.9	1,405	21.9	81.5	8.1	6.1	1.2	0.7	10.4	1,280
North	156.9	3.1	1,021	22.2	80.1	6.6	5.5	0.6	0.5	13.3	905
East	156.4	3.0	1,184	21.7	77.4	10.5	8.7	1.2	0.6	12.0	1,055
Education											
No education	156.3	3.9	1,269	21.8	79.9	9.3	7.9	1.0	0.4	10.8	1,122
Primary	156.2	4.3	3,838	21.7	79.5	10.4	7.4	2.0	1.0	10.1	3,462
Secondary or higher	159.8	0.6	556	22.9	70.3	7.2	5.3	1.2	0.7	22.5	516
Wealth quintile											
Lowest	155.5	4.4	1,200	21.6	80.6	10.8	8.1	2.0	0.8	8.6	1,080
Second	156.4	3.5	1,194	21.5	81.4	11.1	8.0	2.4	0.6	7.6	1,081
Middle	156.5	3.8	1,046	21.6	80.3	9.8	7.2	1.4	1.2	10.0	928
Fourth	156.3	4.6	1,117	21.6	80.9	10.0	7.6	1.4	1.0	9.0	992
Highest	158.3	2.8	1,106	22.8	70.1	7.3	5.5	1.4	0.5	22.6	1,019
Total	156.6	3.8	5,663	21.8	78.7	9.8	7.3	1.7	0.8	11.5	5,100

[1] Excludes pregnant women and women with a birth in the past 2 months

INFANT AND CHILD MORTALITY 11

This chapter presents information on levels, trends, and differentials in neonatal, postneonatal, infant, child and under-five mortality The information provides mortality statistics to policymakers, program managers and researchers for use in assessing the impact of health policies and programs, and to identify sectors of the population that are at high risk. Estimates of infant and child mortality also serve as a necessary parameters for population projections, particularly if the level of adult mortality can be inferred with reasonable confidence. Finally, indices of childhood mortality are widely accepted as indicators of the overall living conditions of a population.

11.1 DEFINITION, METHODOLOGY, AND DATA QUALITY

The primary causes of childhood mortality change as children age. A large component of early infant mortality is due to congenital diseases and other biological factors related to conditions in early infancy. Child mortality (1-4 years), on the other hand, is primarily due to environmental causes which are more susceptible to control, such as infectious disease, malnutrition and accidents. As under-five mortality declines over time, it is often observed that child mortality declines to a greater degree than infant mortality; this phenomenon is mainly due to improvements in children's environments brought about by public health interventions or general improvements in living standards (Sullivan et al., 1994). In this chapter, age-specific mortality measures are defined as follows:

Neonatal mortality:	the probability of dying in the first month of life.
Postneonatal mortality:	the probability of dying between the neonatal period and the first birthday; calculated as the difference between infant and neonatal mortality.
Infant mortality:	the probability of dying before the first birthday.
Child mortality:	the probability of dying between the first and fifth birthdays.
Under-five mortality:	the probability of dying before the fifth birthday.

All measures are expressed per 1,000 live births, except for child mortality, which is expressed per 1,000 children surviving to 12 months of age.

There are several methods that can be used for the direct calculation of infant and child mortality rates, e.g., period approach, true cohort approach, and synthetic cohort approach. It is beyond the scope of this report to describe the differences between the main approaches, but a technical explanation can be found in the *Guide to DHS Statistics* (Rutstein and Rojas, 2003). DHS uses the synthetic cohort approach, which calculates mortality probabilities for small age segments, and then combines these component probabilities for the full age segment of interest. The advantage to this method is that mortality rates can be calculated for time periods close to the survey date while still respecting the principle of correspondence. The data needed for the calculations are in the birth history section of the Women's Questionnaire and include the month and year of birth for all of a woman's children, their sex and survival status, and the current age at the time of the interview if the child was alive, or age at death if the child has died.

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 history of children who 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 age at death, which may distort the age pattern of mortality. When selective omission of childhood deaths occurs, the impact 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 occurring in the first 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 long before the survey; hence it is useful to examine the ratios over time.

An examination of the ratios (see Appendix Tables C.5 and C.6) shows that no significant number of early infant deaths was omitted in the 2005 RDHS. The proportion of neonatal deaths occurring in the first week of life (71 percent) is close to the proportions reported in the 2000 RDHS (72 percent) and the 1992 RDHS (64 percent). Moreover, the proportions are roughly constant over the 20 years preceding the survey (between 67 and 71 percent). The proportion of infant deaths that occur during the first month of life is entirely plausible (47 percent); it is almost the same as the proportion reported in the 2000 RDHS (43 percent) and the 1992 RDHS (48 percent). The proportions are also stable over the 20 years preceding the survey (varying between 53 and 47 percent). This inspection of the mortality data reveals no evidence of selective underreporting or misreporting of age at death that would significantly compromise the quality of the RDHS rates for childhood mortality.

11.2 LEVELS AND TRENDS

Table 11.1 shows the variation in neonatal, postneonatal, infant, child, and under-five mortality rates for three successive five-year periods preceding the survey. For the most recent five-year period, infant mortality is 86 deaths per 1,000 live births, and under-five mortality is 152 deaths per 1,000 live births. This means that about one in twelve children born in Rwanda dies before the first birthday, and one in seven children dies before attaining the fifth birthday. Neonatal mortality is 37 deaths per 1,000 live births in the most recent five-year period, while postneonatal mortality is 49 deaths per 1,000 live births. This pattern shows that about 43 percent of deaths under one year of age occur in the neonatal period, and about one-quarter of child deaths under five years occur in the neonatal period.

Table 11.1 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Rwanda 2005

Years preceding the survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
0-4	37	49	86	72	152
5-9	52	69	121	109	217
10-14	56	62	118	91	198

[1] Computed as the difference between the infant and neonatal mortality rates

Figure 11.1 compares infant mortality and under-five child mortality for the five-year period preceding the 1992 RDHS-I, the 2000 RDHS-II, and the 2005 RDHS-III. Results of the RDHS-III show a significant drop in both infant and under-five mortality rates since the 2000 RDHS-II. Comparing the RDHS-III results with those of the 1992 RDHS-I, it can be seen that the rates for these two surveys are almost the same: infant mortality was 85 per 1,000 in 1992 and 86 per 1,000 in 2005; similarly, under-five child mortality was 151 per 1,000 in 1992 and 152 per 1,000 in 2005. These trends suggest that, after the tragic events of 1994, which had negative repercussions on childhood mortality in the mid- and late 1990s, the situation has begun to improve in the past five years.

Figure 11.1 **Trends in Infant and Under-five Mortality, Rwanda 1992, 2000, and 2005**

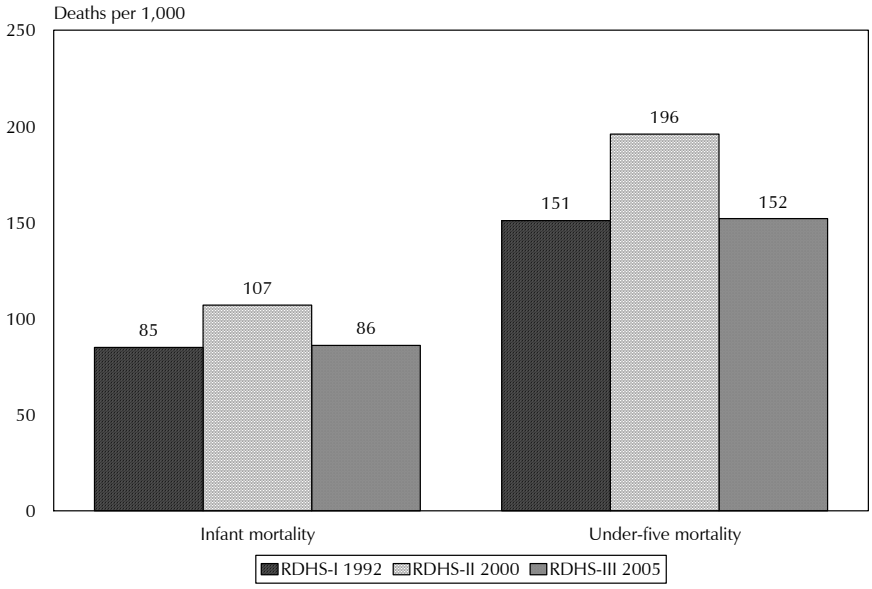
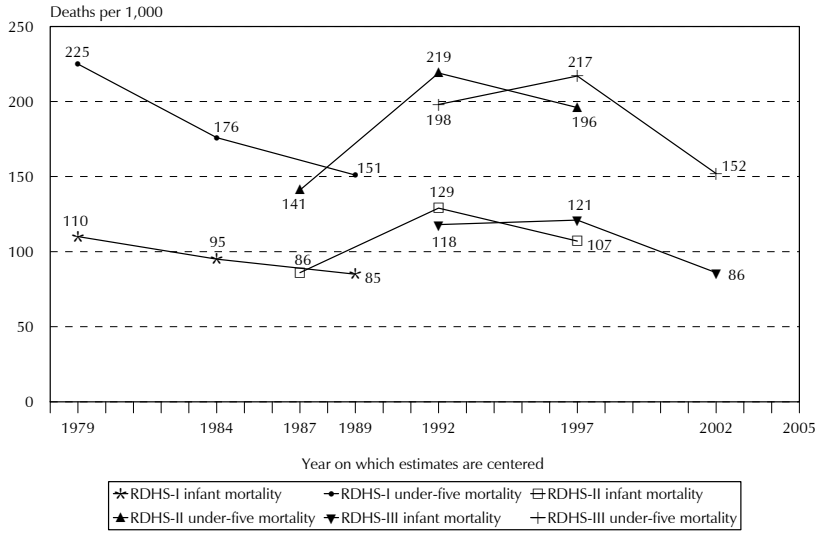


Figure 11.2 shows in more detail the evolution of infant and under-five mortality trends for several five-year periods preceding the RDHS-I, the RDHS-II, and the RDHS-III. Under-five mortality rates, and to a lesser extent infant mortality rates, decreased from the mid- to late 1970s into the mid- to late 1980s. In the 1990s, there was a pronounced deterioration in mortality when it again hovered at or above levels in the 1970s. This deterioration corresponds to periods of civil unrest in the early 1990s, and especially the culmination of this unrest in 1994, which resulted in widespread disintegration of the social and health infrastructure.

The first half of the present decade shows a distinct improvement in infant and under-five mortality rates. Results from the RDHS-III indicate that levels of mortality have returned to the relatively lower levels of the late 1980s, providing reason for optimism that socioeconomic conditions are regaining ground lost during the period of conflict: under-five mortality rates decreased from 217 deaths per 1,000 live births in the period 5-9 years before the survey (i.e., 1995-1999) to 152 deaths per 1,000 live births for the period 0-4 years before the survey (i.e., 2000-2005); similarly, infant mortality rates decreased from 121 deaths per 1,000 live births in the period 5-9 years before the survey (i.e., 1995-1999) to 86 deaths per 1,000 live births for the period 0-4 years before the survey (i.e., 2000-2005). This represents about a 43 percent decrease in under-five mortality and a 41 percent decrease in infant mortality in the past five years.

Figure 11.2 Trends in Infant and Under-five Mortality from the RDHS-1, RDHS-II, AND RDHS-III



The infant mortality estimates from the RDHS-III are generally comparable to estimates from other sources. For example, the infant mortality rate published in the U.S. Census Bureau International Data Base is 91 deaths per 1,000 live births for 2005 (U.S. Census Bureau, 2005); the infant mortality rate based on the 2002 Rwanda population census is 107 deaths per 1,000 live births (PRB, 2005); and the official Rwanda government estimate for 2000 is 100 deaths per 1,000 live births (MINALOC, 2001, p. 32). In making such comparisons of mortality data, it is important to keep in mind that estimation techniques vary between sources, and that sampling errors can be fairly large. For example, the 95 percent confidence intervals for the RDHS-III infant mortality estimate of 86 deaths per 1,000 live births are 78 and 94 per 1,000 (Appendix B), indicating that, given the sample size, the true value may be 8 points higher or lower than the estimated rate of 86 per 1,000.

11.3 DIFFERENTIALS IN INFANT AND CHILD MORTALITY

Mortality differentials by residence, province, educational level of the mother, and wealth quintile are presented in Table 11.2 and Figure 11.3. In order to have a sufficient number of births to study mortality differentials across population subgroups, period-specific rates are presented for the ten-year period preceding the survey (mid-1995 to mid-2005).

Childhood mortality is higher in rural areas than in urban areas: the under-five mortality rate in rural areas (192 per 1,000) is 57 percent higher than that of urban areas (122 per 1,000). There are large differentials by province. The highest levels of mortality are found in the East province, which has an infant mortality rate of 125 per 1,000 and an under-five mortality rate of 233 per 1,000. The lowest levels are found in the City of Kigali (68 per 1,000 for infant mortality; 124 per 1,000 for under-five mortality). Variations in mortality by province should be interpreted with caution because of the relatively large sampling errors when the sample is stratified by province or other background characteristics (see Appendix B).

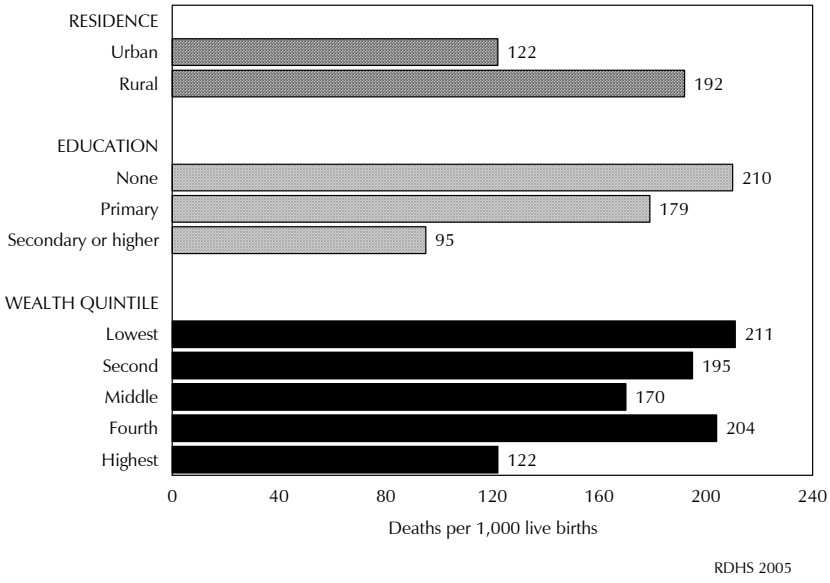
Table 11.2 Early childhood mortality rates by background characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by background characteristics, Rwanda 2005

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Residence					
Urban	32	37	69	57	122
Rural	46	62	108	94	192
Province					
Kigali city	27	40	68	60	124
South	48	59	107	80	178
West	43	57	100	87	179
North	42	47	89	77	160
East	48	76	125	123	233
Education					
No education	46	71	117	106	210
Primary	45	55	101	87	179
Secondary or higher	28	36	64	34	95
Wealth quintile					
Lowest	51	63	114	110	211
Second	49	62	111	94	195
Middle	37	53	90	88	170
Fourth	48	72	121	95	204
Highest	33	41	73	52	122

[1] Computed as the difference between the infant and neonatal mortality rates

Figure 11.3 Under-five Mortality by Mother's Background Characteristics



RDHS 2005

Mother's level of education is inversely related to a child's risk of dying. Higher levels of educational attainment are usually associated with lower mortality rates, in part because education exposes mothers to information about better nutrition and adequate spacing between births, as well as better knowledge about childhood illness and treatment. Specifically, significant differences exist between the mortality rates of children of women who have attained secondary education and above and those with only primary education or no formal education. In Figure 11.3, the under-five mortality rate of children born to mothers with no education are the highest (210 deaths per 1,000 live births) followed by that of mothers with primary education (179 per 1,000 live births) and mothers with no formal education (95 deaths per 1,000 live births). The same monotonic decrease is evident for infant mortality rates.

Under-five mortality rates by wealth quintile generally show the expected direction, with children in poorer households having a higher probability of dying than children in the richest households. Children in fourth-quintile households, however, have about the same survival chances as children in the poorest households. This result merits deeper analysis.

Childhood mortality rates by sex of child, age of mother at birth, birth order, previous birth interval, and size at birth are presented in Table 11.3. Differences in mortality at birth between male and female children are found in nearly all populations. The results show that female mortality is lower than male mortality at all ages up to five years.

Table 11.3 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by demographic characteristics, Rwanda 2005

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Child's sex					
Male	46	60	106	90	187
Female	42	57	99	87	177
Mother's age at birth					
<20	64	75	139	102	227
20-29	40	60	99	92	182
30-39	44	54	98	82	173
40-49	56	51	107	78	176
Birth order					
1	53	60	113	87	190
2-3	38	62	99	94	184
4-6	39	54	93	86	172
7+	57	58	115	84	189
Previous birth interval[2]					
<2 years	70	79	149	113	245
2 years	35	53	88	90	170
3 years	24	48	71	72	138
4+ years	30	47	78	71	143
Birth size[3]					
Small/very small	56	51	108	na	na
Average or larger	31	47	78	na	na

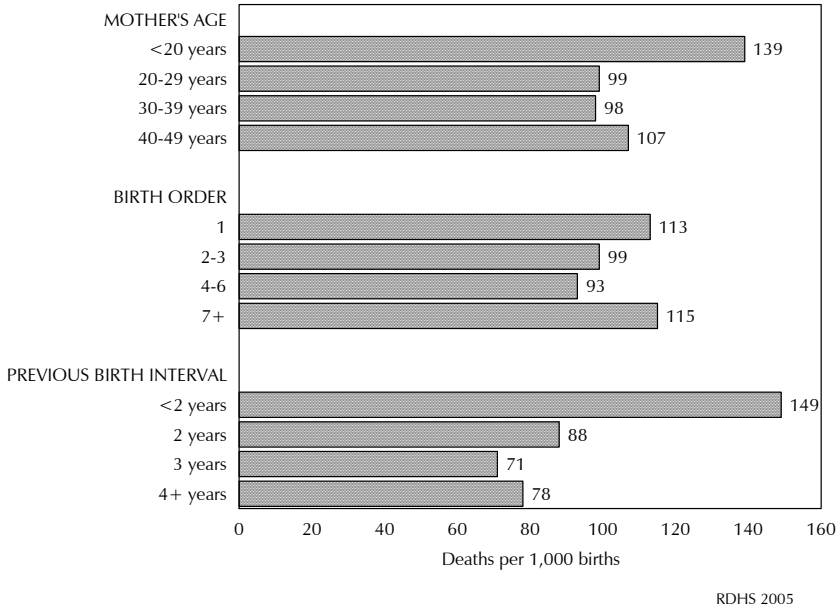
na = Not applicable
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births
[3] Rates for the five-year period before the survey

The relationship between mother's age at birth and infant mortality shows the expected U-shaped pattern, with infants of the youngest and oldest women having the greatest risk of dying. Neonatal mortality shows a similar U-shaped pattern. Under-five mortality rates show a slightly weaker pattern: children under five born to the youngest women (under 20 years) still have the greatest risk of dying but children born to older women have a relatively better chance of survival.

The length of the birth interval has a significant impact on a child's chances of survival, with short birth intervals increasing the risk of dying. As the birth interval gets longer, the mortality risk is reduced considerably. Children born less than two years after a prior sibling have substantially greater risk of dying than children born after an interval of two or more years. For example, the infant mortality rate is 149 deaths per 1,000 live births for children born after an interval of less than two years, compared with 71 deaths per 1,000 for children born after an interval of three years.

Size of child at birth has a bearing on childhood mortality rates. Children whose birth size is small or very small have a 38 percent greater risk of dying before their first birthday than those whose birth size is average or larger. The same trend can be seen for neonatal and postnatal births, but not as strong.

Figure 11.4 Infant Mortality by Reproductive Behavior



11.4 PERINATAL MORTALITY

Pregnancy losses occurring after seven completed months of gestation (stillbirths) plus deaths to live births in the first seven days of life (early neonatal deaths) constitute perinatal deaths. The perinatal mortality rate is derived when the total number of perinatal deaths is divided by the total number of pregnancies reaching seven months gestation. The distinction between a stillbirth and an early neonatal death may be a fine one, depending often on the observed presence or absence of some faint signs of life after delivery. The causes of stillbirths and early neonatal deaths are overlapping, and examining just one or the other can understate the true level of mortality around delivery.

Table 11.4 shows the number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey by background characteristics. The results indicate that the perinatal mortality rate is 44 deaths per 1,000 pregnancies. Pregnancies with an inter-pregnancy interval of less than 15 months have a higher perinatal risk (79 deaths per 1,000 pregnancies) than other pregnancies.

Table 11.4 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Rwanda 2005

Background characteristic	Number of stillbirths [1]	Number of early neonatal deaths [2]	Perinatal mortality rate [3]	Number of pregnancies of 7+ months duration
Mother's age at birth				
<20	6	22	52	539
20-29	90	111	42	4,740
30-39	46	67	39	2,896
40-49	18	27	64	696
Previous pregnancy interval (in months)				
First pregnancy	32	59	59	1,551
<15	17	34	79	645
15-26	33	55	36	2,440
27-38	32	49	34	2,398
39+	45	29	40	1,838
Residence				
Urban	19	19	30	1,247
Rural	140	208	46	7,625
Province				
Kigali city	8	12	30	663
South	48	43	42	2,170
West	36	65	44	2,325
North	25	43	39	1,740
East	43	64	54	1,973
Education				
No education	43	78	48	2,511
Primary	108	135	43	5,620
Secondary or higher	9	15	32	741
Wealth quintile				
Lowest	29	63	49	1,873
Second	41	41	44	1,835
Middle	43	35	43	1,827
Fourth	24	60	48	1,767
Highest	23	28	32	1,570
Total	160	227	44	8,872

[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0-6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration.

As with neonatal mortality, perinatal mortality is significantly higher in rural areas (46 per 1,000) than in urban areas (30 per 1,000). Results by province show the lowest rate in the City of Kigali (30 per 1,000) and the highest rate in the East province (54 per 1,000). As expected, results by mother's educational attainment show a higher risk of perinatal death for mothers with no education than for other mothers (48 per 1,000, compared with 43 per 1,000 for women with a primary education and 32 per 1,000 for women with a secondary education or higher). Results by wealth quintile show the highest rate of perinatal mortality among women living in the poorest households (49 per 1,000, compared with 32 per 1,000 for the richest households). However, here too, the mortality rate for the fourth quintile is nearer that of the poorest quintiles than that of the richest quintile. A closer examination of the data is needed to establish the significance of this result.

11.5 High-Risk Fertility Behavior

Numerous studies have found a strong relationship between children's chances of dying and certain fertility behaviors. Typically, the probability of dying in early childhood is much greater if children are born to mothers who are too young or too old, if they are born after a short birth interval, or if they are born to mothers with high parity. Very young mothers may experience difficult pregnancies and deliveries because of their physical immaturity. Older women may also experience age-related problems during pregnancy and delivery. For purposes of this analysis, a mother is classified as "too young" if she is less than 18 years of age and "too old" if she is over 34 years of age at the time of delivery; a "short birth interval" is defined as a birth occurring within 24 months of a previous birth; and a "high-order" birth is one occurring after three or more previous births (i.e., birth order four or higher). First-order births may be at increased risk of dying, relative to births of other orders; however, this distinction is not included in the risk categories in Table 11.5 because it is not considered avoidable fertility behavior. Also, for the short birth interval category, only children with a preceding interval of less than 24 months are included. Short succeeding birth intervals are not included—even though they can influence the survivorship of a child—because of the problem of reverse causal effect (i.e., a short succeeding birth interval can be the result of the death of a child rather than being the cause of the death of a child).

Table 11.5 presents the distribution of children born in the five years preceding the survey by categories of increased risk of mortality. Column 2 shows the percentage of children falling into specific categories. Column 3 shows the risk ratio of dying for children by comparing the proportion dead among children in each high-risk category with the proportion dead among children not in any high-risk category (i.e., those whose mothers were age 18-34 at delivery, who were born 24 or more months after the previous birth, or who are of birth order two or three).

Sixty percent of children in Rwanda fall into a high-risk category, with 33 percent in a single high-risk category and 27 percent in a multiple high-risk category. High risks are associated with birth intervals of less than 24 months, births to mothers older than 34 years, births of parity higher than three, and births to mothers younger than 18 years under the single high-risk category. Contrary to what might be expected, risk ratios are higher for children in an unavoidable risk category than for children born into a single or multiple risk categories. This may be explained by the fact that mothers with a high-risk pregnancy may seek better prenatal or delivery care than other mothers, thus ensuring greater chances of survival for their child despite the risks. The highest risk (1.4) is associated with fourth and higher births that occur less than 24 months after a previous birth; 7 percent of births fall into this multiple high-risk category. Another 9 percent of births in Rwanda have a short birth interval as the sole risk factor; these children run a 30 percent greater chance of dying than children who are not in any high-risk category.

The last column of Table 11.5 addresses the question of what percentage of currently married women have the potential for a high-risk birth. This was obtained by simulating the distribution of currently married women according to the risk category in which a birth would fall if a woman were to conceive at the time of the survey. Although many women are protected from conception because of postpartum insusceptibility, prolonged abstinence, and the use of family planning, for simplicity only those who have been sterilized are included in the "not in any high-risk category." Overall, 82 percent of currently married women have the potential for having a high-risk birth, with 29 percent falling into a single high-risk category and 54 percent falling into a multiple high-risk category.

Table 11.5 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Rwanda 2005

Risk category	Births in the 5 years preceding the survey		Percentage of currently married women[1]
	Percentage of births	Risk ratio	
Not in any high-risk category	23.3	1.00	13.6[a]
Unavoidable risk category			
First-order births between ages 18 and 34 years	17.2	1.29	4.5
Single high-risk category			
Mother's age <18	1.3	1.45	0.0
Mother's age >34	0.8	0.66	2.2
Birth interval <24 months	9.1	1.29	11.5
Birth order >3	21.2	0.79	14.8
Subtotal	32.5	0.96	28.5
Multiple high-risk category			
Age <18 and birth interval <24 months [2]	0.1	*	0.0
Age >34 and birth interval <24 months	0.1	*	0.2
Age >34 and birth order >3	17.2	0.91	28.2
Age >34 and birth interval <24 months and birth order >3	2.7	1.86	9.4
Birth interval <24 months and birth order >3	7.0	1.44	15.7
Subtotal	27.0	1.14	53.5
In any avoidable high-risk category	59.5	1.04	82.0
Total	100.0	na	100.0
Number	8,715	na	5,510

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category. An asterisk indicates that a figure is based on fewer than 250 births and has been suppressed.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher
[2] Includes the category age <18 and birth order >3
[a] Includes sterilized women

MATERNAL MORTALITY 12

12.1 INTRODUCTION

Maternal mortality has become an important measure of human and social development. It is particularly revealing of women's overall status, access to health care, and the responsiveness of the health care system to their needs. Therefore, knowledge of maternal mortality levels is very important not only for identifying the risks associated with pregnancy and childbearing, but also for what it says about women's health and, indirectly, their economic and social status. Determining the level maternal mortality and the associated risk factors is necessary for both diagnosing issues and assessing the progress and effectiveness of existing programs.

The 2000 RDHS-II was the first DHS survey to collect data for use in estimating maternal mortality using the direct sisterhood method. The same methodology was used to collect data on maternal mortality in the 2005 RDHS-III.

Maternal mortality is calculated using data on the sisters of respondents. The information gathered on each of the respondent's sisters included current age and, if the sister was dead, age at death (AD), and the number of years since the death (YSD). For dead sisters, additional questions were asked to determine whether the death was related to childbearing, i.e., whether the death occurred during pregnancy, childbirth, or within two months of the end of a pregnancy or childbirth.

The direct method of calculating maternal mortality presented here relies on detailed information about respondents' sisters, including the current age of all surviving sisters, the age at death of dead sisters, and the number of years since the death occurred. To obtain well defined reference periods, the data are aggregated to determine the number of person-years of exposure to mortality risk and the number of maternal deaths occurring in the defined reference periods. Maternal mortality rates are then estimated directly by dividing the number of maternal deaths by the number of person-years of exposure. The result of this calculation is the proportion of sisters, among all of the respondents' sisters, who died from maternity-related causes. This estimate of the probability of dying from maternity-related causes is unbiased, provided that the risk of dying is identical for all sisters (Trussel and Rodriguez, 1990).

12.2 DATA COLLECTION

The questionnaire used to gather data on maternal mortality is presented in Appendix F (Section 10 of the individual questionnaire). First, the woman is asked to list all of her siblings, i.e., all of the children born to her biological mother beginning with the first born. Next, the respondent is asked the survival status of each of her siblings, and the current age of those still living. For dead siblings, the respondent is asked the age of the sibling at death and the number of years since the death occurred. If the exact age or number of years could not be obtained, interviewers were authorized to accept approximate answers.

For sisters who died at the age of 12 or older, the respondent is asked further questions to determine whether the death was maternity-related:

- *Was (NAME) pregnant when she died?* If the answer is no or don't know, the respondent is asked:
- *Did (NAME) die during childbirth?* If the answer is no, the respondent is asked:
- *Did (NAME) die within two months of the birth of a child or termination of a pregnancy?*

These questions are structured to encourage the respondent to report all deaths following a pregnancy regardless of the outcome, including a pregnancy ending in induced abortion, while avoiding posing direct questions regarding such events. All such deaths are considered maternal deaths.

12.3 DATA QUALITY

The estimation of maternal mortality rates requires accurate reporting of the number of sisters the respondent ever had, the number who died, and the number who died of maternity-related causes. There is no definitive procedure for establishing the completeness or accuracy of retrospective data on sister survivorship. The direct approach requires not only accurate data on sister survivorship, but on age at death and number of years since the death of a sister—information that may embarrass respondents or require them to provide details they do not have. The number of brothers and sisters reported by the respondent and the completeness of the reported data on current age, age at death, and years since death are presented in Table 12.1.

Table 12.1 Data on siblings

Number of siblings reported by survey respondents and completeness of the reported data on age, age at death (AD), and years since death (YSD), Rwanda 2005

Sibling status and completeness of reporting	Sisters		Brothers		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
All siblings	35,963	100.0	36,405	100.0	72,368	100.0
Living	25,688	71.4	23,374	64.2	49,062	67.8
Dead	10,074	28.0	12,504	34.3	22,577	31.2
Status unknown	201	0.6	527	1.4	729	1.0
Living siblings	25,688	100.0	23,374	100.0	49,062	100.0
Age reported	25,470	99.2	23,145	99.0	48,614	99.1
Age missing	218	0.8	230	1.0	448	0.9
Dead siblings	10,074	100.0	12,504	100.0	22,577	100.0
AD and YSD reported	9,546	94.8	11,869	94.9	21,415	94.9
Missing only AD	82	0.8	117	0.9	199	0.9
Missing only YSD	342	3.4	375	3.0	716	3.2
Missing both AD and YSD	104	1.0	143	1.1	247	1.1

Complete data were obtained for nearly all sisters, regardless of survival status. Current age was reported for nearly all surviving sisters (99 percent), and age at death as well as number of years since death were reported for 95 percent of dead sisters. These percentages are indicative of good data quality. Rather than exclude siblings with missing data from further analysis, information on the birth order of siblings was used in conjunction with other information to impute the missing data.[1] Sibling survivorship data, including cases with imputed values, were used to directly estimate adult and maternal mortality.

Missing date information is only one indicator of overall data quality. Completeness of basic information, such as number of siblings, is much more important. Table 12.2 shows other indicators of data completeness. First, it is expected that the distribution of respondents' birth years will be roughly equivalent to that of their sibship.[2] A median sibship year of birth that is much later than that the respondents median birth year indicates that older siblings have been systematically omitted, perhaps because some of them died before the respondent was born. Such omissions would affect adult mortality estimates. For Rwanda, respondents and siblings have the same median year of birth,[3] 1970, indicating that there is no serious underreporting of siblings. However, for maternal mortality assessments, the completeness of sibling reporting is not what's most important; rather, it is the completeness of data relating to those who are exposed to the risk of dying from maternity-related causes: sisters of childbearing age. It is crucial that these data be as complete as possible.

Table 12.2 Indicators on data quality

Percent distribution of respondents and siblings by year of birth, median birth year, mean sibship size and sex ratio of births, Rwanda 2005

	Percent distribution	
Birth year	Respondents	Siblings
Before 1955	0.0	4.7
1955-59	6.7	5.5
1960-64	9.8	8.1
1965-69	9.7	10.9
1970-74	12.8	12.7
1975-79	15.0	14.6
1980-84	20.6	14.9
1985 or later	25.3	28.6
Total	100.0	100.0
Interval	1955-1990	1927-2005
Median	1970	1970
Number	11,321	70,411

Respondent's year of birth	Mean sibship size	Sex ratio at birth of siblings
1955-59	7.3	99.7
1960-64	7.5	102.7
1965-69	7.8	102.2
1970-74	7.6	101.4
1975-79	7.5	102.7
1980-84	7.4	100.4
1985-90	7.0	100.4
Total	7.4	101.2

Two other tests, sex ratio of births (defined as number of males per 100 females) and mean sibship size, can be used to assess the completeness of sibling reporting. The results appear in Table 12.2.

[1] The imputation procedure is based on the assumption that the reported birth order of brothers and sisters is correct. The first step is to calculate birth years for each living sibling whose age is known, and for each dead sibling for whom the age at death and years since death are known. For siblings missing these data, a date of birth is imputed within a 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, this information was combined with the imputed birth date to produce the missing information. If both pieces of information were missing, the distribution of age at death of siblings for whom years since death were unreported but age at death was known, was used as the basis for imputing age at death.

[2] The term *sibship* used here refers to all of a respondent's siblings born of the same biological mother.

[3] It should be noted that the distribution of birth years is not the same for siblings as for respondents: respondent birth years are distributed over 35 years (1955 to 1990); sibling birth years are distributed over 76 years (1927 to 2005).

For all siblings, the sex ratio of births is 101 males to 100 females. This is slightly lower than generally observed, because the sex ratio of births is around 105 males per 100 females, with only slight variations, for all populations. In Rwanda, the sex ratio of births varies little by respondent's year of birth, from 100 to 103. Given the well known variability of sex ratios in small sample sizes, this indicates there has been no serious underreporting of sisters.

The data indicate a mean sibship size (including the respondent) of 7.4, which is very close to the past final parity of Rwandan women. Variations in sibship size by respondent's year of birth range from 7.0 to 7.8 children. Fertility begins to decline slightly in the 1965-69 period, confirming actual trends in Rwandan fertility. Thus, the relative stability of mean sibship size suggests, as with the previous results, there has been no serious underreporting of siblings.

General and maternal mortality estimates cover the past five years (i.e., 0-4 years preceding the survey). This five-year reference period was chosen to obtain the most recent estimate of maternal mortality while still retaining a sufficient number of maternal deaths (which, nevertheless, remains relatively low) to reduce sampling errors to a minimum and ensure a reliable estimate.

12.4 DIRECT ESTIMATES OF ADULT MORTALITY

The total number of deaths (613 brothers and 659 sisters) occurring between the ages of 15 and 49 in the five-year reference period (i.e., 0-4 years preceding the survey) is sufficiently large to ensure a reliable estimate of adult mortality. The data for this period are presented in Table 12.3.

The results show a relatively high rate of adult mortality: 6.86 per 1,000 for all women and 7.39 per 1,000 for all men. As a comparison, adult mortality in the 2000 RDHS-II was 10.21 per 1,000 for women and 15.18 per 1,000 for men, indicating a significant decline in adult mortality (33 percent for women, 51 percent for men) between the two surveys.

It is important to evaluate the reliability of direct estimates of adult mortality because the data on sister mortality serve as the basis of maternal mortality data. If the adult mortality estimate is incorrect, the maternal mortality estimate will also be erroneous. In the absence of precise mortality data for Rwanda, the reliability of the adult mortality estimate is assessed by comparing it to a series of direct rates extrapolated from United Nations model life tables (United Nations, 1982).

Table 12.3 Estimates of age-specific female and male adult mortality

Direct estimates of age-specific female and male adult mortality based on the survivorship of siblings of survey respondents, for the period 2000-2004, and model life table rates, Rwanda 2005

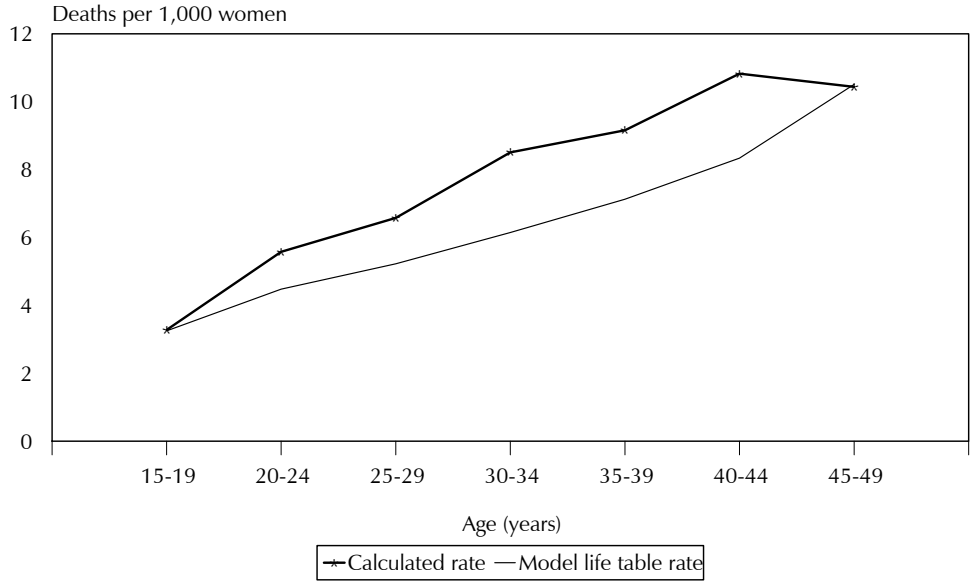
	2000-2004			
Age	Deaths	Years of exposure	Mortality rates (‰)	Model life table rates
		WOMEN		
15-19	63	19,172	3.28	3.25
20-24	117	20,920	5.58	4.48
25-29	113	17,192	6.58	5.23
30-34	125	14,632	8.51	6.15
35-39	106	11,522	9.16	7.13
40-44	86	7,932	10.83	8.34
45-49	51	4,850	10.44	10.51
15-49	659	96,220	6.86[a]	
		MEN		
15-19	71	18,730	3.79	3.52
20-24	90	19,099	4.69	5.01
25-29	94	15,531	6.02	5.67
30-34	108	12,520	8.63	6.76
35-39	120	9,644	12.49	8.42
40-44	80	6,642	12.07	10.90
45-49	50	3,819	13.06	14.50
15-49	613	85,986	7.39[a]	

Note: The model life table rates come from the United Nations Model Life Tables for Developing Countries, "General" mortality pattern, using a level of mortality approximately corresponding to a probability of dying between birth and exact age 5 estimated for the ten years preceding the survey (i.e., $_5q_0$ of 176 per 1,000 female births and 188 per 1,000 male births).
[a] Age adjusted

Age-specific mortality rates obtained from model life tables are presented in Table 12.3. The model life table rates are taken from the United Nations "General" pattern because these most closely approximate the infant and child mortality models of Rwanda. They correspond to the probability of dying between birth and exact age five ($_5q_0$) estimated for the ten years preceding the survey.[4]

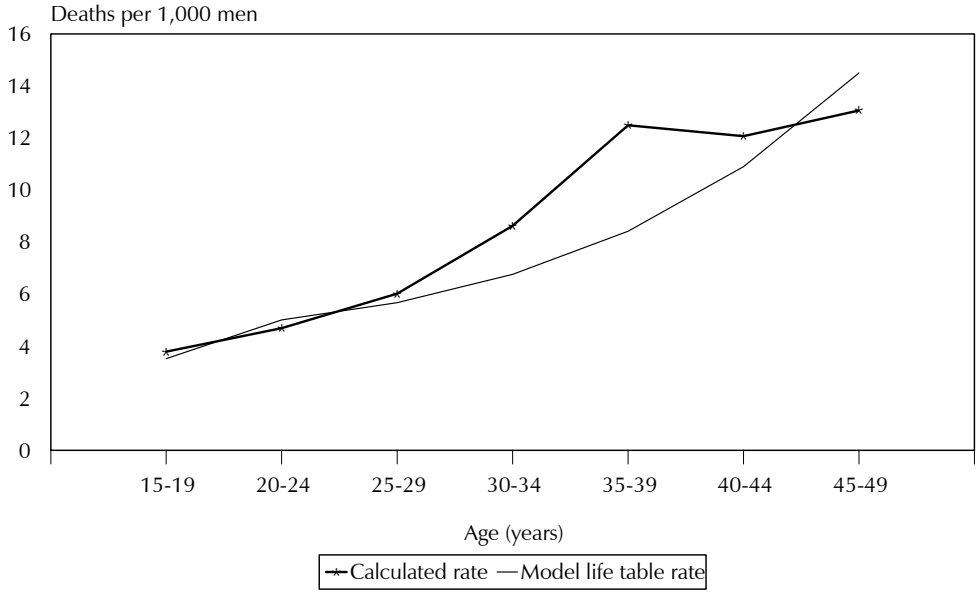
Underreporting of events and erroneous dating of reported events can affect the validity of retrospective data. The estimates in this survey are subject to underreporting, especially for less recent events. Although the quality assessments indicate no problem of this type, a closer evaluation is required. Evaluation by comparison with United Nations mortality models confirms the quality of the data concerning sibling survivorship, and the general mortality estimates based on these data are sufficiently plausible to be used in estimates of maternal mortality (Figures 12.1 and 12.2).

Figure 12.1 Female Mortality Rates for the Period 2000-2004 and Model Life Table Rates, by Age Group



[4] The probability of dying between birth and exact age 5 ($_5q_0$) estimated for the ten years preceding the survey is 176 per 1,000 female births and 188 per 1,000 male births (see Chapter 11).

Figure 12.2 Male Mortality Rates for the Period 2000-2004 and Model Life Table Rates, by Age Group



12.5 Direct Estimates of Maternal Mortality

Direct estimates of maternal mortality obtained from reports of sister survivorship are presented in Table 12.4. The number of maternal deaths among women age 15-49 is estimated at 130 for the period 0-4 years preceding the survey. Age-specific proportions dying of maternal causes display a consistent pattern, increasing with age up to age 30-34, then decreasing in the older age groups, except for age 40-44. Given the relatively low number of events, the method used was to estimate a single rate corresponding to the reproductive years. The estimate for all mortality due to maternal causes, expressed per 1,000 women-years of exposure to maternal risk, is 1.29 for the 2000-2004 period. This estimate is significantly lower than that of the RDHS-II 2000, survey, which was 1.88 for the 1995-1999 period.

The maternal mortality rate can be converted to a maternal mortality ratio (MMR), expressed per 100,000 live births, by dividing the rate by the general fertility rate associated with the same time period (Table 12.4). This brings out the obstetrical risks of pregnancy and childbearing. Using this method, the MMR is estimated to be 750 maternal deaths per 100,000 live births for the period 0-4 years preceding the survey. This ratio has dropped substantially compared with the 2000 RDHS-II, which showed a ratio of 1,071 for the 1995-1999 period.

The estimated age-specific proportions of deaths due to maternal causes (Table 12.4) for the 1995-2004 period display a plausible pattern, being higher at age 30 to 34, when nearly three in ten deaths (29 percent) are related to maternal causes. Unlike the other measures of mortality presented earlier, these proportions are not affected by underreporting because it can be assumed that underreporting does not affect maternal deaths any more than deaths due to other causes. Therefore, it can be estimated that one in five deaths (20 percent) among women of childbearing age (15 to 49) is due to maternal causes. This represents a slight increase compared with the 2000 RDHS-II, which showed an estimate of 16 percent.

In conclusion, there has been a significant decline in adult mortality since the 2000 survey (33 percent for women, 51 percent for men), which, in turn, has directly affected maternal mortality.

Table 12.4 Maternal mortality

Maternal mortality rates for the period 2000-2004, based on the survivorship of sisters of survey respondents, Rwanda 2005

Age	Maternal deaths	Years of exposure	Mortality rates (‰)	Proportion dying of maternal causes
15-19	2	19,172	0.11	3.3
20-24	25	20,920	1.18	21.1
25-29	25	17,192	1.43	21.7
30-34	37	14,632	2.50	29.3
35-39	18	11,522	1.59	17.3
40-44	19	7,932	2.40	22.1
45-49	5	4,850	1.01	9.7
15-49	130	96,220	1.29[a]	19.7
General Fertility Rate (GFR)[a]		172		
Maternal mortality ratio (MMR)[b]		750		
Lifetime risk of maternal death (LTR)[c]		0.044		

[a] Age adjusted
[b] Per 100,000 births; calculated as maternal mortality rate divided by the general fertility rate
[c] Per woman; calculated as:
$(1\text{-LTR}) = (1\text{-MMR}/100\,000)^{TFR}$, where TFR represents the total fertility rate. For the period 2000-2004, the TFR is estimated to be 5.9 children per woman.

DOMESTIC VIOLENCE 13

Domestic violence is, essentially, a form of violence against women. It cuts across all national boundaries and social backgrounds. Long considered a private family matter, domestic violence is increasingly recognized as a serious violation of human rights that should be punished. In its Declaration on the Elimination of Violence against Women adopted in 1993, the United Nations General Assembly testified to the international recognition of domestic violence as a form of discrimination against women (United Nations General Assembly, 1993). In addition, it recommended that member states take certain steps to prevent domestic violence and better understand its various aspects. Improvement of domestic violence statistics is included in this panel of recommendations. For this reason, a domestic violence module was included in the 2005 RDHS-III survey. It contains questions designed to assist in estimating the prevalence of domestic violence and describing its characteristics in Rwanda. The results are presented in this chapter.

13.1 METHODOLOGY

The domestic violence module was administered in half of the households. In the selected households, only one woman was interviewed, chosen at random (using the Kish grid). Because domestic violence is a sensitive subject, female interviewers were instructed to proceed with a great deal of tact. It was important for them to establish a good rapport with the respondent, draw her into their confidence, and ensure her that her responses would be completely confidential. This climate of trust was crucial to ensuring the validity of the data collected. It was also essential to respect the privacy of the interview in order to ensure the respondent's safety. Asking a woman questions about domestic violence, especially in households where the perpetrator of the violence may be present during the interview, could lead to additional acts of violence.

The 2005 RDHS-III covered three types of domestic violence: physical, sexual, and emotional.

Physical violence

Two levels of severity are assessed for this type of violence: moderate and severe.

- ***Moderate physical violence*** was assessed using the following questions:

Does/Did your (last) husband/partner ever:
- *Push you, shake you, or throw something at you?*
- *Slap you or twist your arm?*
- *Strike you with his fist or with something that could hurt you?*
- *Kick you or drag you?*

- ***Severe physical violence*** was assessed using the following questions:

Does/Did your (last) husband/partner ever:
- *Try to strangle or burn you?*
- *Threaten you with a knife, gun, or other type of weapon?*
- *Attack you with a knife, gun, or other type of weapon?*

Sexual violence

This type of violence was assessed using the following questions:

Does/Did your (last) husband/partner ever:
- *Physically force you to have sexual intercourse even when you do/did not want to?*
- *Force you to perform other types of sexual acts that you do/did not want to do?*

Emotional violence

This type of violence was assessed using the following question:

Does/Did your (last) husband/partner ever:
- *Say or do something to humiliate you in front of others?*
- *Threaten you or someone close to you with harm?*

Violence was measured using an abbreviated version of the Conflict Tactics Scale (CTS) developed by Strauss (1990). The CTS scale has been found to be not only effective in measuring domestic violence but also easily adaptable to different situations and cultures. This approach, which consists of asking separately about specific acts, has the advantage of not being affected by varying understandings of what constitutes violence. A woman is asked if she has ever been slapped, not whether she has ever experienced violence, and all women would probably agree on what constitutes a slap. This approach also has the advantage of giving the respondent multiple opportunities to disclose any experience of violence.

The RDHS-III survey also gathered data on spousal violence, i.e., violence perpetrated by one spouse against the other, in particular by a husband/partner against his wife/partner. Research on violence suggests that spousal violence is the most common form of domestic violence for adults. The population for which the questions on spousal violence are applicable consists of married or cohabiting women (violence on the part of their husbands/partners) and divorced, separated, or widowed women (violence on the part of their last husband/partner). Women who answered "yes" to any question were also asked about the frequency of this type of violence in the 12 months preceding the survey.

In addition to spousal violence, women were asked whether they had experienced any type of physical violence at the hands of anyone other than their current or last husband/partner since the age of 15. The question was formulated as follows: *From the time you were 15 years old, has anyone other than your (current/last) husband/partner hit, slapped, kicked, or done anything else to hurt you physically?* Women who responded "yes" to this question were asked who had done this and how many times it had happened in the 12 months preceding the survey.

In this way, the RDHS-III employed different approaches to measure domestic violence, focusing particularly on spousal violence. Using different approaches, giving a woman several opportunities to disclose acts of violence, and taking precautions to ensure privacy during the interview keep underreporting of domestic violence to a minimum. However, the possibility of differential underreporting by women in the different subgroups cannot be ruled out. For this reason, caution should be exercised in interpreting the differences observed by background characteristics, although a large proportion undoubtedly reflect actual differences in the prevalence of violence.

13.2 DOMESTIC VIOLENCE

13.2.1 Physical Violence Since Age 15

Table 13.1 shows the percentage of women who reported having experienced physical violence since age 15, committed either by their husband/ partner or by someone else, and the percentage of women who experienced physical violence in the 12 months preceding the survey. The results are presented according to background characteristics.

The results show that in Rwanda, nearly one third of women (31 percent) have experienced physical violence since age 15, and 19 percent experienced it in the 12 months preceding the survey. This means that 61 percent of Rwandan women who have ever suffered violence have experienced it recently. The prevalence of this violence varies by background characteristic. The proportion of women who reported experiencing acts of violence, whether in the past 12 months or not, are higher among women age 30 to 49 than among the youngest age group. With respect to recent violence, this proportion varies from a low of 16 percent at age 15 to 19, to a high of 22 percent among women age 40 to 49. According to marital status, the results show significantly higher proportions experiencing violence, both past (46 percent) and recent (32 percent), among divorced or separated women.

Thirty-seven percent of married or cohabiting women have experienced physical violence since age 15, and 26 percent reported recent violence. The data by residence show a slightly higher prevalence of recent violence in rural areas (20 percent) than in urban areas (17 percent). The proportion of women confronted with recent acts of violence varies by province, from a low of 17 percent in the City of Kigali, to a high of 23 percent in the East province. The prevalence of recent violence decreases as women's level of education increases: the prevalence among women with no education is twice as high (21 percent) as the prevalence among women with a secondary education or higher (10 percent). There are no major differentials by employment status. Also, the data show no strong relationship between household wealth and physical violence; at most, women living in households in the second wealth quintile can be said to have a relatively higher level of recent physical violence (23 percent), while women in the richest households have a relatively lower level (16 percent).

Table 13.1 Experience of beatings or physical mistreatment

Percentage of ever-married women who have experienced violence since age 15 and percentage who have experienced violence during the 12 months prior to the survey, by background characteristics, Rwanda 2005

Background characteristic	Percentage who have experienced violence: Since age 15	In past 12 months	Number
Age			
15-19	22.9	15.8	957
20-29	30.6	18.4	1,392
30-39	33.3	21.9	946
40-49	37.2	22.4	771
Marital status			
Never married	20.2	10.5	1,560
In union	36.9	25.5	1,963
Divorced/separated	46.0	32.4	375
Widowed	20.5	1.1	168
Residence			
Urban	30.1	17.3	682
Rural	30.8	19.8	3,384
Province			
City of Kigali	27.6	16.8	400
South	31.1	18.9	1,081
West	27.2	18.4	1,015
North	30.9	19.0	727
East	35.5	22.8	842
Education			
No education	30.8	20.9	760
Primary	31.5	20.2	2,901
Secondary or higher	24.4	10.4	405
Employment status			
Employed for cash	30.5	19.2	777
Employed, not for cash	33.3	20.2	1,639
Not employed	28.1	18.6	1,645
Wealth quintile			
Lowest	30.2	20.9	856
Second	33.8	22.8	849
Middle	29.5	16.5	754
Fourth	30.7	20.1	798
Highest	29.0	16.2	809
Total	30.7	19.4	4,066

Perpetrators of physical violence

Table 13.2 shows the distribution of women who reported having experienced acts of physical violence since age 15 according to the perpetrator of the violence. The data are presented according to the marital status. Overall, 47 percent of the time, the perpetrator of the acts of violence is the husband/partner only. This proportion is 80 percent for married women; for 76 percent of divorced or separated women, it is the previous husband/partner. Over one-third of women (34 percent) reported that the acts of violence were committed by someone other than the husband/partner. Finally, 8 percent of women reported that the acts were perpetrated by the husband/partner and others. Altogether, the husband/partner is the perpetrator of the violence 66 percent of the time.

Table 13.2 Perpetrators of violence

Percent distribution of women reporting any physical violence by perpetrator of the violence, according to current marital status, Rwanda 2005

	Perpetrator						
Marital status	Husband only	Previous husband only	Husband and others	Person(s) other than husband	Perpetrator unknown	Total	Number of women
Never married	na	na	na	98.7	1.3	100.0	315
In union	80.1	1.7	8.8	9.5	0.0	100.0	724
Divorced/separated	0.0	76.2	12.6	11.2	0.0	100.0	173
Widowed	(0.0)	(15.9)	(22.5)	(61.6)	(0.0)	(100.0)	35
Total	46.5	12.0	7.5	33.8	0.3	100.0	1,247

Note: Figures in parentheses are based on 25-49 unweighted cases.
na = Not applicable

13.2.2 Violence during Pregnancy

Domestic violence takes a serious toll on women's physical and mental well-being, no matter what their age or period of life. However, violence during pregnancy exposes women to greater risks, not only those affecting their own health and survival but also the health and survival of their unborn children. To assess the magnitude of this violence, currently pregnant or previously pregnant women were asked if they had experienced physical violence during this pregnancy or these period(s) of their life. If the answer was "yes," they were asked who had perpetrated these acts of violence.

Table 13.3 shows the percentage of women who are or have ever been pregnant who reported having experienced physical violence during their pregnancy; results are broken down by perpetrator of the violence. Overall, 10 percent of women reported having experienced violence while they were pregnant. This proportion does not vary significantly according to the age of the woman. However, the data according to marital status show that divorced or separated women reported having experienced acts of violence during pregnancy more frequently than other women (17 percent, compared with 9 percent for both married and never-married women). There is practically no difference in violence by residence (9 percent for urban areas, 10 percent for rural). Among the provinces, the South has the highest proportion of women who experienced acts of violence during pregnancy (15 percent); the East province has the lowest (8 percent). In addition, women with the highest level of education were less likely to experience violence during a pregnancy than other women (7 percent, compared with 10 percent for women with no education, and 11 percent for women with a primary education). Finally, the results show no differences by employment status (approximately 10 percent, for all three categories).

When asked about the perpetrator of these acts of violence, 70 percent of women who had experienced violence reported the husband/partner only. Approximately one in five women (19 percent) reported that these acts of violence had been perpetrated by person(s) other than their husband, and 12 percent reported that the perpetrator was the previous husband/partner; among divorced or separated women this proportion is 24 percent.

Table 13.3 Violence during pregnancy

Percentage of women who have experienced physical violence during pregnancy and the percent distribution of these women by perpetrator of violence, according to background characteristics, Rwanda 2005

Background characteristic	Percentage experiencing violence during pregnancy	Number of women ever pregnant	Perpetrator					Number of women who experienced violence during pregnancy
			Husband only	Previous husband only	Husband and others	Person(s) other than husband	Total	
Age								
15-19	(5.9)	27	*	*	*	*	*	2
20-29	9.7	913	66.5	7.3	0.0	26.2	100.0	88
30-39	9.8	901	70.2	11.4	1.2	17.2	100.0	88
40-49	11.5	752	71.4	16.2	0.0	12.4	100.0	87
Marital status								
Never married	8.8	143	*	*	*	*	*	13
In union	9.0	1 919	81.6	6.8	0.6	11.0	100.0	173
Divorced/separated	16.5	364	63.8	24.1	0.0	12.2	100.0	60
Widowed	11.6	168	*	*	*	*	*	19
Residence								
Urban	9.3	382	(61.4)	(3.1)	(0.0)	(35.5)	(100.0)	36
Rural	10.4	2 211	70.8	12.9	0.5	15.9	100.0	229
Province								
City of Kigali	8.8	212	*	*	*	*	*	19
South	15.2	695	80.1	6.7	0.0	13.2	100.0	105
West	8.6	634	71.6	10.4	0.0	18.0	100.0	54
North	8.5	495	(57.1)	(23.8)	(1.3)	(17.8)	(100.0)	42
East	7.9	557	60.3	15.4	1.2	23.1	100.0	44
Education								
No education	10.1	657	70.2	13.9	1.7	14.2	100.0	66
Primary	10.7	1 700	70.5	11.3	0.0	18.2	100.0	182
Secondary or higher	6.8	236	*	*	*	*	*	16
Employment status								
Employed for cash	10.7	499	65.4	11.7	1.0	21.9	100.0	53
Employed, not for cash	10.1	1 248	67.8	12.9	0.0	19.3	100.0	125
Not employed	10.1	846	74.7	9.5	0.7	15.2	100.0	86
Total	10.2	2 593	69.5	11.6	0.4	18.5	100.0	265

Note: An asterisk indicates that the figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

13.2.3 Marital Control Exercised by the Husband/Partner

Spousal violence is frequently associated with certain dominating behaviors used by the husband/partner to control various aspects of a woman's life. Such behaviors can be precursors to acts of violence. To measure the level of control exercised by husbands/partners over their wives, currently married or ever-married women were asked if their husband/partner had displayed certain of these behaviors. The results are presented in Table 13.4 according to background characteristics.

Table 13.4 Marital control exercised by husband

Percentage of currently married women and divorced or separated women whose current or previous husband displayed specific controlling behaviors, by background characteristics, Rwanda 2005

Background characteristic	Percentage of women whose husband: Is jealous if she talks to other men	Accuses her of being unfaithful	Does not permit meetings with girlfriends	Tries to limit contact with family	Insists on knowing where she is at all times	Doesn't trust her with money	Displays at least 3 of these behaviors	Displays none of these behaviors	Number of women
Age									
15-19	(32.8)	(13.2)	(11.0)	(13.2)	(39.3)	(1.3)	(17.0)	(47.3)	21
20-29	29.0	7.6	16.8	15.1	41.9	16.2	19.6	41.4	862
30-39	25.6	9.1	13.5	13.9	39.1	18.5	20.2	42.4	827
40-49	22.7	9.2	11.6	10.3	34.2	18.5	15.2	40.3	628
Marital status									
In union	24.9	7.2	13.5	12.2	39.6	16.5	16.8	47.0	1,963
Only once	23.9	6.6	12.8	12.4	39.9	15.5	16.3	47.4	1,659
More than once	30.2	10.4	17.2	11.1	37.9	21.9	19.3	44.5	303
Divorced/separated	32.7	15.8	17.9	19.5	34.8	22.9	28.1	13.0	375
Number of living children									
0	32.6	7.5	16.6	18.8	44.4	15.0	21.7	39.3	144
1-2	29.4	9.4	15.9	14.6	41.9	17.5	21.9	40.9	814
3-4	23.4	8.6	12.8	12.5	34.3	16.9	16.4	42.4	740
5 or more	23.8	7.8	13.1	11.7	38.7	18.7	16.2	41.8	641
Education									
No education	25.0	9.3	13.5	12.5	34.4	16.5	17.7	41.9	588
Primary	26.1	8.6	14.1	13.9	40.0	18.6	18.8	41.2	1,565
Secondary or higher	30.4	6.2	17.2	12.2	42.7	11.6	19.2	43.1	185
Employment status									
Employed for cash	28.2	9.2	17.7	18.3	38.6	18.4	21.9	36.5	430
Employed, not for cash	24.4	7.6	11.2	11.4	37.0	15.0	15.3	43.7	1,160
Not employed	27.7	9.8	16.8	13.7	41.6	20.8	21.8	41.0	748
Husband's education									
No education	23.4	11.0	13.3	12.6	38.6	16.5	18.8	39.8	666
Primary	25.5	7.7	14.3	14.2	37.1	18.3	18.0	43.4	1,355
Secondary or higher	34.1	5.0	16.9	11.0	47.5	14.1	20.0	38.3	265
Unknown/missing	38.3	17.4	9.0	15.9	40.4	28.0	24.9	30.9	52
Interspousal age difference									
Wife older than husband	24.4	9.3	18.4	14.2	46.0	21.7	21.3	41.4	102
About the same age (1-2 years difference)	24.3	5.9	11.4	11.2	37.6	13.8	14.6	49.2	622
3-4 years	21.9	4.7	10.9	10.9	37.0	15.5	14.5	50.6	364
5-9 years	23.8	7.6	12.2	11.9	39.1	16.4	16.3	46.2	487
10+ years	30.5	10.7	19.2	14.4	44.3	20.2	21.6	42.4	383
Not currently married	32.7	15.8	17.9	19.5	34.8	22.9	28.1	13.0	375
Total	26.2	8.6	14.2	13.4	38.8	17.5	18.6	41.5	2,338

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

Altogether, 19 percent of women reported that their husband/partner had displayed at least three of the behaviors cited. The proportion is highest among divorced or separated women (28 percent). The data show no significant variations by other background characteristics. At most it can be said that this proportion is somewhat higher among women with no children and women with one or two children (22 percent for both) than among women who have more children (16 percent for women with 3 to 4 children or more). Thirty-nine percent of women reported that their husband/partner insisted on knowing where they were at all times. One-quarter of women (26 percent) reported that their husband/partner was

jealous when they spoke to other men; 18 percent said he didn't trust her with money. The other types of controlling behaviors were reported less frequently.

13.3 SPOUSAL VIOLENCE

Research on violence suggests that spousal violence is the most common form of domestic violence among adults. It can assume several forms: emotional, physical, sexual, or a combination of these three. This section discusses different aspects of this form of violence.

13.3.1 Prevalence of Spousal Violence

As explained earlier, the prevalence of physical, sexual, and emotional violence was measured using a method that describes different acts of violence on a scale from less to more severe.

Table 13.5 shows the percentage of currently married and ever-married women who have experienced acts of physical, sexual, and/or emotional violence by their current husband/partner (or the most recent husband/partner, for divorced or separated women). The results show that in Rwanda, 31 percent of women have been confronted with acts of physical violence on the part of their husband/partner: 26 percent of these were moderate acts of violence; 3 percent were severe. Thirteen percent experienced acts of sexual violence, and a total of 34 percent experienced physical or sexual violence. In addition, 12 percent of women reported having experienced emotional violence. Altogether, more than one-third of Rwandan women (35 percent) reported having experienced acts of spousal violence—physical, sexual, or emotional. Four percent of women have experienced all three types of violence. The results by background characteristics show that divorced or separated women have experienced spousal violence most frequently, and in all forms: 36 percent physical violence, 17 percent sexual violence, and 22 percent emotional violence. Overall, 40 percent of divorced or separated women have suffered some form of spousal violence. The prevalence of spousal violence is also higher among women age 40 to 49 (39 percent) and among women in the East province (39 percent). The proportion of women who have experienced spousal violence increases with the number of children, for all forms of violence, ranging from 22 percent among women with no children, to 38 percent among women with at least five children. By level of education, the lowest proportion of spousal violence is found among women with the highest level of education (27 percent, compared with at least 36 percent for the other educational levels).

Figure 13.1 shows that more than one-quarter of women who experienced violence reported having had their arm twisted or having been slapped (26 percent).

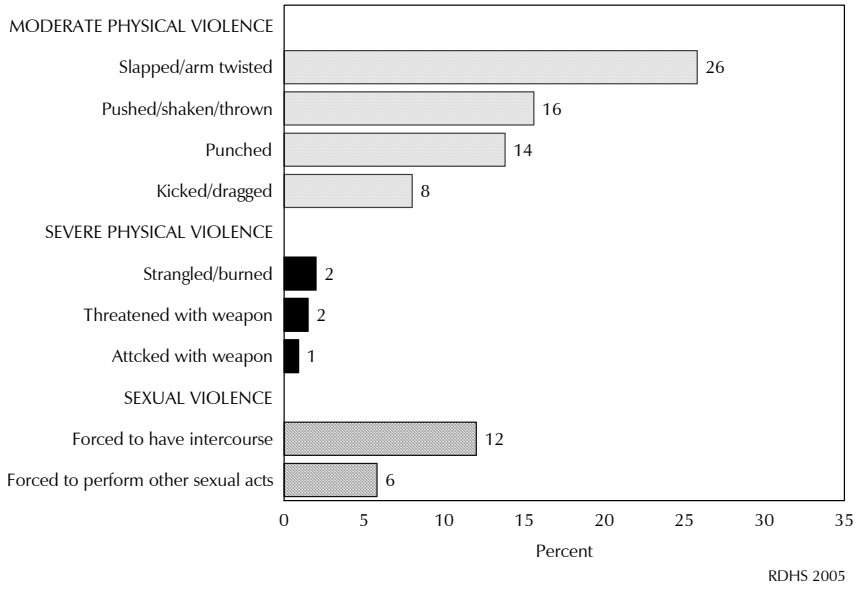
Table 13.5 Marital violence

Percentage of currently married women and divorced or separated women who have ever experienced physical, sexual, or emotional violence from their husband, by background characteristics, Rwanda 2005

Background characteristic	Type of violence									Number of women
	Less severe physical violence	More severe physical violence	Physical violence (severity unknown)	Physical violence (total)	Sexual violence	Physical or sexual violence	Emotional violence	Physical, sexual, or emotional violence	Physical, sexual, and emotional violence	
Age										
15-19	(26.1)	(0.0)	(0.0)	(26.1)	(14.2)	(26.1)	(11.8)	(26.1)	(5.8)	21
20-29	25.3	2.9	0.3	28.4	14.3	32.8	12.3	34.4	4.6	862
30-39	24.2	2.8	1.4	28.4	11.7	31.9	12.2	33.5	3.6	827
40-49	30.4	3.7	2.8	36.8	12.5	38.0	11.7	39.2	5.0	628
Marital status										
In union	26.8	2.2	0.7	29.7	12.1	32.9	10.3	34.4	3.3	1,963
Only once	26.9	2.0	0.5	29.4	12.5	32.6	9.6	34.0	3.3	1,659
More than once	26.1	3.2	2.1	31.5	9.9	34.6	13.7	36.7	3.1	303
Divorced/separated	23.7	7.3	4.7	35.8	17.0	38.8	21.7	40.1	10.0	375
Residence										
Urban	22.2	4.3	1.4	27.8	19.8	33.0	16.2	34.2	7.5	312
Rural	26.9	2.8	1.4	31.1	11.9	33.9	11.5	35.5	3.9	2,026
Province										
City of Kigali	21.1	5.6	1.4	28.2	20.1	31.1	18.5	32.7	9.6	169
South	28.2	3.2	1.3	32.8	14.7	35.6	12.3	36.9	5.4	614
West	23.4	2.8	0.8	27.0	10.5	30.3	11.3	31.8	2.9	586
North	28.3	2.6	1.9	32.7	7.9	34.0	7.4	34.9	2.3	447
East	27.2	2.6	1.6	31.4	15.4	36.4	14.6	38.6	4.9	523
Number of living children										
0	14.9	1.1	0.6	16.6	11.3	19.5	8.1	22.4	3.2	144
1-2	24.3	3.7	0.7	28.7	14.2	33.1	12.8	34.9	4.9	814
3-4	27.0	2.7	2.4	32.1	12.2	34.9	12.7	35.7	4.1	740
5 or more	30.5	3.0	1.2	34.7	12.6	36.7	11.3	38.3	4.3	641
Education										
No education	27.1	2.8	1.5	31.4	11.1	33.5	11.8	35.7	4.2	588
Primary	26.9	3.1	1.4	31.5	13.7	34.9	12.0	36.2	4.4	1,565
Secondary or higher	18.0	2.7	0.4	21.1	12.0	25.5	13.5	26.8	5.1	185
Employment status										
Employed for cash	22.9	4.2	2.3	29.5	15.4	34.7	14.7	36.2	5.6	430
Employed, not for cash	28.1	2.6	1.1	31.8	13.5	34.4	11.8	36.0	4.7	1,160
Not employed	25.4	2.9	1.3	29.5	10.6	32.4	11.1	33.7	3.1	748
Total	26.3	3.0	1.4	30.7	12.9	33.8	12.1	35.3	4.4	2,338

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

Figure 13.1 Percentage of Ever-Married Women who Have Ever Experienced Specific Forms of Violence from Their Husbands



13.3.2 Frequency of Recent Spousal Violence

To determine the frequency of recent spousal violence (physical or sexual), women who reported having experienced physical or sexual violence from their husband/partner were asked the number of times they had experienced such acts in the past 12 months. Eighty percent of the women had experienced acts of spousal violence recently: 38 percent at least three times in the past year, and more than one-third (36 percent) once or twice in the past year (Table 13.6).

The frequency of recent spousal violence is highest among divorced or separated women, 67 percent of whom had experienced acts of spousal violence at least three times in the past year. By age, the frequency of spousal violence is highest among young women age 20 to 29: 41 percent at least three times, compared with 34 percent for women age 40 to 49. Fifty percent of women in rural areas experienced spousal violence at least three times in the past year, compared with 36 percent in urban areas.

By province, the data show that 53 percent of women in the City of Kigali experienced violence at least three times, compared with a low of 31 percent in the North province. It should also be noted that the frequency of spousal violence is higher among women with the highest level of education—40 percent experienced violence at least three times in the past year compared with 36 percent of women with no education—and among women who work for cash—48 percent, compared with 33 percent of women who are employed but not for cash, and 40 percent of women who are not employed.

Table 13.6 Frequency of spousal violence

Percent distribution of currently married women and divorced or separated women who reported physical or sexual violence by their husband by frequency of any form of such violence in the 12 preceding the survey, according to background characteristics, Rwanda 2005

Background characteristic	Frequency of any type of physical or sexual violence in the 12 months preceding the survey					Total	Number of women
	0 times	1-2 times	3-5 times	More than 5 times	Don't know/ missing		
Age							
15-19	*	*	*	*	*	*	5
20-29	17.3	38.0	15.7	24.9	4.2	100.0	283
30-39	18.7	36.6	17.5	20.8	6.5	100.0	264
40-49	25.0	32.7	12.8	21.0	8.5	100.0	239
Marital status							
In union	22.0	41.9	18.1	13.3	4.7	100.0	645
Divorced/separated	10.9	9.2	3.8	63.0	13.1	100.0	146
Residence							
Urban	21.1	21.5	17.0	33.1	7.3	100.0	103
Rural	19.8	38.1	15.3	20.8	6.1	100.0	688
Province							
City of Kigali	17.5	21.5	15.3	37.4	8.3	100.0	52
South	16.5	37.5	17.8	22.5	5.7	100.0	219
West	17.7	37.8	22.3	14.7	7.5	100.0	178
North	25.6	37.8	7.8	23.1	5.8	100.0	152
East	22.1	34.7	12.6	24.9	5.6	100.0	190
Number of living children							
0	(18.5)	(33.6)	(24.1)	(20.7)	(3.0)	(100.0)	28
1-2	17.0	34.3	13.3	29.3	6.1	100.0	269
3-4	18.4	37.8	17.3	18.3	8.3	100.0	258
5 or more	25.1	36.0	14.9	19.3	4.6	100.0	235
Education							
No education	22.1	36.0	17.7	18.7	5.5	100.0	197
Primary	18.9	36.1	14.9	23.4	6.7	100.0	547
Secondary or higher	23.0	33.1	12.7	27.0	4.1	100.0	47
Employment status							
Employed for cash	12.4	32.5	22.5	25.3	7.3	100.0	149
Employed, not for cash	23.5	38.2	11.3	21.5	5.5	100.0	399
Not employed	18.7	34.2	18.1	22.3	6.8	100.0	243
Total	19.9	35.9	15.5	22.4	6.2	100.0	791

Note: An asterisk indicates that the figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

13.3.3 Onset of Spousal Violence

To determine when spousal violence was first initiated, women who reported having experienced physical or sexual violence on the part of their husband/partner were asked how many years they had been married when the first episode of violence occurred. Table 13.7 shows that for the majority of women, spousal violence began very early in the marriage: 77 percent reported the first episode occurring in the first five years of marriage, including 17 percent who said it had occurred in the first year of marriage. For 15 percent of women, the acts of violence began after 10 years of marriage. The median number of years of marriage before the first episode of violence was 2.9 years.

Table 13.7 Onset of spousal violence

Percent distribution of currently married women and divorced or separated women who have experienced physical or sexual violence by their husband by number of years between marriage and first episode of violence, according to current marital status and duration since first marriage, Rwanda 2005

	Years between marriage and first experience of violence										
	Before marriage	Less than 1 year	1-2 years	3-5 years	6-9 years	10+ years	After divorce	Don't know/ missing	Total	Median number of years	Number of women
Marital status											
Currently in union	0.4	14.4	33.4	28.6	7.0	14.4	0.0	1.9	100.0	3.1	645
Only once	0.4	14.1	32.9	28.9	7.3	14.5	0.0	1.9	100.0	3.1	540
More than once	0.0	15.6	35.9	27.0	5.3	13.8	0.0	2.3	100.0	2.8	105
Divorced/separated	0.0	27.5	25.2	23.9	3.7	17.1	1.1	1.5	100.0	2.0	146
Duration since first marriage[1]											
1-5 years	2.0	24.0	56.1	13.6	0.0	0.7	0.0	3.6	100.0	1.7	117
6-9 years	0.0	15.1	34.1	41.7	7.6	0.0	0.0	1.5	100.0	3.0	103
10+ years	0.0	10.2	24.0	30.4	9.9	24.2	0.0	1.3	100.0	4.0	320
Total	0.3	16.8	31.9	27.7	6.4	14.9	0.2	1.8	100.0	2.9	791

[1] For women married only once.

13.4 CONSEQUENCES OF VIOLENCE AND HELP SEEKING

All women were asked the following questions, independent of specific acts of violence:

As a result of something done to you deliberately by your (last) husband/partner, did you ever:

- *have bruises and aches?*
- *have an injury or broken bone?*
- *have to visit a doctor or health facility?*

This sequence of questions has two objectives: first, to assess the physical consequences of violence; second, to provide women who may still be reluctant another opportunity to disclose acts of violence. In some cases, women are more willing to disclose something that happened to them than something their husband/partner did. The results are presented in Table 13.8.

Six percent of all currently married or ever-married women reported having had bruises and aches in the past 12 months. In addition, 4 percent reported having had an injury or broken bone during the same period. In contrast, 22 percent of women who reported having experienced physical or sexual violence in the past 12 months said they had had bruises and aches, and 14 percent said they had had an injury or broken bone.

Two percent of all ever-married women reported visiting a doctor or health facility to receive care as a result of something done to them by a husband/partner. In contrast, 7 percent of women who reported having experienced acts of physical or sexual violence in the past 12 months reported visiting a doctor or health facility.

Table 13.8 Physical consequences of spousal violence

Percentage of currently married women and divorced or separated women who reported specific physical consequences that resulted from something their husband did to them, by type of violence reported, Rwanda 2005

Type of violence experienced	Had bruises and aches		Had injury or broken bone		Had to visit health facility		Number of women
	Ever	In the past 12 months	Ever	In the past 12 months	Ever	In the past 12 months	
Physical violence							
Ever	26.7	19.6	17.6	12.6	10.5	6.2	685
At least once in past 12 months	28.7	24.6	20.3	16.5	10.6	7.6	507
Sexual violence							
Ever	24.4	16.0	19.5	14.5	12.4	8.1	302
At least once in past 12 months	24.2	19.3	20.9	18.0	13.3	9.8	244
Physical or sexual violence							
Ever	24.2	17.8	16.2	11.6	9.7	5.8	760
At least once in past 12 months	26.2	21.7	17.9	14.4	10.6	7.1	599
Total	7.9	5.8	5.3	3.8	3.2	1.9	2,338

Help seeking

Women who reported ever having experienced acts of physical or sexual violence since age 15, were asked if they had sought help and from whom they sought it. The results are presented in Table 13.9 according to the perpetrator of the violence and the frequency of the violence in the past 12 months.

Among women who had ever experienced physical or sexual violence, 44 percent reported seeking help. Only a small proportion of these women sought help from their immediate family (14 percent). More than two-thirds (69 percent) sought help from other family and friends. In addition, 13 percent of women asked for help from the police, a lawyer, or religious leaders; very few sought assistance from medical personnel (5 percent). The results by perpetrator of violence show that when the husband/partner is not involved in the acts of violence, 24 percent of women seek help from their immediate family, compared with only 11 percent when the husband alone is responsible for the physical or sexual assault. When the husband alone is involved, 71 percent of women seek help from other family and friends.

Variations according to frequency of violence are relatively minor and inconsistent; therefore it does not appear that help seeking was influenced by frequency of violence in the past 12 months.

Table 13.9 Help seeking

Among women who reported any physical or sexual violence, percentage who sought help, and among those who sought help, the percentage who sought help from specific sources, by the person who perpetrated the violence and the frequency of violence in the 12 months preceding the survey, Rwanda 2005

Perpetrator of violence/ Frequency of violence	Percentage who sought help	Number of women who reported any physical or sexual violence	Person from whom help was sought						Number of women who sought help
			Immediate family	In-laws/ other family by marriage	Other family/ friends	Medical personnel	Police/ lawyer/ religious figure	Other	
Perpetrator of violence									
Husband only	47.1	580	11.0	32.9	70.8	5.6	12.7	0.2	273
Previous husband only	64.6	149	12.1	33.3	82.7	2.0	14.7	0.0	96
Husband and other(s)	58.0	93	10.8	37.2	70.4	8.2	21.2	3.3	54
Other(s) only	28.4	421	24.3	25.5	55.5	4.0	11.0	4.1	120
Frequency of violence in the past 12 months									
0	41.2	472	11.7	37.3	59.8	7.1	11.5	2.8	195
1 time	46.4	268	15.2	21.4	73.5	3.6	10.3	1.5	124
2-3 times	38.2	187	17.5	42.4	73.5	7.6	21.3	0.0	71
4 or more times	48.8	266	14.1	29.5	78.7	1.8	16.9	0.4	130
Don't know/missing	48.4	54	(16.2)	(17.9)	(64.3)	(1.3)	(3.9)	(3.4)	26
Total	43.8	1,247	14.0	31.6	69.4	4.8	13.4	1.6	546

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

13.5 VIOLENCE BY SPOUSAL CHARACTERISTICS AND WOMEN'S STATUS INDICATORS

The data presented in Table 13.10 and Figure 13.2 examine the variations in spousal violence according to characteristics of spouses, women's status indicators, and type of family structure.

Since the perpetrators of spousal violence are usually the husbands, it is important to examine the variations in the proportion of women exposed to spousal violence according to the characteristics of husbands.

The findings indicate that the husband's level of education strongly affects the level of spousal violence: the proportion of women who reported having experienced no violence increases with the husband's level of education, from 62 percent for women whose husbands have no education, to 64 percent for husbands with a primary education, to 77 percent for women whose husbands have a secondary education or higher. This pattern is observed for all types of violence.

Results according to interspousal age difference show no major variations. However, the prevalence of spousal violence is higher among couples in which the woman has more education than her husband/partner (28 percent).

Excessive alcohol consumption by the husband/partner appears to be a determining factor in the frequency of recent marital violence. The proportion of women who have experienced no acts of spousal violence drops from a high of 82 percent when the husband/partner drinks but never gets drunk, to 25 percent when the husband is often drunk. The negative effects of alcohol abuse are observed for all types of violence: 5 percent of women whose husband/partner never drinks reported acts of emotional violence, compared with 31 percent of women whose husband gets drunk often. The proportions of women reporting physical or sexual violence is 17 percent for those whose husbands never drink, and 60 percent for those whose husbands get drunk often.

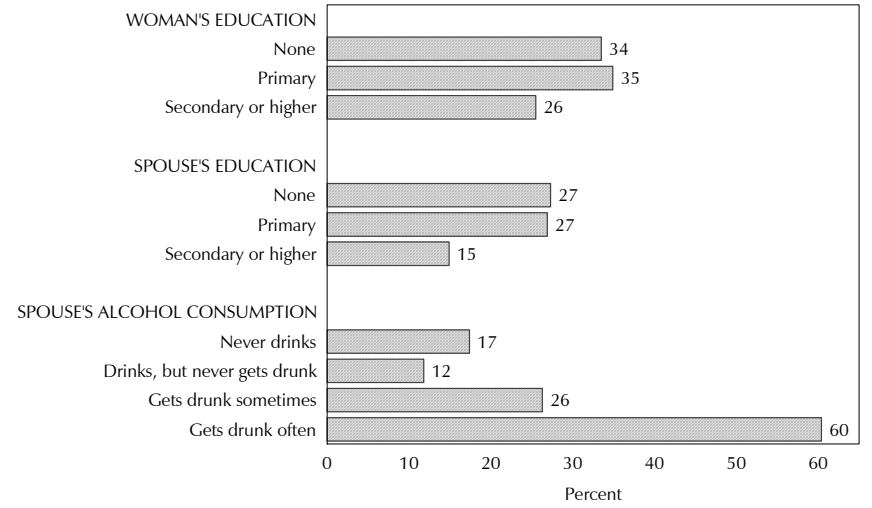
Table 13.10 Spousal violence, women's status, and spousal characteristics

Percentage of currently married women and divorced or separated women who experienced specific types of violence from their husband (ever and in the 12 months preceding the survey), and percentage who have been violent toward their husband, by selected women's status, spousal, and household characteristics, Rwanda 2005

Characteristic	Physical or sexual violence		Emotional violence		Experienced no physical, sexual, or emotional violence	Violence against husband by respondent		Number of women
	Ever	In past 12 months	Ever	In past 12 months		Ever	In past 12 months	
Husband's education								
No education	36.5	27.3	13.4	10.9	61.9	0.8	0.6	666
Primary	35.1	26.9	11.3	8.3	63.6	1.1	0.6	1,355
Secondary or higher	21.7	14.9	10.8	8.0	76.8	0.0	0.0	265
Interspousal age difference								
Woman older than husband	31.4	28.4	13.9	10.3	64.9	0.0	0.0	102
About the same age (1-2 years difference)	32.4	24.2	8.9	6.2	66.7	1.1	0.3	622
3-4 years	34.7	25.8	8.6	5.8	64.5	0.3	0.3	364
5-9 years	32.9	24.3	10.4	7.2	65.1	1.1	1.0	487
10+ years	32.0	23.7	12.5	9.4	66.0	1.1	0.5	383
Divorced/separated	38.8	30.3	21.7	19.4	59.9	0.6	0.6	375
Interspousal education difference								
Husband has more education	33.4	25.0	11.5	8.7	65.2	0.8	0.6	1,003
Wife has more education	36.6	27.8	12.5	9.0	62.2	1.4	0.6	734
Both have equal education	29.6	23.6	11.7	9.7	69.1	0.7	0.7	202
Neither educated	33.3	24.9	12.0	10.4	64.6	0.2	0.2	311
Alcohol consumption by husband								
Never drinks	24.0	17.4	7.2	5.0	74.7	0.8	0.6	589
Drinks but never gets drunk	16.8	11.8	3.3	2.1	81.9	0.6	0.2	301
Gets drunk sometimes	35.0	26.3	10.2	7.5	63.7	0.4	0.2	923
Gets drunk often	71.6	60.4	38.0	31.0	25.4	2.7	1.8	355
Woman can refuse sex with husband								
Yes for all reasons	33.6	25.6	11.2	8.6	65.5	0.9	0.5	1,383
No for one or more reasons	34.2	25.6	13.3	10.1	63.5	0.7	0.5	955
Number of households decisions respondent participates in								
No decisions	40.0	32.6	17.5	13.9	56.4	0.6	0.6	165
1-2 decisions	35.0	26.3	12.2	10.2	63.4	1.1	0.9	585
3-4 decisions	32.7	24.6	11.5	8.4	66.0	0.8	0.4	1,588
Index of marital harmony								
Least harmonious	44.1	34.8	23.0	19.4	53.7	1.2	1.0	720
Middle	46.5	36.8	14.2	10.6	51.9	1.0	0.3	404
Most harmonious	23.5	16.5	4.9	2.8	75.5	0.6	0.3	1,214
Index of marital control exercised by husband								
0 point (least control)	22.7	16.3	5.0	3.4	76.4	0.4	0.3	971
1-2 points	37.2	27.7	10.2	7.1	61.3	0.8	0.4	770
3-4 points	53.8	45.7	28.8	24.0	42.7	1.2	1.2	319
5-6 points (most control)	40.4	29.4	22.6	18.8	58.3	2.0	0.8	279
Family structure								
Nuclear	34.9	26.4	11.2	8.3	63.8	0.9	0.6	1,899
Non-nuclear	29.2	22.4	15.9	13.3	68.7	0.6	0.3	439
Total[1]	33.8	25.6	12.1	9.2	64.7	0.9	0.5	2,338

[1] The total includes 52 women for whom the husband's education is not known, 5 women for whom the interspousal age difference is not known, 88 women for whom the interspousal education difference is not known, and 170 women for whom husband's alcohol consumption is not known

Figure 13.2 Prevalence of Spousal Violence, by Level of Education of Woman and Her Spouse and Alcohol Consumption of Spouse



Note: Physical or sexual violence occurring in the 12 months preceding the survey. RDHS 2005

The results are also presented according to two indicators of women's status. The data show no variation in the prevalence of spousal violence according to whether or not the wife believes that a woman can refuse sex with her husband for certain reasons. However, there seems to be a correlation between the number of household decisions made by the woman and the prevalence of spousal violence: the prevalence of physical or sexual violence drops from 33 percent when the woman participates in no decisionmaking, to 26 percent when she is involved in 1 or 2 household decisions, to 25 percent when she is involved in 3 or 4 household decisions.

Table 13.10 also presents results according to marital harmony. The marital harmony index was developed on the basis of responses to the following questions:

In your relationship with your (last) husband/partner do/did the following occur frequently, sometimes, or never?

- *Does/Did he spend his free time with you?*
- *Does/Did he consult with you on issues affecting the household?*
- *Is/was he affectionate with you?*
- *Does/did he respect you and take your desires into account?*

The marital harmony index is based on how many of the above behaviors occurred frequently. If a woman reported that none of the behaviors occurred frequently, the marriage is considered inharmonious. If a woman reported that three or four of the behaviors occurred frequently, the marriage is considered very harmonious. The results show that the more harmonious the marriage, the lower the frequency of spousal violence. The prevalence of recent physical or sexual violence drops from 35 percent for the least harmonious marriages to 17 percent for the most harmonious marriages. However, the overall prevalence of spousal violence is still high even in the most harmonious households, where one in four women reported experiencing spousal violence at some time.

The results also show the relationship between controlling behaviors and the frequency of spousal violence, which ranges from 16 percent for the lowest levels of marital control to 46 percent for a control index of 3 to 4 points. Finally, the last characteristic presented in Table 13.10 concerns family structure: nuclear or non-nuclear. It appears that the frequency of spousal violence (physical or sexual) is a little lower in non-nuclear families (22 percent) than in nuclear families (26 percent).

HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIOR

14

HIV infection is a major public health concern in Rwanda, where it is a primary cause of mortality with negative social and economic consequences impacting everyone in the country. In 2001, the Rwandan government created the TRAC (Treatment and Research AIDS Center) and the CNLS (*Commission National de Lutte contre le SIDA*, or National AIDS Commission) to focus efforts to combat the disease. Current strategies in the fight against AIDS in Rwanda are found in the *Plan stratégique national de lutte contre le SIDA au Rwanda* (Rwandan National AIDS Plan). They include expansion of the epidemiological surveillance system for HIV/AIDS and STIs established in 2001 to focus on making information available to everyone involved in evaluating trends in the disease, predicting the magnitude of the epidemic, and assessing the impact of various AIDS interventions.

During its first ten years, the HIV epidemiological surveillance system relied on, as its primary information source, data on HIV prevalence among pregnant women seeking care through a network of sentinel ANC and AIDS notification sites. However, the system is ill equipped to reflect the epidemic's diversity. It is limited, in particular, with respect to qualitative data.

In "generalized epidemic" countries such as Rwanda, the surveillance system must monitor HIV infection and high-risk behaviors both in the general population and specific subgroups. The effectiveness of prevention measures depends not only on knowing the pace and magnitude of the spread of the disease, but also on identifying problem behaviors, attitudes, and sociocultural factors impacting the disease. For this reason, the 2005 RDHS-III devoted a large part of its efforts to gathering data on the HIV/AIDS pandemic and other STIs. The aim of this chapter is to determine STI and HIV/AIDS-related knowledge, perceptions, attitudes, and behaviors at the national and provincial levels and for certain subgroups of the population.

In Rwanda, as in most African countries, the principle mode of transmission of AIDS is through sexual contact. Most of the men and women interviewed for the RDHS-III survey (men age 15 to 59 and women age 15 to 49) are sexually active, making them primary targets of the national Information, Education, and Communication (IEC) plans launched by the CNLS. To assess the impact of Rwanda's anti-AIDS program, data were collected on the level of knowledge of the means of transmission and prevention of HIV infection, stigmatization of those suffering from the disease, and risk factors, particularly sexual behavior. The information gathered is essential for adjusting current programs and setting up new AIDS information, education and communication campaigns. Survey results cover these main areas:

- Knowledge of the existence of HIV/AIDS, its modes of transmission, and ways to avoid it; and knowledge and rejection of misconceptions concerning prevention of the infection.
- Knowledge of mother-to-child transmission.
- Acceptance of people living with HIV/AIDS.
- Attitudes of men and women toward negotiating safer sex with a spouse.
- Higher-risk sexual intercourse and condom use during the most recent higher-risk sexual intercourse.
- Age at first sexual intercourse for young people age 15-24.
- Higher-risk sexual intercourse and condom use during the most recent higher-risk sexual intercourse among young people age 15-24.
- Premarital sex and condom use among young people age 15-24.

- Knowledge of STIs and their symptoms.
- Treatment sought for STIs.
- Knowledge of injections and syringes.

In addition, the RDHS-III conducted HIV testing across the entire population covered by the survey (see Chapter 15).

14.1 KNOWLEDGE, OPINIONS, AND ATTITUDES

How much a population knows about a disease influences attitudes and behaviors with respect to that disease. For this reason, the 2005 RDHS-III collected data to determine the level of knowledge of HIV/AIDS in the population.

Table 14.1 shows that knowledge of HIV/AIDS is almost universal in Rwanda. The proportion of men and women who have heard of HIV/AIDS has remained relatively stable since the 2000 RDHS-II survey. In addition, the level of knowledge is uniform; nearly every respondent reported having heard of HIV/AIDS, regardless of background characteristics.

Table 14.1 Knowledge of AIDS

Percentage of women and men age 15-49 who have heard of AIDS by background characteristics, Rwanda 2005

Background characteristic	Women		Men	
	Has heard of AIDS	Number of women	Has heard of AIDS	Number of men
Age				
15-24	99.8	4,938	99.9	2,048
15-19	99.7	2,585	99.8	1,102
20-24	100.0	2,354	100.0	946
25-29	100.0	1,738	100.0	632
30-39	99.9	2,600	100.0	951
40-49	99.9	2,045	100.0	783
Marital status				
Never married	99.8	4,263	99.9	2,191
Ever had sex	99.8	758	99.9	833
Never had sex	99.8	3,505	99.9	1,358
In union	99.9	5,510	100.0	2,126
Divorced/separated/ widowed	99.9	1,548	100.0	96
Residence				
Urban	99.9	1,921	100.0	784
Rural	99.9	9,400	99.9	3,629
Province				
Kigali city	99.8	1,127	100.0	495
South	100.0	2,958	99.9	1,139
West	99.9	2,824	99.9	1,065
North	99.8	2,063	99.9	777
East	99.9	2,348	100.0	937
Education				
No education	99.8	2,193	100.0	558
Primary	99.9	8,044	99.9	3,293
Secondary or higher	100.0	1,084	100.0	561
Wealth quintile				
Lowest	99.8	2,421	99.9	799
Second	99.9	2,325	100.0	794
Middle	99.9	2,099	99.8	892
Fourth	99.9	2,133	100.0	900
Highest	99.9	2,342	100.0	1,028
Total	99.9	11,321	99.9	4,413

14.1.1 Knowledge of HIV Transmission and Prevention Methods

To effectively fight the AIDS virus, the population must be aware of ways to prevent its spread. Table 14.2 shows that 80 percent of women and 90 percent of men know that the risk of contracting HIV/AIDS can be limited by using condoms. In addition, when asked if they could avoid contracting HIV/AIDS by limiting sexual intercourse to one uninfected partner, 87 percent of women and 87 percent of men answered affirmatively. In all, 73 percent of women and 80 percent of men recognized both of these methods of prevention. It should also be noted that 82 percent of women and 88 percent of men also recognized abstaining from sexual intercourse as a means of preventing HIV/AIDS.

The data by age show that knowledge of both methods of prevention is lowest in the 15-19 age group, for both men (75 percent) and women (68 percent). Knowledge of both methods of prevention increases with the level of education, from 78 percent for men with no education and 67 percent for women, to 80 percent for men with a primary education, and 73 percent for women, to 81 percent for men with a secondary education or higher, 79 percent for women.

Table 14.2 Knowledge of HIV prevention methods

Percentage of women and men age 15-49 who, in response to a prompted question, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, by having one sex partner who is not infected and has no other partners, and by abstaining from sexual intercourse, by background characteristics, Rwanda 2005

	Women					Men				
Background characteristic	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms, and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of women	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms, and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of men
Age										
15-24	79.5	85.2	71.4	80.6	4,938	88.4	84.8	77.6	87.6	2,048
15-19	76.9	83.1	68.1	79.8	2,585	86.9	81.5	74.8	86.2	1,102
20-24	82.4	87.5	75.1	81.5	2,354	90.2	88.7	80.8	89.2	946
25-29	81.6	88.6	74.8	81.4	1,738	91.0	87.4	80.6	88.0	632
30-39	82.8	88.5	75.8	83.1	2,600	91.9	89.3	83.1	87.6	951
40-49	76.3	86.8	69.8	83.1	2,045	89.1	89.6	81.5	89.8	783
Marital status										
Never married	78.6	84.1	69.9	81.5	4,263	88.8	83.9	77.2	87.5	2,191
Ever had sex	86.5	88.5	79.5	84.4	758	93.0	87.9	82.9	89.4	833
Never had sex	76.8	83.2	67.8	80.8	3,505	86.3	81.5	73.7	86.2	1,358
In union	81.8	89.0	75.3	81.5	5,510	90.3	90.2	82.5	88.9	2,126
Divorced/separated/ widowed	77.6	85.9	70.7	83.6	1,548	93.8	85.8	83.4	83.9	96
Residence										
Urban	84.3	88.4	76.4	82.0	1,921	88.6	83.1	75.4	84.8	784
Rural	79.1	86.4	71.9	81.7	9,400	89.9	87.8	80.9	88.7	3,629
Province										
Kigali city	84.2	87.0	75.8	84.8	1,127	87.7	80.7	72.1	82.3	495
South	83.4	90.6	78.2	87.1	2,958	88.9	90.6	83.3	91.4	1,139
West	71.2	80.9	60.9	76.7	2,824	84.7	80.9	71.0	84.3	1,065
North	76.8	86.4	70.5	73.4	2,063	95.5	93.6	89.9	93.4	777
East	87.0	89.1	80.1	87.1	2,348	92.4	87.3	81.7	86.8	937
Education										
No education	74.2	84.7	66.9	81.7	2,193	85.7	87.4	77.9	88.5	558
Primary	80.6	87.1	73.3	82.0	8,044	90.0	86.9	80.0	88.4	3,293
Secondary or higher	87.2	88.0	79.4	80.1	1,084	91.5	87.1	81.0	85.3	561
Wealth quintile										
Lowest	75.7	87.0	69.7	81.0	2,421	88.1	89.8	80.4	88.7	799
Second	80.1	87.2	74.1	81.6	2,325	91.3	87.9	82.6	90.4	794
Middle	80.7	85.4	72.4	82.1	2,099	89.8	87.4	80.4	88.0	892
Fourth	80.0	86.4	71.6	81.8	2,133	90.2	86.6	80.5	88.7	900
Highest	83.6	87.6	75.4	82.4	2,342	89.1	84.2	76.4	85.2	1,028
Total	80.0	86.8	72.7	81.8	11,321	89.7	87.0	79.9	88.1	4,413

Knowledge of both methods of prevention is lower among women in rural areas (72 percent) than among women in urban areas (76 percent). However, the situation is the reverse for men: 81 percent of men in rural areas know about both methods, compared with only 75 percent of men in urban areas. By province, the results show the West province has the lowest proportion of men (71 percent) and women (61 percent) who had heard of both methods of prevention. By marital status, never-married men, and women who have never had sexual intercourse, were the least likely to have heard of these two ways of avoiding HIV/AIDS infection (68 percent for women; 74 percent for men).

Misconceptions about HIV infection and AIDS influences attitudes and behaviors toward the disease. During the survey, a series of questions was asked of respondents to assess their level of correct

knowledge concerning the transmission and prevention of the AIDS virus. The results are presented in Table 14.3.1 for women and in Table 14.3.2 for men.

More than four in five women (84 percent) know that a person who looks healthy can have the AIDS virus. In addition, 81 percent know that AIDS cannot be transmitted by mosquito bites. More than nine in ten women (92 percent) know that AIDS cannot be transmitted by supernatural means, and more than 89 percent of women recognized that a person cannot become infected by sharing food with a person who has AIDS.

Overall, a little more than two in three women (68 percent) reject the two most common misconceptions concerning AIDS transmission (i.e., that a person cannot contract AIDS through mosquito bites or by sharing a meal with someone who is infected), and know that a person who looks healthy can have the AIDS virus.

The second-to-last column of Table 14.3.1 shows the percentage of women who have what is considered "comprehensive" knowledge of HIV/AIDS: they know that using condoms and limiting sexual intercourse to one faithful uninfected partner can reduce the chance of contracting AIDS, they reject the two most common misconceptions about AIDS transmission, and they know that a healthy-looking person can have the AIDS virus. A little over half of the women (54 percent) and men (58 percent) surveyed have a comprehensive knowledge of AIDS.

The proportion of women with comprehensive AIDS knowledge varies according to background characteristics. By age, the percentage is lowest among women age 15 to 19 (45 percent). The proportion increases with the level of education, from a low of 42 percent among women with no education, to 73 percent among those with a secondary education or higher.

By residence, the proportion of women with comprehensive knowledge is higher in urban areas (64 percent) than in rural areas (51 percent). There are differences according to marital status: never-married women who have never had sex (49 percent) and divorced, separated, or widowed women (52 percent) have the lowest levels of comprehensive knowledge. Never-married women who have had sex (58 percent) and married women (57 percent) are the best informed.

With respect to household wealth, the results show that less than half of the women in the poorest quintile (46 percent) have comprehensive knowledge of AIDS; the proportion fluctuates around 53 percent in the three middle quintiles, and reaches a high of 63 percent in the richest quintile. By province, the City of Kigali has the highest proportion of women with comprehensive knowledge (66 percent), with the West province having the lowest (40 percent).

Table 14.3.2 shows the same results for men. Overall, men are more likely than women to have correct knowledge of HIV/AIDS transmission: more than nine in ten men (92 percent) know that a healthy-looking person can have the AIDS virus. In addition, 78 percent know that AIDS cannot be transmitted by mosquito bites, 92 percent reject the misconception that HIV/AIDS can be transmitted by supernatural means, and 92 percent reject the notion that AIDS can be transmitted by sharing food with an infected person. Overall, 70 percent of men, compared with 68 percent of women, reject the two most common misconceptions about AIDS transmission and know that a healthy-looking person can have the AIDS virus.

Table 14.3.1 Comprehensive knowledge about AIDS: women

Percentage of women age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Rwanda 2005

Background characteristic	Percentage of women who say that:				Percentage who say that a healthy-looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a compre-hensive knowledge about AIDS[2]	Number of women
	A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS			
Age							
15-24	81.1	81.0	90.9	88.2	65.2	50.9	4,938
15-19	75.8	80.4	89.2	86.9	60.2	45.3	2,585
20-24	86.9	81.6	92.8	89.7	70.6	57.1	2,354
25-29	86.1	81.5	93.6	91.5	69.5	55.7	1,738
30-39	87.4	83.3	93.5	91.1	72.6	59.3	2,600
40-49	83.8	78.9	91.1	87.9	66.0	50.9	2,045
Marital status							
Never married	80.9	82.2	90.9	89.0	65.9	50.2	4,263
Ever had sex	86.9	82.7	93.1	92.3	70.6	57.8	758
Never had sex	79.6	82.1	90.4	88.3	64.9	48.6	3,505
In union	85.7	80.9	92.8	90.0	69.4	56.7	5,510
Divorced/separated/ widowed	85.2	79.5	92.0	87.9	66.6	51.7	1,548
Residence							
Urban	94.0	88.3	94.7	95.3	81.7	64.2	1,921
Rural	81.7	79.8	91.4	88.1	64.8	51.4	9,400
Province							
Kigali city	94.1	90.4	95.4	95.7	84.0	65.9	1,127
South	86.1	86.8	94.4	92.2	73.8	60.0	2,958
West	76.4	75.5	90.2	83.9	57.3	39.6	2,824
North	83.4	77.6	88.6	88.3	65.5	53.4	2,063
East	85.3	79.7	92.4	90.2	66.5	56.5	2,348
Education							
No education	73.4	72.4	87.5	81.1	54.0	41.6	2,193
Primary	84.8	82.0	92.7	90.5	68.4	54.2	8,044
Secondary or higher	97.9	93.0	95.8	97.4	89.8	73.0	1,084
Wealth quintile							
Lowest	76.3	76.1	89.6	85.0	57.6	45.7	2,421
Second	81.8	80.3	91.6	89.5	65.5	53.6	2,325
Middle	83.4	80.3	92.2	87.5	66.7	52.3	2,099
Fourth	85.2	81.2	91.6	90.1	68.5	53.5	2,133
Highest	92.7	88.2	94.9	94.6	80.4	62.8	2,342
Total	83.8	81.2	92.0	89.3	67.7	53.6	11,321

[1] Two most common local misconceptions: transmission by mosquito bites and sharing food with an infected person.
[2] Comprehensive knowledge means knowing that use of condoms and having just one uninfected faithful partner can reduce the chances of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission and prevention.

Table 14.3.2 Comprehensive knowledge about AIDS: men

Percentage of men age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Rwanda 2005

Background characteristic	Percentage of men who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy-looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of men
Age							
15-24	87.2	76.4	91.1	91.1	65.5	53.6	2,048
15-19	83.2	74.7	88.2	90.1	60.7	49.0	1,102
20-24	92.0	78.3	94.4	92.3	71.1	59.0	946
25-29	95.2	79.3	94.0	93.4	73.4	60.5	632
30-39	96.8	79.2	92.7	93.0	75.2	63.3	951
40-49	94.0	77.3	92.3	90.4	69.7	58.0	783
Marital status							
Never married	88.3	78.2	91.1	91.9	67.9	54.8	2,191
Ever had sex	94.7	80.6	95.2	95.6	75.7	63.9	833
Never had sex	84.4	76.7	88.6	89.7	63.1	49.3	1,358
In union	95.0	77.0	93.0	91.7	71.3	60.1	2,126
Divorced/separated/ widowed	94.5	74.3	91.7	86.2	64.4	57.6	96
Residence							
Urban	96.2	87.0	95.4	96.0	81.8	63.0	784
Rural	90.7	75.5	91.3	90.8	66.8	56.3	3,629
Province							
Kigali city	95.7	89.3	95.9	94.4	82.4	60.1	495
South	95.5	81.8	93.8	93.3	76.9	66.6	1,139
West	88.0	74.1	88.7	88.0	62.7	47.2	1,065
North	88.7	71.8	89.0	91.7	64.0	59.6	777
East	91.5	74.9	94.2	92.6	65.8	54.8	937
Education							
No education	87.7	64.3	84.9	82.3	52.4	41.6	558
Primary	91.1	77.2	92.3	92.2	68.8	57.4	3,293
Secondary or higher	98.6	92.9	97.5	98.3	90.3	73.4	561
Wealth quintile							
Lowest	88.1	68.8	88.9	86.8	59.4	50.8	799
Second	90.8	76.4	90.5	91.7	66.9	56.8	794
Middle	90.0	76.4	91.5	90.5	67.2	57.4	892
Fourth	92.1	77.8	92.3	92.8	70.2	58.2	900
Highest	96.1	86.0	95.9	95.6	80.6	62.6	1,028
Total	91.7	77.5	92.0	91.7	69.5	57.5	4,413

[1] Two most common local misconceptions: transmission by mosquito bites and sharing food with an infected person.
[2] Comprehensive knowledge means knowing that use of condoms and having just one uninfected faithful partner can reduce the chances of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission and prevention.

With respect to comprehensive knowledge, men are better informed than women: 58 percent of men, compared with 54 percent of women, have a comprehensive knowledge of AIDS. Never-married men who have had sex, along with married men, are the best informed (64 percent and 60 percent, respectively), but the data vary considerably by level of education, residence, and household wealth. Only 42 percent of men with no education and 57 percent of men with a primary education have a comprehensive knowledge of HIV/AIDS, compared with 73 percent of men with a secondary education or higher. In rural areas, 56 percent of men have a comprehensive knowledge of AIDS, compared with 63 percent in urban areas. By household wealth, comprehensive knowledge ranges from 51 percent for men in the poorest households, to 63 percent for those in the richest households. As with women, the West province has the lowest proportion of men with comprehensive knowledge about AIDS (47 percent). The South province has the highest proportion (67 percent).

During the survey, all respondents were asked whether they knew that the virus that causes AIDS can be transmitted from mother to child by breastfeeding and that the risks of maternal transmission can be reduced if the mother takes special drugs during pregnancy. The results are presented in Table 14.4.

Table 14.4 Knowledge of prevention of mother-to-child transmission of HIV

Percentage of women and men age 15-49 who know that HIV can be transmitted from mother to child by breastfeeding and that the risk of mother-to-child transmission (MTCT) of HIV can be reduced by the mother taking special drugs during pregnancy, by background characteristics, Rwanda 2005

	Women who know that:				Men who know that:			
Background characteristic	HIV can be transmitted by breast-feeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of women	HIV can be transmitted by breast-feeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of men
Age								
15-24	76.3	68.1	58.3	4,938	80.6	77.0	65.8	2,048
15-19	71.5	61.6	52.1	2,585	77.5	72.4	61.0	1,102
20-24	81.5	75.2	65.2	2,354	84.2	82.3	71.4	946
25-29	82.3	79.0	69.6	1,738	84.3	87.0	74.8	632
30-39	82.2	78.3	68.7	2,600	82.9	83.1	71.3	951
40-49	82.7	73.0	65.4	2,045	84.0	80.3	69.7	783
Marital status								
Never married	74.4	66.9	56.8	4,263	81.1	78.0	67.0	2,191
Ever had sex	77.0	75.2	65.1	758	84.1	87.8	75.6	833
Never had sex	73.8	65.1	55.0	3,505	79.2	72.0	61.7	1,358
In union	83.1	77.9	68.8	5,510	83.6	82.8	71.3	2,126
Divorced/separated/ widowed	82.3	72.2	64.4	1,548	78.2	77.6	62.8	96
Currently pregnant								
Yes	85.4	79.8	71.6	901	na	na	na	na
No/not sure	79.2	72.4	63.0	10,420	na	na	na	na
Residence								
Urban	86.5	87.3	78.9	1,921	85.8	88.3	78.3	784
Rural	78.3	70.1	60.6	9,400	81.4	78.6	67.0	3,629
Province								
Kigali city	86.6	84.1	77.7	1,127	87.5	87.2	78.8	495
South	80.5	77.0	65.0	2,958	86.6	81.8	73.0	1,139
West	79.0	65.3	57.5	2,824	79.8	70.2	59.8	1,065
North	77.4	70.2	61.4	2,063	73.0	84.0	65.0	777
East	78.4	74.4	64.7	2,348	84.5	83.2	72.6	937
Education								
No education	76.7	61.4	54.3	2,193	80.0	66.9	58.1	558
Primary	79.6	73.5	63.7	8,044	82.2	80.4	68.9	3,293
Secondary or higher	87.2	92.7	82.4	1,084	84.8	93.3	80.3	561
Wealth quintile								
Lowest	77.1	61.1	53.3	2,421	80.7	71.9	61.3	799
Second	78.4	72.7	62.2	2,325	82.1	79.4	68.3	794
Middle	79.0	71.7	62.0	2,099	81.3	77.9	67.0	892
Fourth	80.0	75.0	65.4	2,133	79.8	82.4	68.5	900
Highest	84.1	85.0	75.9	2,342	86.4	87.7	77.6	1,028
Total	79.7	73.0	63.7	11,321	82.2	80.3	69.0	4,413

na = Not applicable

The data show no major differences in the proportion of men and women who reported knowing that HIV can be transmitted from mother to child by breastfeeding (82 percent of men; 80 percent of women). However, men are more likely than women to know that the risk of mother-to-child transmission can be reduced if the mother takes special drugs during pregnancy (80 percent of men; 73 percent of women). Overall, 69 percent of men and 64 percent of women reported knowing both of these aspects of mother-to-child transmission of HIV. The data vary by background characteristic. The women most likely to be aware of this information are those age 25 to 39 (at least 69 percent); married women (69 percent); divorced, separated, or widowed women (64 percent); and women who were pregnant at the time of the survey (72 percent). The proportion of women who are aware of this information is higher in urban areas (79 percent) than in rural areas (61 percent). It is also highest among women with higher levels of education (82 percent), women in the richest wealth quintile (76 percent), and women living in the City of Kigali (78 percent). The data for men follow the same patterns with respect to background characteristics.

14.1.2 Stigmatization

The behavior or attitudes a person would adopt toward someone living with HIV/AIDS in certain situations reveal his or her beliefs about the risk of HIV transmission, beliefs which, in daily life, can translate into stigmatization of infected people. During the 2005 RDHS-III, respondents were asked whether they would be willing to take on the care of a relative with HIV/AIDS in their own household, whether they would buy fresh vegetables from a shopkeeper who had HIV/AIDS, whether they believed that a female teacher living with HIV/AIDS should be allowed to continue teaching and, finally, whether they would want to keep secret that a family member had been infected with HIV/AIDS. The results are presented in Table 14.5.1 for women, and in Table 14.5.2, for men.

Forty-six percent of women expressed accepting attitudes in all four of the situations presented. Those who were most accepting toward people living with HIV/AIDS in the specific situations presented are women age 25 to 29 (51 percent), never-married women who have had sex (50 percent), women in urban areas (63 percent), women in Kigali City (62 percent), women with a secondary education or higher (69 percent), and women in the richest wealth quintile (61 percent).

The proportion of men who expressed accepting attitudes in all four situations is higher than that of women (51 percent, compared with 46 percent). Like women, men age 25 to 29 (56 percent) and men with higher educations (61 percent) were more likely to express accepting attitudes. However, unlike women, the most accepting attitudes are found not among never-married men who had had sex, but among married men. Also unlike women, tolerance in all four situations was most frequently expressed by men in rural (53 percent) rather than urban areas (42 percent). By province, the highest percentage of men expressing acceptance in all four situations is the South province (64 percent), not the City of Kigali, as was the case for women. Finally, results by wealth quintile show the highest level of acceptance is in the fourth quintile for men (55 percent), not the richest quintile, as was the case for women.

Table 14.5.1 Accepting attitudes toward those living with HIV/AIDS: women

Among women age 15-49 who have heard of AIDS, percentage expressing specific accepting attitudes toward people with AIDS, by background characteristics, Rwanda 2005

Background characteristic	Percentage of women who: Are willing to care for a family member with the AIDS virus in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Percentage expressing accepting attitudes on all four indicators	Number of women who have heard of AIDS
Age						
15-24	91.9	66.5	72.6	76.7	43.6	4,929
15-19	90.3	62.3	69.1	74.5	39.1	2,577
20-24	93.7	71.0	76.4	79.2	48.5	2,353
25-29	94.8	73.7	77.0	77.4	51.0	1,738
30-39	94.8	71.9	76.9	76.8	48.4	2,597
40-49	94.5	66.7	73.2	78.3	44.9	2,044
Marital status						
Never married	92.6	67.8	74.1	76.3	45.1	4,255
Ever had sex	94.7	73.1	79.5	76.3	50.0	757
Never had sex	92.1	66.6	72.9	76.3	44.0	3,498
In union	94.2	69.3	74.6	78.0	46.6	5,506
Divorced/separated/ widowed	93.4	70.2	74.6	76.4	46.9	1,546
Residence						
Urban	97.9	86.5	88.9	77.8	63.1	1,919
Rural	92.6	65.3	71.4	77.0	42.6	9,389
Province						
Kigali city	97.1	86.9	88.5	75.8	61.8	1,125
South	96.7	74.9	81.8	81.0	55.8	2,958
West	89.3	61.2	68.1	74.0	35.3	2,821
North	93.3	64.4	71.8	75.7	40.9	2,060
East	93.0	65.8	68.1	77.9	43.8	2,344
Education						
No education	88.9	55.0	62.2	77.2	33.5	2,189
Primary	94.1	69.4	75.3	76.8	46.4	8,035
Secondary or higher	98.3	92.9	92.1	79.1	69.1	1,084
Wealth quintile						
Lowest	91.4	57.8	65.9	77.8	37.6	2,417
Second	93.4	67.8	74.0	76.4	44.4	2,324
Middle	92.0	65.8	71.3	76.4	42.1	2,097
Fourth	93.5	68.7	73.8	76.9	44.9	2,131
Highest	97.1	84.3	86.8	78.1	61.2	2,340
Total	93.5	68.9	74.4	77.1	46.1	11,308

Table 14.5.2 Accepting attitudes toward those living with HIV/AIDS: men

Among men age 15-49 who have heard of AIDS, percentage expressing specific accepting attitudes toward people with AIDS, by background characteristics, Rwanda 2005

Background characteristic	Percentage of men who: Are willing to care for a family member with the AIDS virus in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Percentage expressing accepting attitudes on all four indicators	Number of men who have heard of AIDS
Age						
15-24	93.5	75.9	75.0	72.2	46.7	2,045
15-19	91.5	70.1	69.5	71.0	42.2	1,099
20-24	95.8	82.6	81.3	73.6	52.0	946
25-29	97.4	85.8	85.2	73.9	56.3	632
30-39	97.5	84.1	84.1	73.5	54.8	951
40-49	98.4	80.1	81.3	75.6	53.4	783
Marital status						
Never married	94.0	77.6	76.7	71.2	47.0	2,189
Ever had sex	96.4	84.9	81.5	69.2	49.2	832
Never had sex	92.6	73.1	73.8	72.5	45.6	1,356
In union	97.6	82.2	82.5	75.4	55.1	2,126
Divorced/separated/ widowed	95.5	77.8	77.3	76.5	51.7	96
Residence						
Urban	96.4	90.3	89.0	53.6	42.3	784
Rural	95.7	77.6	77.5	77.6	52.9	3,626
Province						
Kigali city	97.4	88.4	89.2	40.2	29.0	495
South	95.5	82.7	85.0	83.8	63.8	1,138
West	92.4	72.1	73.1	67.7	41.6	1,065
North	97.2	75.6	74.1	79.9	51.2	776
East	97.9	84.1	79.6	79.2	57.7	937
Education						
No education	92.6	66.8	69.2	75.5	40.7	558
Primary	96.0	79.5	78.7	73.8	51.0	3,290
Secondary or higher	97.9	94.8	94.7	68.9	61.4	561
Wealth quintile						
Lowest	95.7	71.1	71.6	74.1	44.3	799
Second	95.5	77.8	78.5	77.0	52.6	794
Middle	95.1	77.1	74.5	80.2	52.8	890
Fourth	95.5	81.1	82.0	75.1	54.7	900
Highest	96.8	89.5	88.7	62.6	50.2	1,028
Total	95.8	79.8	79.5	73.4	51.0	4,410

14.1.3 Opinions

The promotion of safe sexual behaviors is a primary means of controlling the AIDS epidemic. Because women are more vulnerable than men to HIV infection, it is important to know whether women are able to refuse higher-risk sexual contact with their husbands/partners. For this reason, the RDHS-III asked women whether they believed that a wife is justified in refusing to have sex with her husband if she knows he has an STI, and whether she is justified in asking him to use a condom under the same circumstances. The results of the survey show that a majority of women (96 percent) believe that a wife is justified in refusing sexual contact or in asking her husband to use a condom if he has an STI (Table 14.6). The proportion of women professing this view is high for all background characteristics. However, it is somewhat lower among young women age 15 to 19 (90 percent), never-married women who have never had sex (93 percent), and women living in the West and North provinces (94 percent for both).

Table 14.6 Attitudes toward negotiating safer sexual relations with husband

Percentage of women age 15-49 who believe that, if a husband has a sexually transmitted disease, his wife is justified in refusing to have sexual relations with him or asking that they use a condom, by background characteristics, Rwanda 2005

Background characteristic	Refusing to have sexual relations	Asking that they use a condom	Refusing sexual relations or asking that they use a condom	Number of women
Age				
15-24	89.1	83.5	93.5	4,938
15-19	85.2	79.2	90.1	2,585
20-24	93.3	88.3	97.2	2,354
25-29	92.9	88.4	96.9	1,738
30-39	93.0	89.8	97.6	2,600
40-49	93.3	85.3	96.6	2,045
Marital status				
Never married	88.5	83.1	93.3	4,263
Ever had sex	91.6	90.1	96.9	758
Never had sex	87.8	81.6	92.5	3,505
In union	93.1	88.3	97.0	5,510
Divorced/separated/widowed	92.8	85.9	96.3	1,548
Residence				
Urban	92.1	91.6	97.8	1,921
Rural	91.2	84.9	95.1	9,400
Province				
Kigali city	91.9	93.1	98.6	1,127
South	94.1	85.9	97.0	2,958
West	88.3	82.5	93.5	2,824
North	90.2	85.3	94.0	2,063
East	92.2	87.8	96.0	2,348
Education				
No education	90.4	81.1	94.1	2,193
Primary	91.2	86.3	95.5	8,044
Secondary or higher	93.7	94.1	98.5	1,084
Total	91.3	86.0	95.5	11,321

During the survey, women and men were asked if they believed that children age 12 to 14 should be taught about using condoms to avoid AIDS. The results for this question are presented in Table 14.7. Overall, the proportion of men who believe that condom use should be taught to young people (82 percent) is a little higher than the proportion of women who share this view (80 percent). The widest differentials are between women and men with a secondary education or higher (88 percent of women and 84 percent of men favorable to condom education) and those with no education (74 percent of women and 77 percent of men favorable). A favorable opinion is more widespread among women and men in urban areas than in rural areas (86 percent of women and 85 percent of men in urban areas, compared with 79 percent of women and 82 percent of men in rural areas). Similarly, women in the richest quintile (86 percent) are more likely to be favorable to condom education than women in the poorest quintile (78 percent). The difference for men is much smaller (85 percent in the richest quintile, 82 percent in the poorest).

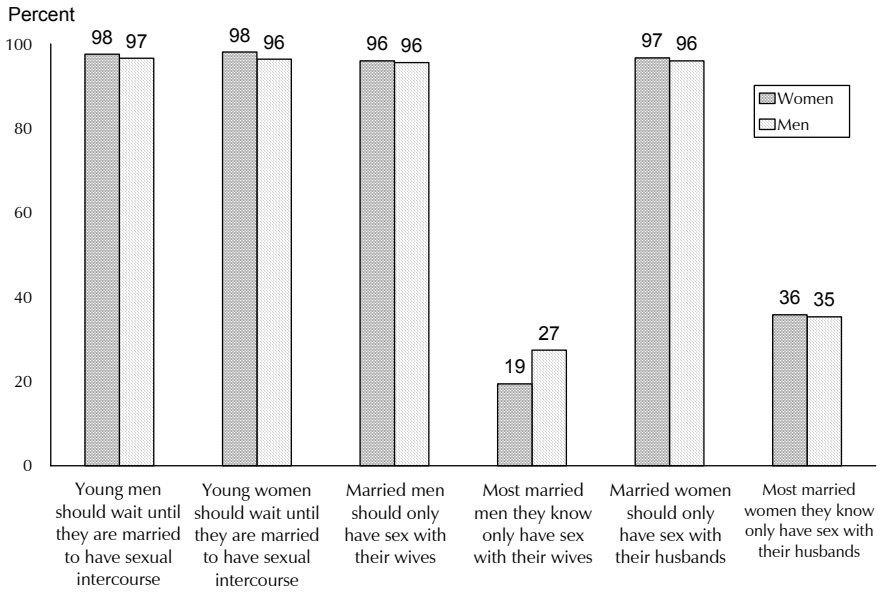
Table 14.7 Adult support of education about condom use to prevent AIDS

Percentage of women and men age 18-49 who agree that children age 12-14 years should be taught about using a condom to avoid AIDS, by background characteristics, Rwanda 2005

Background characteristic	Women		Men	
	Percentage who agree	Number of women	Percentage who agree	Number of men
Age				
18-19	81.3	951	81.8	400
20-24	82.6	2,353	85.1	946
25-29	83.8	1,738	83.4	632
30-39	79.9	2,597	83.1	951
40-49	74.3	2,044	77.8	783
Marital status				
Never married	82.0	2,638	84.2	1,490
In union	79.9	5,500	80.8	2,126
Divorced/separated/ widowed	78.3	1,544	90.0	96
Residence				
Urban	85.9	1,635	84.9	695
Rural	79.0	8,047	81.8	3,016
Province				
Kigali city	82.2	968	88.0	444
South	81.5	2,567	80.4	939
West	78.1	2,378	77.2	880
North	77.8	1,750	80.5	651
East	82.2	2,018	88.8	798
Education				
No education	74.3	2,094	77.3	520
Primary	80.9	6,587	83.0	2,666
Secondary or higher	88.2	1,001	84.2	525
Wealth quintile				
Lowest	77.6	2,052	82.0	672
Second	78.7	2,005	80.7	660
Middle	78.8	1,820	83.5	730
Fourth	79.8	1,826	80.5	758
Highest	86.2	1,979	84.5	892
Total 18-49	80.2	9,682	82.4	3,711

Perceptions and opinions about abstinence and fidelity were gathered by asking women and men a series of questions (see Figure 14.1). According to the results, women and men generally share the same perceptions and opinions with regard to abstinence and fidelity, except with respect to the fidelity of men known by the respondents. The proportion of women who said they believed that most men they knew were faithful (19 percent) is lower that that of men (27 percent). Nearly all women and men believe that young people should delay sexual intercourse until marriage: 98 percent of women and 97 percent of men believe that young men should wait; 98 percent of women and 96 percent of men believe that young women should wait. Nearly all women and men agreed that married men and women should have sexual intercourse only with their spouse (at least 96 percent for both). However, the percentage who said that most men they knew had sex only with their spouse is much lower (19 percent of women, 27 percent of men). The proportion who said that most married women they knew were faithful is somewhat higher (36 percent of women, 35 percent of men).

Figure 14.1 Perception and Beliefs about Abstinence and Faithfulness



RDHS 2005

14.2 Higher-Risk Sexual Intercourse and Condom Use

Changing behavior associated with the spread of HIV is essential to curtailing the spread of the disease. For this reason, the RDHS-III asked respondents a series of questions about their behavior with respect to sexual intercourse. Higher-risk sexual intercourse was determined by the type of partner reported by the respondent. Sexual intercourse with a partner who was neither a spouse nor living with the respondent was considered higher risk.

Table 14.8.1 shows the proportion of women who engaged in higher-risk intercourse in the 12 months preceding the survey, and the proportion of women who reported using a condom during their last higher-risk sexual intercourse. The results show that 8 percent of women who were sexually active in the 12 months preceding the survey had engaged in higher-risk sexual intercourse. All sexually active never-married women had higher-risk intercourse by definition, because their partners were neither spouses nor cohabiting with them. The proportion of young women age 15 to 19 who engaged in higher-risk intercourse is high (53 percent) because at this age most women have never been married. The proportion is high among never-married women for the same reason. More than half (56 percent) of divorced, separated, or widowed women had higher-risk intercourse in the past 12 months. It should also be noted that the proportion of women who had higher-risk intercourse is significantly higher in urban areas (15 percent) than in rural areas (7 percent). By level of education, the proportion is highest among women with a secondary education (11 percent, compared with 8 percent for a primary education and 6 percent for women with no education). By wealth quintile, the proportion is highest among women in the richest households (12 percent, compared with 8 percent in the first two quintiles). Of all those who engaged in higher-risk intercourse in the past 12 months, only 20 percent used a condom. Condom use was higher among women who had higher proportions of higher-risk intercourse, i.e., women in urban areas (35 percent), women with a secondary education or higher (47 percent), and women in the richest wealth quintile (38 percent).

Table 14.8.1 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: women

Among women age 15-49 who had sexual intercourse in the past 12 months, the percentage who had intercourse with more than one partner and the percentage who had higher-risk sexual intercourse[1] in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, and the mean number of sexual partners during her lifetime for women who ever had sexual intercourse, by background characteristics, Rwanda 2005

	Among women who had sexual intercourse in the past 12 months:			Among women who had higher-risk intercourse[1] in the past 12 months:		Among women who ever had sexual intercourse:	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse[1] in the past 12 months	Number of women	Percentage who reported using a condom at last higher-risk intercourse[1]	Number of women	Mean number of sexual partners in lifetime	Number of women
Age							
15-24	1.0	15.3	1,287	26.4	197	1.2	1,697
15-19	2.3	53.0	151	27.6	80	1.3	311
20-24	0.8	10.3	1,136	25.5	117	1.2	1,385
25-29	0.5	6.1	1,354	21.6	82	1.3	1,563
30-39	0.6	6.4	1,997	15.6	128	1.6	2,532
40-49	0.3	5.5	1,249	6.2	68	1.6	2,024
Marital status							
Never married	4.0	100.0	246	24.2	246	1.7	758
In union	0.2	0.5	5,279	(9.8)	25	1.3	5,510
Divorced/separated/ widowed	3.3	56.1	362	15.6	203	1.9	1,548
Residence							
Urban	1.5	15.4	854	34.5	131	1.6	1,265
Rural	0.5	6.8	5,033	14.1	343	1.4	6,551
Education							
No education	0.4	6.4	1,405	14.0	89	1.5	1,916
Primary	0.6	8.2	3,952	16.3	325	1.4	5,168
Secondary or higher	1.2	11.3	531	46.8	60	1.5	732
Wealth quintile							
Lowest	0.5	7.9	1,202	6.0	96	1.5	1,709
Second	0.2	7.6	1,191	15.5	90	1.4	1,605
Middle	0.3	6.5	1,168	16.5	76	1.5	1,497
Fourth	0.9	7.0	1,218	15.1	85	1.4	1,493
Highest	1.0	11.5	1,108	38.1	128	1.5	1,512
Total	0.6	8.1	5,887	19.7	475	1.5	7,816

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Sexual intercourse with a nonmarital, noncohabiting partner

Table 14.8.2, which presents the same data for men, shows that 14 percent of men had higher-risk sexual intercourse in the 12 months preceding the survey. The proportion who used a condom during their last higher-risk sexual intercourse was 41 percent.

Nearly all young men age 15 to 19 had engaged in higher-risk sexual intercourse in the 12 months preceding the survey (96 percent). However, the highest percentage of condom use at last higher-risk intercourse was not in this age group (37 percent); instead it was for men age 25 to 29 (62 percent).

Table 14.8.2 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months: men

Among men age 15-49 who had sexual intercourse in the past 12 months, the percentage who had intercourse with more than one partner and the percentage who had higher-risk sexual intercourse[1] in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, and the mean number of sexual partners during his lifetime for men who ever had sexual intercourse, by background characteristics, Rwanda 2005

	Among men who had sexual intercourse in the past 12 months:			Among men who had higher-risk intercourse[1] in the past 12 months:		Among men who ever had sexual intercourse:	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse[1] in the past 12 months	Number of men	Percentage who reported using a condom at last higher-risk intercourse[1]	Number of men	Mean number of sexual partners in lifetime	Number of men
Age							
15-24	4.4	48.0	343	39.5	165	2.1	800
15-19	4.9	96.4	61	37.0	59	1.6	249
20-24	4.3	37.6	282	40.8	106	2.3	550
25-29	4.7	15.0	450	61.8	67	2.6	549
30-39	5.0	6.3	866	37.2	54	3.1	925
40-49	5.6	5.3	740	(16.0)	39	4.0	780
Marital status							
Never married	6.9	99.3	234	43.4	232	2.6	833
In union	4.7	3.0	2,114	38.6	63	3.0	2,126
Divorced/separated/ widowed	11.7	60.2	51	(26.5)	31	5.3	95
Residence							
Urban	5.2	27.5	401	62.9	111	4.1	572
Rural	5.0	10.8	1,997	29.6	215	2.7	2,482
Education							
No education	3.7	10.2	391	(30.5)	40	2.8	444
Primary	5.6	13.2	1,694	32.9	224	2.8	2,190
Secondary or higher	3.8	19.8	313	76.4	62	4.1	420
Wealth quintile							
Lowest	3.1	10.3	466	(21.8)	48	2.6	568
Second	7.3	10.1	443	(28.3)	45	2.6	540
Middle	5.7	11.4	493	27.6	56	2.6	594
Fourth	4.6	9.9	496	(35.5)	49	2.8	629
Highest	4.7	25.5	500	60.4	128	4.0	723
Total	5.1	13.6	2,399	40.9	326	3.0	3,053

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Sexual intercourse with a nonmarital, noncohabiting partner

As with women, the proportion of men who had higher-risk sexual intercourse in the last 12 months increases with level of education, from a low of 10 percent among those with no education, to a high of 20 percent among those with a secondary education or higher. This last category also shows a high rate of condom use (76 percent).

By marital status, nearly all never-married men (99 percent) had engaged in higher-risk sexual intercourse in the 12 months preceding the survey. However, condom use among men in this category is low (43 percent). Higher-risk sexual contact is more frequent among men in urban areas (28 percent) than men in rural areas (11 percent). Condom use follows the same pattern: it is significantly higher in urban areas (63 percent) than in rural areas (30 percent). Five percent of men reported having had at least 2 sexual partners in the past 12 months. Overall, Rwandan men have an average of 3 sexual partners in their lifetime, compared with 1.5 for women.

14.3 TESTING AND COUNSELING FOR HIV/AIDS

Knowledge of HIV status can help limit the spread of the AIDS epidemic because it helps individuals make decisions that will protect themselves and their partners. The 2005 RDHS-III asked respondents whether they had ever been tested to see if they had the AIDS virus, and whether they had received results from the last HIV test taken in the 12 months preceding the survey.

Table 14.9.1 shows that 76 percent of the women surveyed had never been tested. Only 21 percent of those who were tested had received the results. The proportion of women who received the results of the last HIV/AIDS test taken in the past 12 months is only 12 percent.

Table 14.9.1 Prior HIV testing and knowledge of results: women

Percent distribution of women by whether they were ever tested for HIV and by whether they received the results of the last test, and the percentage of women who received their test results the last time they were tested for HIV in the past 12 months, according to background characteristics, Rwanda 2005

Background characteristic	Ever tested: Received results	Ever tested: Did not receive results	Never tested	Total[1]	Percentage who received results from last HIV test taken in the past 12 months	Number of women
Age						
15-24	17.1	1.9	80.8	100.0	10.4	4,938
15-19	6.2	0.9	92.5	100.0	4.8	2,585
20-24	29.2	2.9	67.8	100.0	16.6	2,354
25-29	32.0	5.1	62.7	100.0	16.4	1,738
30-39	26.9	3.4	69.3	100.0	14.1	2,600
40-49	14.6	2.1	83.1	100.0	6.9	2,045
Marital status						
Never married	11.9	1.3	86.6	100.0	8.3	4,263
Ever had sex	29.5	3.0	67.2	100.0	18.9	758
Never had sex	8.0	0.9	90.8	100.0	6.0	3,505
In union	27.8	3.9	68.0	100.0	14.1	5,510
Divorced/separated/widowed	23.5	2.8	73.5	100.0	11.6	1,548
Residence						
Urban	43.1	3.7	52.8	100.0	23.0	1,921
Rural	16.7	2.6	80.5	100.0	9.2	9,400
Province						
Kigali city	45.2	3.4	51.1	100.0	24.4	1,127
South	18.3	3.2	78.4	100.0	9.1	2,958
West	17.6	2.9	79.1	100.0	10.3	2,824
North	19.8	2.2	77.7	100.0	11.1	2,063
East	18.9	2.1	78.7	100.0	10.3	2,348
Education						
No education	15.7	2.3	81.5	100.0	9.4	2,193
Primary	19.9	2.8	77.0	100.0	11.0	8,044
Secondary or higher	41.7	3.5	54.7	100.0	20.0	1,084
Wealth quintile						
Lowest	14.2	1.9	83.5	100.0	8.2	2,421
Second	15.0	2.7	82.1	100.0	8.5	2,325
Middle	19.2	2.4	78.1	100.0	10.8	2,099
Fourth	22.3	3.0	74.3	100.0	12.1	2,133
Highest	35.3	3.7	60.7	100.0	18.3	2,342
Total	21.2	2.8	75.8	100.0	11.6	11,321

[1] Includes women with missing information

Results by age show that nearly all young women age 15 to 19 have never been tested for HIV/AIDS (93 percent). The proportion of women who were never tested is also high among women with no education (82 percent) and women in rural areas (81 percent). Nearly three-quarters of divorced, separated, or widowed women (74 percent) have never been tested, compared with only 68 percent of married women. By province, the data show a large difference between the City of Kigali (51 percent never tested) and the other provinces (at least 78 percent never tested).

The proportion of women who received the results of the last HIV/AIDS test taken in the past 12 months is highest for women 20 to 29 (16 percent), never-married women who have ever had sex (19 percent), urban women (23 percent), women in the City of Kigali (24 percent), women with secondary or higher education (20 percent), and women in households in the highest wealth quintile (18 percent).

Table 14.9.2 Prior HIV testing and knowledge of results: men

Percent distribution of men by whether they were ever tested for HIV and by whether they received the results of the last test, and the percentage of men who received their test results the last time they were tested for HIV in the past 12 months, according to background characteristics, Rwanda 2005

Background characteristic	Ever tested: Received results	Ever tested: Did not receive results	Never tested	Total[1]	Percentage who received results from last HIV test taken in the past 12 months	Number of men
Age						
15-24	12.1	1.2	86.6	100.0	8.2	2,048
15-19	4.4	0.4	94.9	100.0	3.6	1,102
20-24	21.1	2.1	76.9	100.0	13.6	946
25-29	39.3	2.1	58.5	100.0	18.3	632
30-39	27.2	1.8	71.0	100.0	13.6	951
40-49	16.7	2.7	80.5	100.0	9.2	783
Marital status						
Never married	13.9	1.1	84.9	100.0	9.7	2,191
Ever had sex	23.7	1.8	74.5	100.0	15.3	833
Never had sex	7.8	0.7	91.3	100.0	6.2	1,358
In union	25.9	2.2	71.8	100.0	12.1	2,126
Divorced/separated/widowed	32.7	4.3	63.0	100.0	16.5	96
Residence						
Urban	34.8	2.5	62.6	100.0	19.9	784
Rural	16.9	1.6	81.5	100.0	9.0	3,629
Province						
Kigali city	39.5	1.9	58.7	100.0	22.3	495
South	17.8	1.5	80.6	100.0	7.7	1,139
West	16.4	1.8	81.7	100.0	9.6	1,065
North	19.7	0.7	79.6	100.0	13.2	777
East	17.1	2.7	80.2	100.0	8.8	937
Education						
No education	11.8	2.0	86.2	100.0	6.8	558
Primary	17.7	1.6	80.6	100.0	9.7	3,293
Secondary or higher	42.2	2.1	55.7	100.0	22.6	561
Wealth quintile						
Lowest	13.8	0.9	85.2	100.0	8.2	799
Second	13.5	1.0	85.5	100.0	7.2	794
Middle	15.7	2.3	81.8	100.0	8.8	892
Fourth	21.2	1.9	76.9	100.0	11.0	900
Highest	32.8	2.3	64.9	100.0	17.8	1,028
Total	20.1	1.7	78.1	100.0	11.0	4,413

[1] Includes men with missing information

The highest proportions of women who received results from the last HIV test taken in the past 12 months are found among women in urban areas (23 percent), women in the City of Kigali (24 percent), women with a secondary education or higher (20 percent), and women in the richest households (18 percent).

Table 14.9.2 shows prior HIV testing and knowledge of results for men. Seventy-eight percent of the men surveyed had never been tested for HIV. Twenty percent had been tested at some time and received the results. The proportion of those who received the results of the last HIV test taken in the past 12 months was only 11 percent.

By age, a very high proportion of the youngest men have never been tested (95 percent for age 15 to 19), although previous tables showed that 96 percent of men in this age group had engaged in higher-risk sexual intercourse in the 12 months preceding the survey. A high proportion of men who have never been tested for HIV are found in rural areas (82 percent) and among those with no education (86 percent).

The proportions who received the results of the last HIV test taken in the past 12 months follow a similar pattern to that of women, the highest proportions being among men in urban areas (20 percent), men in the City of Kigali (22 percent), men with higher educations (23 percent), and men in the richest households (18 percent).

Women who had given birth in the two years preceding the survey were asked whether they had received HIV/AIDS counseling during an antenatal care (ANC) visit, whether they had taken a voluntary AIDS test during an ANC visit, and whether they had received the results of this test. The answers to these questions are presented in Table 14.10. Nearly six in ten women (56 percent) reported having received HIV/AIDS counseling, i.e., they were told about mother-to-child transmission of HIV and the importance of HIV/AIDS testing. Twenty-three percent of women took a voluntary HIV/AIDS test and received the results. Overall, 22 percent received counseling, took an HIV/AIDS test, and received the results. This proportion is much higher among some groups of women: women in urban areas (58 percent), women living in the City of Kigali (56 percent), and women with a secondary education or higher (37 percent).

Table 14.10 Pregnant women counseled and tested for HIV

Among all women who gave birth in the two years preceding the survey, percentage who received HIV counseling during antenatal care for their most recent birth, and percentage who accepted an offer of HIV testing and whether they received the test results, according to background characteristics, Rwanda 2005

Background characteristic	Percentage who received HIV counseling during antenatal care	Percentage who were offered and accepted an HIV test during antenatal care and who:		Percentage who were counseled, were offered and who accepted an HIV test, and who received results	Number of women who gave birth in the last 2 years
		Received results	Did not receive results		
Age					
15-24	53.9	26.0	3.1	23.3	899
15-19	55.8	33.2	3.5	29.7	73
20-24	53.7	25.4	3.1	22.7	827
25-29	56.6	23.8	3.9	22.0	965
30-39	56.5	22.5	3.0	20.9	1,209
40-49	55.9	17.8	4.0	17.4	363
Residence					
Urban	76.3	62.8	6.1	58.0	456
Rural	52.6	17.3	3.0	15.9	2,980
Province					
Kigali city	69.7	62.9	6.4	56.4	245
South	55.2	19.5	3.8	18.1	820
West	56.1	23.7	4.0	22.0	920
North	55.8	19.8	2.2	19.0	671
East	51.6	17.4	2.3	15.6	780
Education					
No education	50.2	18.0	2.9	16.1	779
Primary	56.5	23.0	3.6	21.5	2,388
Secondary or higher	65.5	41.3	3.0	37.2	269
Total	55.8	23.3	3.4	21.5	3,436

14.4 SEXUALLY TRANSMITTED INFECTIONS (STIS)

The 2005 RDHS-III also sought to determine whether women and men who had ever had sexual intercourse had had an STI and/or the symptoms of an STI in the 12 months preceding the survey. The total self-reported STI prevalence (according to spontaneous declarations and symptoms) for women who had ever had intercourse is 5 percent. However, this figure should be taken as an order of magnitude rather than a precise estimate because the presence of the various signs or symptoms is not always proof of an STI (Table 14.11). The proportion of men who reported having an STI and/or the symptoms of an STI in the 12 months preceding the survey was 3 percent.

Table 14.11 Self-reported prevalence of sexually-transmitted infections (STIs) and STI symptoms

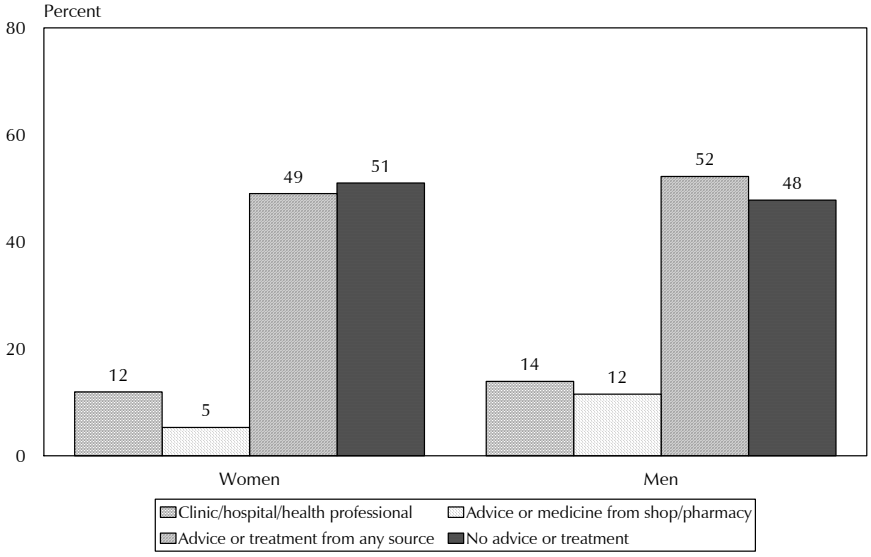
Among women and men age 15-49 who ever had sexual intercourse, the percentage reporting having an STI and/or symptoms of an STI in the past 12 months, by background characteristics, Rwanda 2005

Background characteristic	Percentage of women who reported having in the past 12 months: STI	Bad smelling/ abnormal genital discharge	Genital sore or ulcer	STI/genital discharge/ sore or ulcer	Number of women who ever had sexual intercourse	Percentage of men who reported having in the past 12 months: STI	Bad smelling/ abnormal genital discharge	Genital sore or ulcer	STI/genital discharge/ sore or ulcer	Number of men who ever had sexual intercourse
Age										
15-24	0.7	3.4	1.9	4.5	1,697	0.3	2.2	0.8	3.0	800
15-19	0.6	3.7	1.7	4.5	311	0.7	3.8	0.0	4.1	249
20-24	0.8	3.4	1.9	4.5	1,385	0.2	1.5	1.2	2.5	550
25-29	1.0	3.2	2.4	4.6	1,563	1.3	1.9	1.0	3.1	549
30-39	1.7	3.9	3.1	5.6	2,532	1.4	1.1	2.3	2.9	925
40-49	1.2	3.9	2.9	5.1	2,024	0.9	0.3	1.6	2.1	780
Marital status										
Never married	1.3	4.0	3.0	5.7	758	0.4	2.2	0.7	2.8	833
In union	1.0	3.4	2.4	4.6	5,510	1.2	1.0	1.9	2.8	2,126
Divorced/separated/ widowed	2.1	4.7	3.5	6.2	1,548	0.8	0.8	0.0	0.8	95
Circumcised										
Yes	na	na	na	na	na	1.5	1.2	1.9	2.9	341
No/missing	na	na	na	na	na	0.9	1.3	1.4	2.7	2,712
Residence										
Urban	1.9	5.4	3.3	7.3	1,265	1.9	1.4	2.3	3.4	572
Rural	1.1	3.4	2.5	4.6	6,551	0.8	1.3	1.3	2.6	2,482
Province										
Kigali city	1.2	5.3	2.7	6.9	733	1.1	1.6	2.0	3.2	362
South	1.2	2.9	2.2	4.1	2,044	0.7	0.9	1.1	2.1	781
West	1.5	4.6	3.3	6.1	1,907	1.2	1.6	2.0	3.7	742
North	0.9	1.8	2.0	2.6	1,464	1.2	2.0	0.9	2.6	519
East	1.3	4.5	3.2	6.2	1,667	0.7	0.9	1.5	2.3	649
Education										
No education	1.1	3.4	2.9	4.8	1,916	1.6	1.2	2.0	3.6	444
Primary	1.2	3.6	2.5	4.9	5,168	0.9	1.3	1.1	2.4	2,190
Secondary or higher	1.8	4.8	3.0	6.5	732	0.9	1.7	3.0	3.6	420
Total	1.2	3.7	2.7	5.0	7,816	1.0	1.3	1.5	2.7	3,053

na = Not applicable

Those who reported having had an STI and/or the symptoms of an STI in the past 12 months were asked if they had sought counseling and/or treatment from any source. Half of the women and men responded affirmatively (Figure 14.2). Only a little more than one in ten sought advice or treatment from a health professional (12 percent of women and 14 percent of men).

Figure 14.2 Women and Men Seeking Treatment for STIs



RDHS 2005

14.5 INJECTIONS FROM A HEALTH WORKER

Injections given without compliance to aseptic standards can be a source of contamination. It is therefore important to know whether the population is able to receive injections from approved health workers. Table 14.12 shows that a total of 12 percent of women and 9 percent of men received an injection from a health worker in the 12 months preceding the survey.

Ninety-five percent of women and 89 percent of men received their last injection from a syringe and needle taken from a newly opened package.

Table 14.12 Prevalence of injections

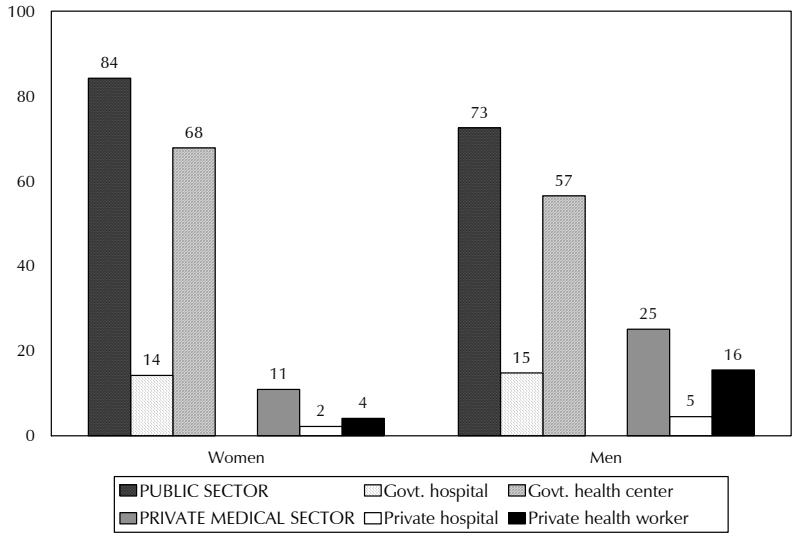
Percentage of women and men age 15-49 who received at least one injection from a health worker in the last 12 months, the average number of medical injections per person and, among those who received an injection, the percentage whose health worker took the syringe and needle from a new and unopened package for the last injection, by background characteristics, Rwanda 2005

	Women					Men				
Background characteristic	Percentage who received an injection from a health worker in the past 12 months	Average number of medical injections per year	Number of women	Last injection, syringe and needle taken from newly opened package	Number of women receiving injections from a health worker in the last 12 months	Percentage who received an injection from a health worker in the past 12 months	Average number of medical injections per year	Number of men	Last injection, syringe and needle taken from newly opened package	Number of men receiving injections from a health worker in the last 12 months
Age										
15-24	10.7	2.3	4,938	95.6	530	10.0	2.4	2,048	89.6	205
15-19	8.4	2.3	2,585	95.6	217	9.3	2.4	1,102	88.8	103
20-24	13.3	2.3	2,354	95.6	313	10.8	2.3	946	90.5	102
25-29	17.5	2.1	1,738	97.2	305	10.3	2.5	632	88.7	65
30-39	11.4	2.0	2,600	94.0	296	8.4	4.3	951	91.7	80
40-49	8.5	2.9	2,045	88.4	174	7.9	3.4	783	86.5	62
Residence										
Urban	14.7	2.4	1,921	95.0	283	14.3	3.0	784	94.4	112
Rural	10.9	2.2	9,400	94.6	1,021	8.3	2.9	3,629	87.6	300
Province										
Kigali city	15.4	2.6	1,127	94.6	173	15.6	3.5	495	92.6	77
South	10.9	2.0	2,958	95.9	324	9.4	2.4	1,139	87.6	107
West	12.0	2.3	2,824	91.7	340	8.9	3.2	1,065	87.9	95
North	10.3	2.1	2,063	96.3	212	9.3	3.1	777	88.3	73
East	10.9	2.3	2,348	95.6	255	6.4	2.3	937	92.3	60
Education										
No education	9.5	2.1	2,193	91.7	208	6.4	3.3	558	(77.6)	36
Primary	11.3	2.1	8,044	94.9	911	9.1	2.8	3,293	90.2	301
Secondary or higher	17.1	2.9	1,084	96.6	185	13.4	3.1	561	91.9	75
Wealth quintile										
Lowest	9.2	1.8	2,421	95.1	223	8.7	3.2	799	84.8	69
Second	8.8	2.0	2,325	97.1	204	6.4	3.6	794	89.8	51
Middle	11.3	2.0	2,099	93.3	236	8.6	2.1	892	88.0	77
Fourth	13.6	2.7	2,133	93.3	291	7.3	3.6	900	93.0	66
Highest	14.9	2.5	2,342	95.0	350	14.5	2.6	1,028	90.5	149
Total	11.5	2.2	11,321	94.7	1,304	9.3	2.9	4,413	89.4	412

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Figure 14.3 shows the proportions of women and men age 15 to 49 who received an injection from a health worker in the 12 months preceding the survey, according to source of the last injection. The public sector (84 percent for women and 73 percent for men), mainly health centers (68 percent for women and 57 percent for men), was by far the primary source of injections. Approximately 11 percent of women received injections at a private sector health facility; the corresponding proportion for men is 25 percent.

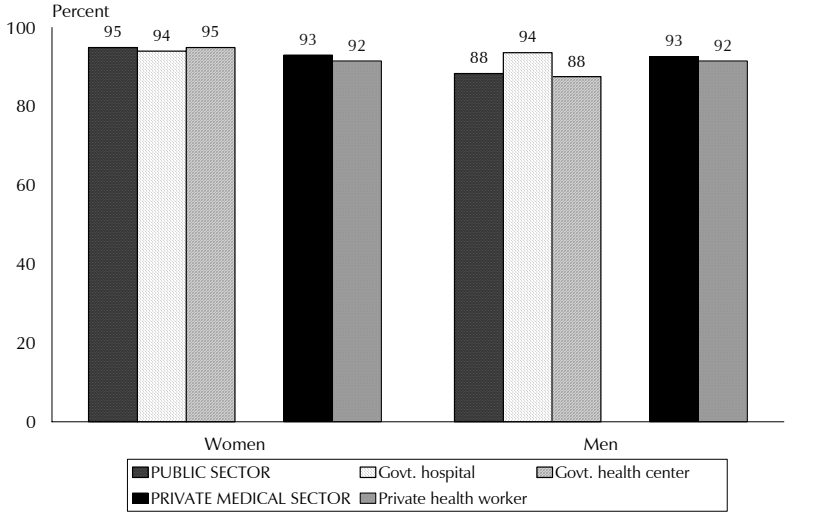
Figure 14.3 Type of Facility where Received Last Medical Injection



RDHS 2005

Figure 14.4 shows that nearly all injections received from a health worker were given with a needle and syringe taken from a newly opened package: 95 percent for women and 88 percent for men. There is no difference between public and private sector as far as the women's data are concerned.

Figure 14.4 Percentage whose Last Injection was Given with a Syringe and Needle Taken from a New, Unopened Package



RDHS 2005

14.6 KNOWLEDGE OF HIV/AIDS AND SEXUAL BEHAVIOR AMONG YOUTH

Table 14.13 shows that, overall, the proportion of young people age 15 to 24 who have a comprehensive knowledge of HIV/AIDS is not very high: only 51 percent of young women and 54 percent of young men are shown to have a comprehensive knowledge of the means of prevention and transmission of HIV/AIDS. The proportion increases with age, from 44 percent of women age 15 to 17, to 58 percent at age 23 to 24; and from 45 percent of men age 15 to 17, to 62 percent at age 23 to 24.

Table 14.13 Comprehensive knowledge about AIDS and of a source of condoms among youth

Percentage of young women and young men age 15-24 with comprehensive knowledge about AIDS and percentage with knowledge of a source of condoms, by background characteristics, Rwanda 2005

	Women 15-24			Men 15-24		
Background characteristic	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source	Number of women	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source	Number of men
Age						
15-19	45.3	31.3	2,585	49.0	65.8	1,102
15-17	43.5	27.1	1,633	45.1	60.4	701
18-19	48.4	38.5	952	55.8	75.1	400
20-24	57.1	43.2	2,354	59.0	81.5	946
20-22	56.6	42.4	1,437	57.6	80.4	614
23-24	57.8	44.5	917	61.5	83.5	332
Marital status						
Never married	49.3	35.7	3,762	53.3	73.1	1,863
Ever had sex	56.9	52.4	520	62.2	86.7	615
Never had sex	48.1	33.0	3,242	48.9	66.3	1,248
Ever married	55.9	41.3	1,176	57.0	72.9	185
Residence						
Urban	63.3	58.9	910	58.6	84.7	345
Rural	48.1	32.1	4,028	52.6	70.7	1,703
Province						
Kigali city	67.6	63.5	554	54.8	88.7	221
South	56.8	37.0	1,231	62.2	72.3	548
West	36.0	29.0	1,274	45.5	59.5	499
North	51.8	32.2	859	54.4	73.7	344
East	52.6	36.7	1,020	50.9	81.1	436
Education						
No education	41.8	24.1	553	44.3	58.7	174
Primary	50.1	34.2	3,947	52.6	71.9	1,676
Secondary or higher	69.8	78.8	439	70.3	95.2	198
Wealth quintile						
Lowest	42.3	23.6	1,015	50.4	60.8	364
Second	52.8	32.4	1,006	52.9	68.2	359
Middle	49.6	33.8	847	56.3	71.7	435
Fourth	50.1	35.3	952	52.8	77.1	419
Highest	58.7	57.3	1,118	54.7	83.8	471
Total 15-24	50.9	37.0	4,938	53.6	73.0	2,048

[1] Comprehensive knowledge means knowing that use of condoms and having just one uninfected faithful partner can reduce the chances of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission and prevention.

Comprehensive knowledge of AIDS among young people increases with educational attainment for both women and men. Among those with no education, 42 percent of women and 44 percent of men have a comprehensive knowledge of AIDS, compared with 70 percent with a secondary education or higher for both sexes. By marital status, the highest proportions of comprehensive knowledge are among never- married young people who have had sexual intercourse (57 percent of women and 62 percent of men) and young people who are married (56 percent of women and 57 percent of men). Like adults, young people in urban areas (63 percent of women, 59 percent of men) are more likely to have comprehensive knowledge of AIDS than those in rural areas (48 percent of women, 53 percent of men).

Among young people, there is a wide gap in knowledge of a source of condoms between men and women (73 percent for men, 37 percent for women). The next-largest differential is by level of education: 95 percent of men and 79 percent of women with a secondary education or higher know where to obtain condoms; only 59 percent of men and 24 percent of women with no education know a source for condoms. Youth in urban areas (59 percent of women, 85 percent of men) are more likely to know a condom source than youth in rural areas (32 percent of women, 71 percent of men). Knowledge of a source is higher for never-married youth who have had sexual intercourse and youth who are married. The proportion of youth who know where to obtain condoms is highest in the richest quintile (57 percent of women and 84 percent of men).

Age at first intercourse as a determinant of sexual activity among young people age 15 to 24 is perhaps more important for HIV/AIDS prevention than any other variable. For this reason, Table 14.14 presents the findings for men and women age 15 to 24 who have ever had sexual intercourse whose age at first intercourse was below age 15 and below age 18. Approximately 4 percent of women age 15 to 24 had intercourse before the age of 15, and almost one in five (18 percent) had intercourse before the age of 18.

A much higher proportion of men (13 percent) than women (4 percent) had sexual intercourse before age 15. The proportion of men who had sexual intercourse for the first time before age 18 is 27 percent, compared with 18 percent for women.

Table 14.14 Age at first sexual intercourse among youth

Percentage of young women and of young men age 15-24 who had sexual intercourse before age 15 and percentage of young women and of young men age 18-24 who had sexual intercourse before age 18, by background characteristics, Rwanda 2005

	Women				Men			
Background characteristic	Percentage who have had sexual intercourse before age 15	Number of women age 15-24	Percentage who have had sexual intercourse before age 18	Number of women age 18-24	Percentage who have had sexual intercourse before age 15	Number of men age 15-24	Percentage who have had sexual intercourse before age 18	Number of men age 18-24
Age								
15-19	5.2	2,585	na	na	15.3	1,102	na	na
15-17	5.4	1,633	na	na	14.2	701	na	na
18-19	4.7	952	13.8	952	17.2	400	29.3	400
20-24	2.6	2,354	19.1	2,354	10.8	946	26.3	946
20-22	2.3	1,437	19.1	1,437	12.6	614	29.7	614
23-24	2.9	917	19.1	917	7.4	332	20.2	332
Marital status								
Never married	4.3	3,762	9.2	2,138	13.8	1,863	27.3	1,161
Ever married	2.8	1,176	32.8	1,167	7.1	185	26.5	185
Knows condom source								
Yes	4.5	1,828	18.2	1,384	14.7	1,496	29.7	1072
No	3.6	3,111	17.1	1,921	9.2	552	17.6	274
Residence								
Urban	5.8	910	18.2	626	12.2	345	26.7	255
Rural	3.5	4,028	17.4	2,679	13.4	1,703	27.3	1,091
Province								
Kigali city	5.2	554	18.9	397	8.7	221	23.3	170
South	4.2	1,231	14.3	840	17.1	548	29.9	348
West	2.9	1,274	15.4	829	15.8	499	29.1	313
North	3.6	859	19.0	548	8.3	344	21.3	218
East	4.5	1,020	22.2	691	11.5	436	28.6	297
Education								
No education	3.9	553	29.8	455	8.1	174	23.9	135
Primary	4.0	3,947	16.3	2,494	13.3	1,676	27.8	1,049
Secondary or higher	2.9	439	10.6	355	16.7	198	26.0	162
Wealth quintile								
Lowest	3.7	1,015	18.2	648	15.6	364	28.0	236
Second	3.1	1,006	18.5	685	13.8	359	26.0	225
Middle	3.8	847	19.2	571	10.0	435	22.0	273
Fourth	4.2	952	17.0	645	12.5	419	29.1	277
Highest	4.8	1,118	15.4	756	14.4	471	30.1	334
Total	3.9	4,938	17.6	3,305	13.2	2,048	27.2	1,346

na = Not applicable

A comparison of this data with those of the previous survey (2000 RDHS-II) shows an increase in the proportion of young women and men having early intercourse, i.e., before the age of 15 (Figure 14.5). However, the proportion of youth having intercourse before age 18 has declined.

Figure 14.5 Trends in Age at First Sex, Rwanda 2000 and 2005

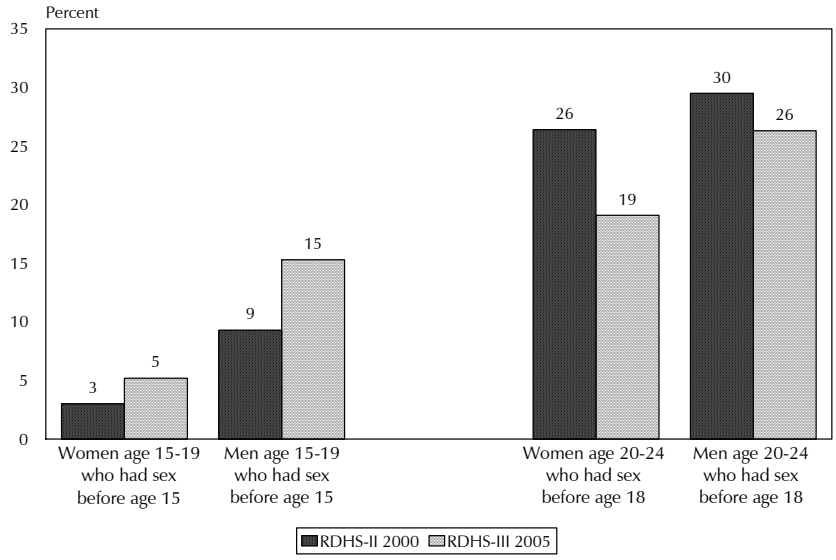


Table 14.15 shows results for condom use at first intercourse among youth age 15 to 24. The proportion of youth who used a condom at first intercourse is somewhat higher for men (12percent) than for women (7 percent). The highest proportions of condom use at first intercourse are seen in the highest level of educational attainment (21 percent of men, 22 percent of women), urban areas (26 percent of men, 19 percent of women), youth who know of a condom source (14 percent of men, 11 percent of women), and youth in the richest quintile (20 percent of men, 15 percent of women). It should be noted that the data according to age show the highest proportion of condom use at first intercourse to be among women age 15 to 17 (16 percent) and men age 18 to 19 (13 percent).

Never-married young people comprise an at-risk population because, during this period in their life, sexual relations are generally unstable and prone to multiple partnership. For this reason, the RDHS-III sought to assess the behavior of young people age 15 to 24 with respect to HIV/AIDS prevention.

Table 14.15 Condom use at first sexual intercourse among youth

Percentage of young women and young men age 15-24 who used a condom the first time they had sexual intercourse, by background characteristics, Rwanda 2005

Background characteristic	Women		Men	
	Percentage who used a condom at first sexual intercourse	Number of women who have ever had sexual intercourse	Percentage who used a condom at first sexual intercourse	Number of men who have ever had sexual intercourse
Age				
15-19	13.3	311	10.7	249
15-17	16.2	131	7.9	124
18-19	11.2	181	13.4	125
20-24	5.2	1,385	12.0	550
20-22	6.1	709	11.8	313
23-24	4.2	676	12.3	237
Marital status				
Never married	17.4	520	13.3	615
Ever married	1.9	1,176	6.0	185
Knows condom source				
Yes	10.8	758	13.7	668
Non	3.4	938	0.7	132
Residence				
Urban	18.5	311	26.4	157
Rural	4.0	1,385	8.0	642
Education				
No education	2.3	309	5.5	75
Primary	6.1	1,257	11.1	640
Secondary or higher	22.1	131	20.8	84
Wealth quintile				
Lowest	2.9	347	4.6	147
Second	5.5	337	4.7	125
Middle	5.3	294	11.6	153
Fourth	3.9	360	12.3	170
Highest	15.4	357	20.3	204
Total 15-24	6.7	1,697	11.6	800

Table 14.16 shows the proportion of never-married youth age 15 to 24 who have ever had sexual intercourse, and the proportion who used condoms at last sexual intercourse.

Approximately 5 percent of never-married women age 15 to 24 had sexual intercourse in the 12 months preceding the survey. Among these women, 25 percent used a condom at their last sexual intercourse. Among never-married men age 15 to 24, approximately 9 percent reported having had sexual intercourse in the past 12 months and, among these, 39 percent used a condom at their last sexual intercourse.

Table 14.16 Premarital sexual intercourse and condom use during premarital sexual intercourse among youth

Among never-married women and men age 15-24, the percentage who have never had sexual intercourse, the percentage who have had sexual intercourse in the past 12 months, and, among those who have had premarital sexual intercourse in the past 12 months, the percentage who used a condom at the last sexual intercourse, by background characteristics, Rwanda 2005

	Women					Men				
Background characteristic	Percentage who have never had sexual intercourse	Percentage who have had sexual intercourse in the past 12 months	Number of never-married women	Percentage who used a condom at last sexual intercourse	Number of never-married women who have had sexual intercourse in the past 12 months	Percentage who have never had sexual intercourse	Percentage who have had sexual intercourse in the past 12 months	Number of never-married men	Percentage who used a condom at last sexual intercourse	Number of never-married men who have had sexual intercourse in the past 12 months
Age										
15-19	90.6	3.2	2,510	27.4	80	77.5	5.3	1,100	37.0	59
15-17	92.5	2.7	1,624	(27.6)	43	82.3	4.0	701	(27.5)	28
18-19	87.0	4.1	886	(27.2)	37	69.1	7.7	398	(45.7)	31
20-24	77.4	7.7	1,252	23.3	96	51.8	13.5	763	40.5	103
20-22	79.3	7.0	917	20.9	64	55.0	11.7	547	31.4	64
23-24	71.9	9.6	335	(28.1)	32	43.7	18.2	216	(55.1)	39
Knows condom source										
Yes	79.7	7.5	1,342	33.7	101	60.8	10.9	1,361	42.9	148
Non	89.8	3.1	2,420	13.8	76	83.7	2.8	502	*	14
Residence										
Urban	77.6	8.5	771	38.5	66	57.3	14.9	327	65.3	49
Rural	88.4	3.7	2,991	17.2	111	69.1	7.4	1,536	27.9	113
Education										
No education	81.8	8.3	298	(11.5)	25	69.7	9.8	141	*	14
Primary	87.4	4.0	3,079	22.3	122	67.8	8.1	1,529	32.3	124
Secondary or higher	79.8	7.6	385	(48.5)	29	59.0	12.6	193	(82.6)	24
Wealth quintile										
Lowest	87.6	3.6	763	(0.0)	28	67.1	7.8	322	(29.1)	25
Second	87.1	3.7	767	(22.2)	29	72.7	6.8	321	*	22
Middle	90.1	3.2	614	*	20	74.0	6.0	382	*	23
Fourth	86.7	5.6	683	(25.7)	38	65.5	8.3	380	(33.0)	31
Highest	81.3	6.6	936	41.1	62	58.3	13.2	458	56.6	61
Total 15-24	86.2	4.7	3,762	25.2	176	67.0	8.7	1,863	39.2	162

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table 14.17 shows the proportion of youth age 15 to 24 who had higher-risk sexual intercourse and the proportions who used condoms at last higher-risk intercourse. Fifteen percent of young women and 48 percent of young men had higher-risk sexual intercourse in the 12 months preceding the survey. Among the women, 26 percent used a condom at last higher-risk sexual intercourse. The proportion for men is 40 percent.

Table 14.17 Higher-risk sexual intercourse among youth and condom use at last higher-risk intercourse in the past 12 months

Among young women and men age 15-24 who had sexual intercourse in the past 12 months, the percentage who had higher-risk sexual intercourse in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, by background characteristics, Rwanda 2005

	Women 15-24				Men 15-24			
Background characteristic	Percentage who had higher-risk intercourse in the past 12 months	Number of women who have had sexual intercourse in the past 12 months	Percentage who reported using a condom at last higher-risk intercourse	Number of women who have had higher-risk intercourse in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months	Number of men who have had sexual intercourse in the past 12 months	Percentage who reported using a condom at last higher-risk intercourse	Number of men who have had higher-risk intercourse in the past 12 months
Age								
15-19	53.0	151	28.0	80	96.4	61	37.0	59
15-17	83.0	52	(28.0)	43	(100.0)	28	(27.5)	28
18-19	37.0	99	(27.0)	37	(93.3)	33	(45.7)	31
20-24	10.0	1,136	26.0	117	37.6	282	40.8	106
20-22	13.0	561	24.0	72	52.0	129	32.2	67
23-24	8.0	576	(29.0)	44	25.4	153	(55.7)	39
Marital status								
Never married	100.0	176	25.0	176	99.0	162	39.6	160
In union	0.0	1,038	*	3	0.8	175	*	1
Divorced/separated/ widowed	24.0	73	*	17	*	6	*	3
Knows condom source								
Yes	19.0	564	35.0	110	53.1	279	43.8	148
Non	12.0	723	15.0	87	25.6	64	*	16
Residence								
Urban	36.0	193	39.0	70	75.9	64	67.7	48
Rural	12.0	1,094	20.0	126	41.6	279	27.7	116
Education								
No education	11.0	266	(20.0)	29	(32.5)	46	*	15
Primary	15.0	942	23.0	137	47.1	268	32.8	126
Secondary or higher	38.0	79	(50.0)	30	(80.6)	29	(85.7)	23
Wealth quintile								
Lowest	12.0	266	(5.0)	31	39.5	67	(27.7)	26
Second	13.0	251	(28.0)	33	41.5	59	*	25
Middle	10.0	242	*	24	30.6	76	*	23
Fourth	15.0	294	(22.0)	44	46.0	68	(33.0)	31
Highest	28.0	234	42.0	64	81.2	73	58.2	59
Total 15-24	15.0	1,287	26.0	197	48.0	343	39.5	165

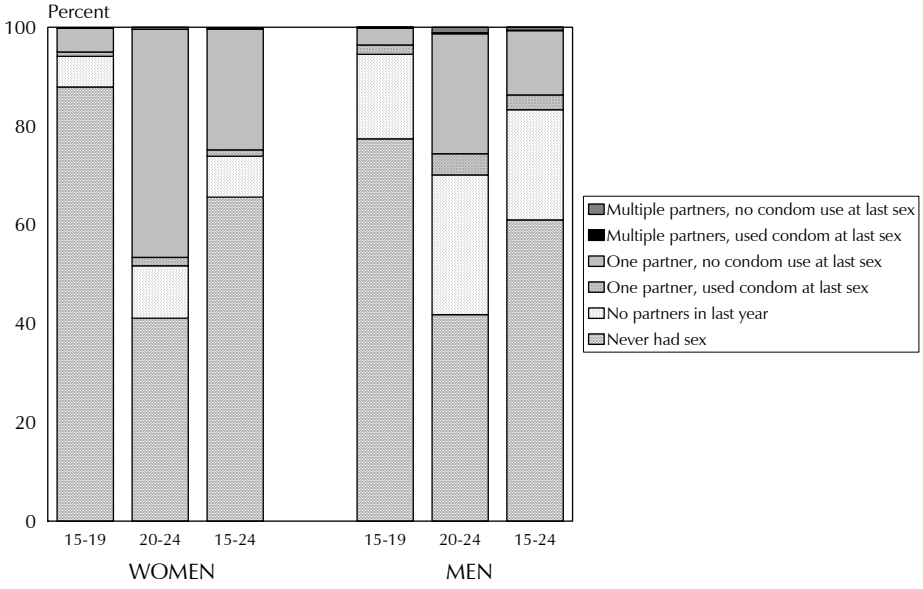
Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Figure 14.6 shows the distribution of youth according to their risk of contracting HIV. The following are the three risk categories:

- Youth who were not exposed to the risk of sexually transmitted HIV because they had had no sexual contact (66 percent of women age 15 to 24 and 61 percent of men age 15 to 24).

- Youth who have had sexual intercourse but who were not exposed to the risk of sexually transmitted HIV in the past 12 months, either because they had had no sexual contact or because they had engaged in healthy, responsible sexual behaviors (single partner and use of condom at last sexual intercourse).
- Youth at risk of contracting HIV because they engaged in higher-risk sexual behavior in the past 12 months (24 percent of women, 14 percent of men). This category includes young people who had only one partner but did not use a condom at last intercourse (25 percent of women and 13 percent of men), youth who used a condom but had multiple partners (less than 1 percent), and youth who had intercourse with multiple partners without using a condom (less than one percent). Youth in this last category have the greatest risk of contracting HIV.

Figure 14.6 Abstinence, Being Faithful, and Condom Use (ABC) Among Young Women and Men



Note: Number of partners refers to the 12 months preceding the survey. RDHS 2005

Women who have sexual intercourse with older men who, by virtue of their age, have a greater chance of being infected with the AIDS virus, are at increased risk of contracting HIV. Table 14.18 shows that among women age 15 to 19 who had extramarital intercourse in the 12 months preceding the survey, nearly 5 percent reported having had intercourse with a man at least 10 years older than themselves. The proportion is higher for the younger age group (9 percent for women age 15 to 17; 2 percent for women age 18 to 19).

Table 14.18 Age-mixing in sexual relationships among women age 15-19

Percentage of women age 15-19 who had higher-risk sexual intercourse in the past 12 months with a man who was 10 or more years older than themselves, by background characteristics, Rwanda 2005

Background characteristic	Percentage of women who had higher-risk intercourse with a man 10+ years older	Number of women 15-19 who had higher-risk intercourse in the past 12 months
Age		
15-17	9.5	52
18-19	2.0	99
Marital status		
Never married	8.7	80
In union	0.0	65
Divorced/separated/ widowed	*	6
Knows condom source		
Yes	1.3	63
Non	7.0	88
Residence		
Urban	(0.0)	32
Rural	5.9	118
Education		
No education	(7.5)	28
Primary	4.2	116
Secondary or higher	*	7
Total 15-19	4.6	151

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

It is generally recognized that excessive alcohol consumption clouds judgment and increases the likelihood of risky behavior. In addition, risky behavior under the influence of alcohol is most common at younger ages. The RDHS-III asked respondents age 15 to 24 whether they or their partners had consumed alcohol the last time they had sexual intercourse. Nearly 1 percent of women and 10 percent of men reported that they had consumed alcohol the last time they had sexual intercourse (Table 14.19). Among men, this behavior was more frequent for the 15 to 19 age group (15 percent), never-married men (16 percent), and men living in households in the first two wealth quintiles (13 percent).

Table 14.19 Drunkenness during sexual intercourse among youth

Among young women and men age 15-24 who had sexual intercourse in the past 12 months, the percentages who had sexual intercourse while being drunk, by background characteristics, Rwanda 2005

Background characteristic	Women 15-24			Men 15-24		
	Percentage who had sexual intercourse in the past 12 months when drunk	Percentage who had sexual intercourse in the past 12 months when drunk or with a partner who was drunk	Number of women who had sexual intercourse in the past 12 months	Percentage who had sexual intercourse in the past 12 months when drunk	Percentage who had sexual intercourse in the past 12 months when drunk or with a partner who was drunk	Number of men who had sexual intercourse in the past 12 months
Age						
15-19	1.8	3.3	151	14.6	14.6	61
15-17	0.0	0.0	52	(13.0)	(13.0)	28
18-19	2.7	5.1	99	(15.9)	(15.9)	33
20-24	0.7	6.2	1,136	8.5	8.5	282
20-22	0.5	7.1	561	9.8	9.8	129
23-24	0.9	5.3	576	7.5	7.5	153
Marital status						
Never married	0.4	6.7	176	15.6	15.6	162
In union	0.9	4.9	1,038	4.4	4.4	175
Divorced/separated/ widowed	0.0	16.5	73	*	*	6
Knows condom source						
Yes	0.7	6.0	564	10.5	10.5	279
Non	0.8	5.7	723	5.8	5.8	64
Residence						
Urban	0.4	4.8	193	6.8	6.8	64
Rural	0.9	6.0	1,094	10.2	10.2	279
Education						
No education	1.8	4.8	266	(11.1)	(11.1)	46
Primary	0.6	6.2	942	9.9	9.9	268
Secondary or higher	0.0	4.4	79	(4.3)	(4.3)	29
Wealth quintile						
Lowest	1.0	6.6	266	12.8	12.8	67
Second	0.6	5.4	251	13.4	13.4	59
Middle	1.5	5.8	242	6.5	6.5	76
Fourth	0.8	6.6	294	8.1	8.1	68
Highest	0.0	4.5	234	8.2	8.2	73
Total 15-24	0.8	5.8	1,287	9.6	9.6	343

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

The preceding results indicate that many young people are sexually active and that their sexual intercourse is often high-risk. It is therefore important to know what percentage of these young people are consenting to HIV testing and are receiving the results. Table 14.20 shows that 21 percent of young women age 15 to 24 have been tested and received the results in the past 12 months. The proportion is 16 percent for men. By age, the highest proportions who took an HIV test and received the results are among women age 18 to 19 (34 percent) and men age 20 to 22 (18 percent). The proportions are higher among never-married youth (29 percent of women, 18 percent of men), youth who know of a condom source (26 percent of women, 19 percent of men), and youth in urban areas (43 percent of women, 29 percent of men). Young people with a secondary education or higher (39 percent of women) and youth in the richest quintile (34 percent of women, 26 percent of men) are also likely to have taken an HIV test and received the results.

Table 14.20 Recent HIV tests among youth

Among young women and young men age 15-24 who have had sexual intercourse in the past 12 months, the percentage who have had an HIV test in the past 12 months and received the results of the test, by background characteristics, Rwanda 2005

	Women 15-24		Men 15-24	
Background characteristic	Percentage who have been tested for HIV and received results in the past 12 months	Number of women who have had sexual intercourse in the past 12 months	Percentage who have been tested for HIV and received results in the past 12 months	Number of men who have had sexual intercourse in the past 12 months
Age				
15-19	26.9	151	12.7	61
15-17	12.9	52	(5.3)	28
18-19	34.4	99	(19.0)	33
20-24	20.1	1,136	16.9	282
20-22	22.3	561	17.6	129
23-24	17.9	576	16.4	153
Marital status				
Never married	29.0	176	18.0	162
In union	19.3	1,038	13.5	175
Divorced/separated/widowed	23.2	73	*	6
Knows condom source				
Yes	26.3	564	18.8	279
Non	16.6	723	4.9	64
Residence				
Urban	43.0	193	29.3	64
Rural	17.0	1,094	13.2	279
Education				
No education	22.1	266	(13.0)	46
Primary	19.0	942	14.9	268
Secondary or higher	39.3	79	(33.5)	29
Wealth quintile				
Lowest	18.8	266	13.9	67
Second	16.0	251	7.7	59
Middle	18.0	242	15.7	76
Fourth	19.2	294	15.9	68
Highest	33.5	234	26.0	73
Total 15-24	20.9	1,287	16.2	343

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

HIV PREVALENCE AND ASSOCIATED FACTORS 15

Rwanda has long been considered one of the African countries most affected by the AIDS virus. In fact, the estimated prevalence rates derived from the first survey conducted on a national level in 1986 were 17.8 percent in urban areas and 1.3 percent in rural areas. In 1988, Rwanda established an HIV sentinel surveillance system among pregnant women attending antenatal clinics and among STI-clinic patients. In 1988 and 1991, the first sets of surveillance data were made available. The 1991 data indicated an HIV prevalence of 27 percent in urban areas, 8.5 percent in semi-urban areas, and 2.2 percent in rural areas.

After the April 1994 genocide, a new HIV surveillance system was set up in 1996 with ten sentinel sites. The data gathered that year indicated even higher infection rates: 27 percent among urban residents, 13 percent among semi-urban residents, and 6.9 percent among rural residents. A 1997 study sampled 4,800 people and provided an HIV prevalence rate of 11.1 percent (10.8 percent for men and 11.3 percent for women).

In 2002, the national sentinel surveillance system was expanded, increasing the number of sites to 24, thus providing more precise data than before. The 2002 data showed that prevalence varied between 2.6 percent and 3.6 percent in rural areas and between 7.0 percent and 8.5 percent in urban areas. These prevalence rates do not differ significantly from the 2003 rates, which were between 2.7 percent and 3.6 percent in rural areas and between 6.9 percent and 8.3 percent in urban areas.

HIV testing was included in the 2005 RDHS-III to estimate HIV prevalence using a nationally-representative sample of men and women. In addition, because the test results are linked to socio-demographic and behavioral data on the individuals interviewed, the RDHS-III allows the identification of factors associated with HIV prevalence.

15.1 HIV TESTING PROTOCOL

The third Rwandan Demographic and Health Survey (RDHS-III) was the first to include a blood test to determine HIV prevalence in the general population. Funded by the Ministry of Finance and Economic Planning, the survey was conducted by the *Direction de la Statistique* (currently, the *Institut National de la Statistique du Rwanda* or *INSR*) with the technical assistance of ORC Macro, the U.S. organization in charge of the international Demographic and Health Survey program. The purpose of including the HIV testing in a population-based survey was to estimate HIV prevalence among women age 15 to 49 and among men age 15 to 59.

The protocol for HIV testing was based on the "anonymous-linked" protocol developed by DHS and approved by the Institutional Review Board at ORC Macro, as well as the National Committee on Ethics of Rwanda.

Since the HIV tests were completely anonymous, it was not possible to inform the respondents of their results. However, a voucher listing the 77 voluntary testing facilities (VCTs) operating throughout the nation was distributed to all eligible respondents, whether or not they had agreed to be tested for HIV. The testing centers would offer free counseling and HIV testing to anyone presenting the card.

The blood drawing for the HIV test was conducted among the 5,322 households selected for the male survey. Blood was drawn from men age 15 to 59 and women 15 to 49 who had voluntarily accepted the testing.

Training of the survey interviewers

Those responsible for the survey at the INSR, in collaboration with the technical team, recruited 95 people to collect the data during the main survey. Among these, 63 were medically qualified to draw blood. A four-week training workshop covering all aspects of the survey was conducted from January 21 to February 21, 2005. The program included a detailed explanation of the survey questionnaire contents, a presentation of interviewing techniques, instructions on how to fill out the questionnaire form, and training in taking anthropometric measurements. The training included lectures and practice interviews, both in class and in the field. Each trainee conducted at least five interviews during the workshop.

A special one-week training session was organized for the people in charge of administering the tests for anemia and HIV. The training dealt with the procedure for obtaining voluntary consent, techniques used for blood drawing, the use of the HemoCue for anemia, referral procedures for those needing treatment for anemia, and referral procedures for VCT facilities. In addition, the session included procedures for handling and storing blood specimens on filter paper prior to their transport to the *Laboratoire National de Référence* (LNR), as well as the procedure for the disposal of bio-contaminated waste. The training also included a detailed presentation on the transfer of dried blood spots from the field to the laboratory. All the office and laboratory staff involved in testing participated in this phase of the training, as did all the field workers. The LNR agents were trained in how to record the test results and how to return these to the INSR once the survey activities were completed.

One-half day was devoted to informing the RDHS-III personnel about the AIDS epidemic, including the means of prevention and the reasons for including the HIV test in the survey. Issues of stigmatization, misconceptions, and confidentiality were touched on during the training. An additional day was devoted to training the team leaders and field editors how to observe field interviews, edit questionnaires that had been filled out, and monitor the blood draw. At the end of the workshop, the field workers were divided into 15 teams, each consisting of a team leader, a field editor, three female interviewers (one of whom was a health technician) and one male interviewer (also a health technician).

Data collection

The data collection began on February 28, 2005 in the districts of the city of Kigali. Starting in the capital city allowed close monitoring of the teams before they continued the survey in the other regions of the country. After two weeks, all the teams—with the exception of two assigned to work in Kigali—were sent out to their respective districts. The data collection was completed on July 13, 2005.

The blood used for HIV testing was obtained using the same finger prick as the anemia test and was collected on filter paper. A label with a bar code was attached to each paper. A second label with the same bar code was attached to the corresponding household questionnaire next to the line indicating the consent of the person tested. A third label with the same bar code was attached to the laboratory transmission slip. The specimens were dried for a minimum of 24 hours in a box containing humidity-absorbing desiccants. The next day each specimen was closed in a Ziploc bag with desiccants and a humidity indicator. The individual bags preserved the specimens until they could be transferred to the INSR in Kigali where they were verified and recorded before being transferred to the LNR.

HIV testing procedure

The LNR was responsible for testing the dried blood spot specimens for HIV antibodies and for the delivery of results to the INSR. The algorithm that was used consisted of testing the specimens with ELISA 1 (Vironostika HIV Uniform II Plus 0 Version 3.3 from Biomerieux BV). This ELISA is the third generation of Sandwich type, which allows the detection of HIV-1, HIV-2, and HIV-1 Group 0. As a highly sensitive detection system, it was used in the first round of testing. Any specimen that presented an optic density (OD) less than the threshold value (T) was considered negative; all above the threshold were considered positive.

The specimens found to be positive using ELISA 1 (Vironostika), as well as 10 percent of the negative samples, were subsequently analyzed with a second ELISA test: Enzygnost Anti-HIV ½ Plus from Dade Behring AG. This ELISA 2 test was used as confirmation because of its specificity in detecting HIV-1 and HIV-2. The antigens used were recombinant proteins. The results were automatically calculated using the ELISA program developed by Dynex Technologies.

All specimens that tested positive using both ELISA 1 and 2 were declared positive. Any discordant results underwent a third test: HIV Blot 2.2.

Data processing and delivery of results

The LNR was provided with the CSPro program developed by ORC Macro and designed especially for the HIV-testing algorithm. As data were entered, the program automatically calculated all entries (number of blood tests, number of positives and negatives according to the different test kits used). Throughout the survey, the LNR furnished the INSR and ORC Macro with aggregated results to monitor the testing process and to detect any abnormal results.

Each specimen transferred to the LNR was identified by a bar code and only this code was entered into the CSPro program with the test results. This confidential file remained the responsibility of the LNR until the end of the survey. Once data entry was complete, and the data files at the INSR had been cleaned and the data had been weighted, a data file was prepared at LNR containing only weighting factors of the respondents (gender, age, residence, marriage status) and was compared with the file at the INSR to verify coherence of the two data banks. to guarantee anonymity, any information allowing identification of the respondents (by cluster or household number) were deleted before merging the two files. The files were then merged to calculate the sociodemographic and behavioral indicators of HIV prevalence.

Internal quality control

Each blood test was recorded in the lab workers' notebooks. Each entry included the date, the name of the technician conducting the test, and the test used with its lot number and expiration date. The LNR used its usual internal control mechanism to monitor the testing: each slide was incorporated into an aliquot (HIV+ or HIV-) and frozen to -70 degrees centigrade. Of the 10 percent negative specimens that were tested, 100 percent proved negative.

External quality control

Since 2001 the LNR has participated in a program of external quality control. This consists of putting HIV antibodies on a coded panel that is sent to an external monitor. The monitoring for the

RDHS-III specimens was done by the Centers for Disease Control and Prevention (CDC) in Atlanta; 100 percent of the negative control samples tested negative.

15.2 COVERAGE OF HIV TESTING

Table 15.1 shows coverage rates for the HIV test among women age 15-49 and men age 15-59 grouped by residence (province and urban-rural), along with the reasons for which the blood draw was not conducted.

Overall, 96.5 percent of eligible respondents provided blood for the HIV test, 1.5 percent refused to have blood drawn, and 1.7 percent were absent, the great majority of whom (1.5 percent) were also absent during the interview. The results showed higher coverage in rural areas than in urban areas (97.4 percent versus 93.6 percent). The higher coverage level among rural residents holds true for both sexes: in rural areas 97.7 percent of women and 97.1 percent of men accepted being tested while in urban areas 95.8 percent of women and 91.0 percent of men were tested.

Table 15.1 Coverage of HIV testing by residence and province

Percent distribution of women age 15-49 and men age 15-59 eligible for HIV testing by testing status, according to residence and province (unweighted), Rwanda 2005

Testing status	Residence		Province					Total
	Urban	Rural	Kigali city	South	West	North	East	
Women 15-49								
Tested	95.8	97.7	94.2	98.4	96.2	96.7	99.4	97.3
Refused	2.3	0.7	3.1	0.5	1.6	1.0	0.1	1.1
Absent for testing	1.5	1.4	2.0	0.8	1.9	2.3	0.6	1.4
Interviewed in survey	0.2	0.1	0.3	0.1	0.0	0.2	0.3	0.2
Not interviewed	1.3	1.3	1.7	0.7	1.9	2.1	0.2	1.3
Other/missing	0.4	0.2	0.7	0.3	0.3	0.0	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Unweighted number	1,339	4,498	687	1,431	1,533	938	1,248	5,837
Men 15-59								
Tested	91.0	97.1	87.3	96.7	95.8	96.6	98.7	95.6
Refused	5.4	0.8	7.9	1.1	1.5	0.8	0.4	1.9
Absent for testing	2.8	1.8	3.8	1.6	2.4	2.5	0.7	2.1
Interviewed in survey	0.4	0.2	0.6	0.2	0.1	0.3	0.2	0.2
Not interviewed	2.4	1.7	3.2	1.4	2.4	2.2	0.6	1.8
Other/missing	0.8	0.3	1.1	0.6	0.3	0.1	0.2	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Unweighted number	1,183	3,776	659	1,180	1,274	769	1,077	4,959
Total								
Tested	93.6	97.4	90.8	97.6	96.0	96.7	99.1	96.5
Refused	3.8	0.7	5.4	0.8	1.6	0.9	0.2	1.5
Absent for testing	2.1	1.6	2.9	1.1	2.1	2.4	0.6	1.7
Interviewed in survey	0.3	0.1	0.4	0.1	0.0	0.2	0.3	0.2
Not interviewed	1.8	1.5	2.5	1.0	2.1	2.2	0.4	1.5
Other/missing	0.6	0.3	0.9	0.5	0.3	0.1	0.1	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Unweighted number	2,522	8,274	1,346	2,611	2,807	1,707	2,325	10,796

The following four categories explain the cases in which the blood draw for the test did not take place.

- Those who refused to have blood drawn (in total, 1.5 percent). Urban male residents account for the highest level of refusal (5.4 percent) while rural female residents account for the lowest level (0.7 percent).
- Those who responded to the survey but were not at home when blood was drawn: 0.3 percent of urban residents and 0.1 percent of rural residents. In all, 0.2 percent of respondents were absent during the blood draw.
- Those who were not at home for the survey interview or the blood test: 1.8 percent in urban areas and 1.5 percent in rural areas.
- Those who were not tested for other reasons (such as inability to give informed consent or technical difficulties in drawing blood): 0.6 percent among urban residents and 0.3 percent among rural residents.

Table 15.2 shows coverage rates of the HIV test according to age, education level, and household wealth quintile. Overall, these results show few significant differences in the HIV test coverage by sociodemographic characteristics, for either women or men. The proportion of women who participated in the HIV testing varied from 96.1 percent among those age 15 to 19 to 98.8 percent among those age 40 to 44. There were minimal differences according to household wealth; these varied from 94.5 percent among women in wealthier households to 98.1 percent among women in the second quintile. Education levels showed little difference in participation, varying from 96.3 percent among women having at least secondary education to 97.5 percent among those who attended only primary school.

The coverage rates among men ranged from 92.2 percent among those age 30-34 to 98.5 percent among those age 50-54. As with women, men in the wealthiest households have the lowest participation rates (90.9 percent) while men in the poorest households have the highest rates (97.9 percent). Distributed by the level of education, coverage among male respondents shows a clear difference from female respondents, although the difference is minimal (92.4 percent among those with secondary education or higher and 96.6 percent among those with only primary school).

Tables A.5 and A.6 in Appendix A show participation rates distributed according to background characteristics of the respondents. Overall, analysis of these rates shows no systematic relation between participation in the test and variables associated with higher risk of HIV infection. These results indicate that the estimated prevalence rates from the 2005 RDHS-III provide an unbiased measure of HIV prevalence in the general population.

Table 15.2 Coverage of HIV testing by background characteristics

Percent distribution of women age 15-49 and men age 15-59 eligible for HIV testing by testing status, according to background characteristics (unweighted), Rwanda 2005

Background characteristic	Tested		Refused		Absent for testing		Other/missing		Total	Unweighted number
	Interviewed in survey	Not interviewed	Interviewed in survey	Not interviewed	Interviewed in survey	Not interviewed	Interviewed in survey	Not interviewed		
WOMEN										
Age										
15-19	96.1	0.1	1.2	0.1	0.1	2.2	0.1	0.1	100.0	1,372
20-24	96.4	0.2	0.7	0.3	0.4	1.6	0.2	0.3	100.0	1,178
25-29	96.3	0.7	1.4	0.5	0.1	0.7	0.2	0.1	100.0	870
30-34	98.5	0.1	0.7	0.2	0.0	0.1	0.0	0.2	100.0	824
35-39	96.7	0.2	1.6	0.2	0.2	1.2	0.0	0.0	100.0	570
40-44	98.8	0.2	0.0	0.2	0.0	0.9	0.0	0.0	100.0	561
45-49	98.1	0.4	0.0	0.0	0.0	1.3	0.0	0.2	100.0	462
Education										
No education	96.6	0.5	0.5	0.2	0.2	2.1	0.0	0.0	100.0	1,312
Primary	97.5	0.2	0.8	0.1	0.2	1.1	0.1	0.2	100.0	3,298
Secondary or higher	96.3	0.2	1.5	0.5	0.2	0.9	0.2	0.2	100.0	1,227
Wealth quintile										
Lowest	97.8	0.2	0.3	0.2	0.0	1.3	0.1	0.2	100.0	1,178
Second	98.1	0.4	0.2	0.0	0.1	1.1	0.1	0.1	100.0	1,138
Middle	97.5	0.1	0.7	0.3	0.2	1.3	0.0	0.0	100.0	1,031
Fourth	97.7	0.1	0.5	0.1	0.1	1.3	0.2	0.1	100.0	1,156
Highest	94.5	0.4	2.4	0.4	0.4	1.4	0.1	0.3	100.0	1,334
Total	97.0	0.2	0.9	0.2	0.2	1.3	0.1	0.1	100.0	5,837
MEN										
Age										
15-19	95.6	0.2	1.1	0.4	0.0	2.4	0.1	0.3	100.0	1,109
20-24	95.3	0.3	1.8	0.0	0.3	1.8	0.1	0.3	100.0	982
25-29	94.9	0.6	1.5	0.6	0.4	1.5	0.0	0.4	100.0	668
30-34	92.2	0.4	3.3	0.7	0.7	2.2	0.0	0.4	100.0	540
35-39	95.3	0.2	1.6	0.5	0.0	2.0	0.2	0.2	100.0	443
40-44	95.3	0.0	1.2	0.5	0.2	2.1	0.0	0.7	100.0	422
45-49	97.7	0.3	0.8	0.3	0.0	0.8	0.0	0.3	100.0	384
50-54	98.5	0.0	0.4	0.0	0.0	0.8	0.4	0.0	100.0	265
55-59	95.9	0.7	2.1	0.0	0.0	0.7	0.0	0.7	100.0	146
Education										
No education	95.1	0.5	1.1	0.1	0.0	2.8	0.0	0.5	100.0	852
Primary	96.6	0.2	1.1	0.2	0.2	1.4	0.0	0.3	100.0	2,963
Secondary or higher	92.4	0.4	3.0	0.9	0.4	2.3	0.3	0.3	100.0	1,144
Wealth quintile										
Lowest	97.9	0.0	0.5	0.1	0.0	1.3	0.2	0.0	100.0	838
Second	96.3	0.1	0.5	0.1	0.1	2.0	0.0	0.8	100.0	845
Middle	96.4	0.3	0.7	0.4	0.3	1.7	0.0	0.1	100.0	951
Fourth	97.1	0.3	1.1	0.1	0.0	1.1	0.0	0.4	100.0	1,031
Highest	90.9	0.5	3.9	0.8	0.5	2.8	0.2	0.4	100.0	1,294
Total	95.3	0.3	1.6	0.3	0.2	1.8	0.1	0.3	100.0	4,959

15.3 HIV PREVALENCE

15.3.1 HIV Prevalence Distribution According to Sociodemographic Variables

According to the 2005 RDHS-III, HIV prevalence in the Rwandan population age 15-49 is 3 percent (Table 15.3). HIV prevalence among women age 15-49 (3.6 percent) is higher than that of men in the same age group (2.3 percent). The infection ratio between women and men is therefore equal to 1.6, which means that 160 women are infected for every 100 men.

Table 15.3 HIV prevalence by age

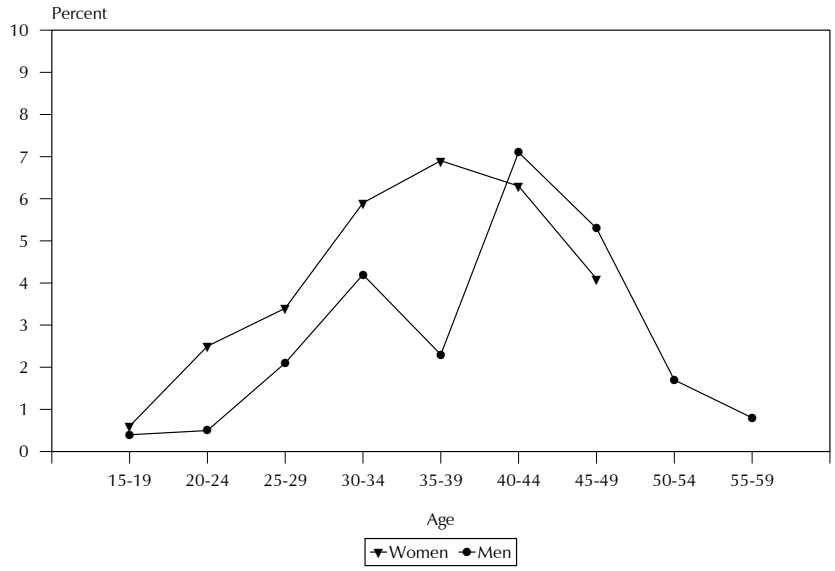
Percentage HIV positive among women age 15-49 and men age 15-59 by age, Rwanda 2005

	Women 15-49		Men 15-59		Total	
Age	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
15-19	0.6	1,316	0.4	1,087	0.5	2,403
20-24	2.5	1,142	0.5	939	1.6	2,080
25-29	3.4	833	2.1	628	2.9	1,461
30-34	5.9	806	4.2	497	5.2	1,303
35-39	6.9	540	2.3	432	4.8	972
40-44	6.3	554	7.1	401	6.6	955
45-49	4.1	464	5.3	378	4.6	842
50-54	na	na	1.7	259	na	na
55-59	na	na	0.8	143	na	na
Total 15-49	3.6	5,656	2.3	4,361	3.0	10,016
Total 15-59	na	na	2.2	4,763	na	na

na = Not applicable

Figure 15.1 shows that for both women and men, HIV prevalence increases with age. However, the highest prevalence among women is in the 35-39 age group (6.9 percent), whereas among men it is in the 40-44 age group (7.1 percent). Up until age 35-39, the proportion of infected women is higher than the proportion of infected men. Afterward, this pattern is reversed (at age 45-49, 5.3 percent of men are positive, compared with 4.1 percent of women).

Figure 15.1 **HIV Prevalence by Sex and Age**



RDHS 2005

Table 15.4 shows HIV prevalence according to sociodemographic characteristics. The prevalence rate is higher in urban areas than in rural areas (7.3 percent versus 2.2 percent). The differential is seen for both women and men: 8.6 percent versus 2.6 percent for women and 5.8 percent versus 1.6 percent for men.

Table 15.4 HIV prevalence by background characteristics

Percentage HIV positive among women and men age 15-49 who were tested, by background characteristics, Rwanda 2005

Background characteristic	Women		Men		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Residence						
Urban	8.6	946	5.8	774	7.3	1,720
Rural	2.6	4,710	1.6	3,587	2.2	8,297
Province						
Kigali city	8.0	556	5.2	487	6.7	1,043
South	3.1	1,501	2.0	1,126	2.7	2,627
West	3.7	1,406	2.4	1,051	3.2	2,458
North	2.6	1,019	1.1	773	2.0	1,792
East	2.9	1,173	2.1	923	2.5	2,096
Education						
No education	3.3	1,278	3.0	716	3.2	1,994
Primary	2.8	3,251	1.8	2,668	2.3	5,919
Secondary or higher	6.4	1,127	3.2	977	4.9	2,104
Employment						
Currently working	4.0	3,386	2.7	2,209	3.5	5,594
Not currently working	3.0	2,245	1.8	2,127	2.4	4,371
Wealth quintile						
Lowest	2.6	1,204	1.3	791	2.1	1,994
Second	2.2	1,193	1.7	788	2.0	1,981
Middle	3.6	1,042	2.0	881	2.9	1,923
Fourth	3.4	1,110	2.1	892	2.8	2,001
Highest	6.5	1,108	4.1	1,010	5.4	2,117
Religion						
Catholic	3.9	2,574	2.4	2,201	3.2	4,775
Protestant	3.3	2,123	2.3	1,423	2.9	3,546
Adventist	2.5	711	2.1	531	2.3	1,242
Muslim	11.4	102	1.6	87	6.9	188
Other/missing	3.2	146	2.9	119	3.1	265
Total	3.6	5,656	2.3	4,361	3.0	10,016

By province, HIV prevalence is higher in the city of Kigali than in the rest of the country. In Kigali, 8.0 percent of women are seropositive, while prevalence ranges from 2.6 percent in North province to 3.7 percent in West province. Among men, the prevalence in Kigali is estimated at 5.2 percent, while in the interior, it ranges from 1.1 percent in North province to 2.4 percent in West province.

Results by level of education show higher prevalence among women with at least secondary education (6.4 percent) compared with those with primary education (2.8 percent). Among men, as with women, the lowest prevalence is found among men who attended primary school (1.8 percent). However, the difference between men with no schooling and those with secondary or higher education is insignificant (3.0 percent versus 3.2 percent). HIV infection rates also vary by employment status. With women as with men, those who were employed at the time of the survey showed a slightly higher

prevalence than those who were not (4.0 percent versus 3.0 percent for women and 2.7 percent versus 1.8 percent for men).

Looking at household wealth, the highest HIV prevalence is found in the wealthiest quintile: 6.5 percent for women and 4.1 percent for men. By religion, prevalence ranges from 2.5 percent among Adventist women to 11.4 percent among Muslim women. For men, the differences are smaller, varying from 1.6 percent among Muslims to 2.4 percent among Catholics.

Table 15.5 shows HIV prevalence with 95 percent confidence intervals for certain background characteristics.

Table 15.5 HIV prevalence and confidence intervals

Percentage HIV positive among women and men age 15-49 and 95 % confidence intervals, by age and residence, Rwanda 2005

Background characteristic	Women			Men			Total		
	-2 SD	**Value**	+2 SD	-2 SD	**Value**	+2 SD	-2 SD	**Value**	+2 SD
Age									
15-19	0,2	**0,6**	1,1	0,0	**0,4**	0,8	0,2	**0,5**	0,9
20-24	1,6	**2,5**	3,4	0,0	**0,5**	0,9	1,0	**1,6**	2,1
25-29	2,1	**3,4**	4,7	1,0	**2,1**	3,3	2,0	**2,9**	3,7
30-34	4,3	**5,9**	7,5	2,2	**4,2**	6,2	3,9	**5,2**	6,5
35-39	4,8	**6,9**	9,0	0,9	**2,3**	3,7	3,4	**4,8**	6,3
40-44	4,3	**6,3**	8,4	4,4	**7,1**	9,7	5,0	**6,6**	8,2
45-49	2,1	**4,1**	6,1	3,0	**5,3**	7,6	3,1	**4,6**	6,2
Residence									
Urban	6,9	**8,6**	10,3	4,2	**5,8**	7,3	6,0	**7,3**	8,6
Rural	2,1	**2,6**	3,1	1,1	**1,6**	2,1	1,8	**2,2**	2,6
Total	3,1	**3,6**	4,1	1,8	**2,3**	2,8	2,6	**3,0**	3,5

15.3.2 HIV Prevalence by Demographic Variables

There are large variations in HIV prevalence by marriage status (Table 15.6). A total of 1.6 percent of never-married women are HIV positive, versus 2.8 percent of married women. Rates rise to 10.9 percent among divorced or separated women and 15.9 percent among widows. Similarly, divorced men show higher prevalence than married men (5.1 percent of divorced men versus 3.5 percent of married men and 0.9 percent of never-married men). Results by type of union indicate higher prevalence among women in polygamous unions (4.7 percent) than among those in monogamous unions (2.5 percent). Among men, HIV prevalence is higher in monogamous unions (3.5 percent) than polygamous unions (2.3 percent).

HIV prevalence is slightly higher among women who were not pregnant or were unsure at the time of the survey (3.7 percent) than among women who were pregnant (2.2 percent).

The data did not suggest a correlation between HIV prevalence and the number of times respondents slept away from home during the past 12 months.

Table 15.6 HIV prevalence by sociodemographic characteristics

Percentage HIV positive among women and men age 15-49 who were tested, by sociodemographic characteristics, Rwanda 2005.

Sociodemographic characteristic	Women		Men		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Marital status						
Never in union	1.6	2,179	0.9	2,164	1.2	4,343
Ever had sex	4.8	421	2.1	826	3.0	1,247
Never had sex	0.8	1,758	0.2	1,338	0.5	3,096
Currently in union	2.8	2,716	3.5	2,091	3.1	4,807
Widowed	15.9	227	*	21	15.8	248
Divorced/separated	10.9	519	5.1	73	10.2	592
Type of union						
In polygynous union	4.7	325	2.3	101	4.2	427
Not in polygynous union	2.5	2,368	3.5	1,987	3.0	4,355
Not currently in union	4.3	2,925	1.2	2,257	3.0	5,183
Currently pregnant						
Pregnant	2.2	431	na	na	na	na
Not pregnant/not sure	3.7	5,224	na	na	na	na
Circumcision status						
Circumcised	na	na	3.8	418	na	na
Not circumcised	na	na	2.1	3,909	na	na
Number of times slept away						
None	3.2	4,378	2.2	3,225	2.8	7,603
1-2	4.6	946	2.2	662	3.6	1,608
3-4	6.6	214	3.0	237	4.7	451
5+	3.3	97	2.4	208	2.7	305
Away for more than one month						
Away for more than 1 month	3.6	216	1.9	342	2.6	559
Away always for < 1 month	5.0	1,039	2.7	738	4.0	1,776
Never away	3.2	4,378	2.2	3,225	2.8	7,603
Birth in the past 3 years						
No birth	3.9	3,364	na	na	na	na
Birth and antenatal care	2.8	2,162	na	na	na	na
Birth, no antenatal care	8.8	130	na	na	na	na
Total[1]	3.6	5,656	2.3	4,361	3.0	10,016

Note: An asterisk indicates than a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Includes women and men with missing information

15.3.3 HIV Prevalence by Sexual Behavior Characteristics

Overall, HIV prevalence among respondents who have ever had sexual intercourse is estimated at 4.2 percent; 3.3 percent among women and 4.9 percent among men (Table 15.7).

There is no clear correlation between HIV prevalence and age of first sexual intercourse, whether respondent is male or female. Those who had sex before age 16 have the lowest prevalence (4.2 percent for women and 1.4 percent for men) and those whose first intercourse was at age 16-17 have the highest prevalence (5.2 percent for women and 4.6 percent for men).

Table 15.7 HIV prevalence by sexual behavior characteristics

Percentage HIV positive among women and men age 15-49 who ever had sex and were tested for HIV, by sexual behavior characteristics, Rwanda 2005.

Sexual behavior characteristic	Women		Men		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Age at first sex						
< 15	4.2	423	1.4	549	2.6	973
15-17	5.2	680	4.6	400	5.0	1,080
18-19	4.7	991	3.9	608	4.4	1,600
20+	4.9	1,675	3.2	1,442	4.1	3,117
Missing	6.4	128	*	22	7.0	150
Higher-risk sex[1] in past 12 months						
Had higher-risk sex	8.2	251	2.7	379	4.9	630
Had sex, not higher-risk sex	3.0	2,650	3.5	1,980	3.2	4,630
No sex in past 12 months	8.9	997	2.9	663	6.5	1,660
Number of lifetime sexual partners						
1	3.0	2,694	1.2	1,154	2.4	3,848
2	8.1	835	2.9	768	5.6	1,603
3-4	12.1	302	4.2	750	6.4	1,052
5-9	9.1	39	7.8	233	8.0	272
10+	*	9	11.7	97	11.7	106
Number of partners in past 12 months						
0	8.9	997	2.9	663	6.5	1,660
1	3.5	2,882	3.3	2,238	3.4	5120
2+	*	19	4.1	121	4.6	140
Number of higher-risk sexual partners in past 12 months						
0	4.6	3,647	3.3	2,643	4.1	6,290
1	8.1	239	2.6	356	4.8	595
2+	*	13	*	22	(7.1)	35
Paid for sex in past 12 months						
Yes	na	na	(6.3)	38	na	na
No	na	na	3.2	2,984	na	na
Any condom use						
Ever used condom	15.5	157	7.5	543	9.3	700
Never used condom	4.4	3,741	2.3	2,479	3.6	6,220
Condom use at last sex in past 12 months						
Used a condom	23.4	88	12.8	140	16.9	228
Did not use a condom	2.9	2,813	2.8	2,219	2.8	5,032
Condom use at last higher-risk sex in past 12 months						
Used a condom	15.9	56	4.2	142	7.5	198
Did not use a condom	6.0	195	1.7	236	3.7	431
Total	4.9	3,898	3.3	3,022	4.2	6,920

Note: An asterisk indicates that an figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases. Total includes respondents with missing information on sexual behavior.
na = Not applicable
[1] Sex with a person who is neither married to nor lives with the respondent

Table 15.7 also shows prevalence rates by whether the respondent engaged in higher-risk sexual intercourse. Paradoxically, it is not only women who have engaged in higher-risk sex, but also those who had no intercourse in the past 12 months that prevalence rates are the highest (8.2 percent and 8.9 percent, respectively). Among male respondents, prevalence is slightly higher among those who engaged in sex but not higher-risk sex (3.5 percent) in the past 12 months, compared with men who had higher-risk sex or no sex at all (less than 3 percent).

Generally, HIV prevalence increases with increasing number of lifetime sexual partners. Thus, prevalence varies from 1.2 percent for men who have had only one partner during their life to 4.2 percent for those who have had 3-4 partners, to 11.7 percent for those who have had at least 10 partners. For women, prevalence increases from 3.0 percent for those who have had one sexual partner during their life to 12.1 percent to those who have had 3-4 partners.

Paradoxically, HIV prevalence is 8.9 percent among women who have had no sexual partner in the past 12 months and 3.5 percent among those who have had only one partner. In contrast, the prevalence among men who have had two partners during the past 12 months is 4.1 percent, higher than among those who have had a single partner (3.3 percent) or those who have had no partners (2.9 percent). Women who engage in higher-risk sex tend to have higher HIV prevalence: 8.1 percent among women who have had a higher-risk partner during the past 12 months and 4.6 percent among those who have not.

Regarding condom use during the past year—whether at the last sexual intercourse or at the last higher-risk sexual intercourse—it can be seen that HIV prevalence is higher among male and female condom users than among those who have not used condoms. It is difficult to establish the exact relationship between condom use and HIV. Condoms could be used by those who are HIV negative to protect themselves from the disease, but they could also be used by those who are seropositive to protect their partners. It is the latter pattern that emerges from the RDHS-III data.

15.3.4 HIV Prevalence among Youth

Table 15.8 shows HIV prevalence among youth age 15-24 by sociodemographic and sexual behavioral characteristics. Prevalence among youth gives an indication of the level of recent infections and is an indirect estimate of the number of new cases.

HIV prevalence among youth age 15-24 is estimated at 1.0 percent. This figure varies from 1.5 percent among women to 0.4 percent among men, which gives a ratio of infection of 3.8 between women and men. In other words, 380 women in this age group are infected for every 100 men. This ratio is 2.4 times higher than that of the combined 15-49 age group.

Overall, the results in Table 15.8 indicate an increase in seroprevalence by age up through 20-22 years, the age group with the highest rate (1.7 percent). Subsequently, rates begin to decrease among the 23-24 age group (1.4 percent). Whatever the age group, prevalence among women is always higher than prevalence among men. It increases less rapidly among young men and never surpasses 1 percent; the highest level is among men age 18-19 (0.8 percent). Among women, prevalence is highest in the 20-22 age group (2.7 percent). The ratio is particularly high in this age group (6.8).

HIV prevalence is higher in urban areas than rural areas (2.7 percent versus 1.7 percent). The differences are seen for both sexes. Across regions, seroprevalence among young women ranges from 0.5 percent in the South province to 4.2 percent in the city of Kigali. For young men, HIV prevalence is the highest in the city of Kigali (1.4 percent). Note that in the North province, seroprevalence is higher among young men (1.1 percent) than young women in the same age group (0.8 percent).

By marital status, the highest prevalence is among women who are separated, divorced, or widowed (3.8 percent versus 1.2 percent for married women and 1.7 percent of never-married women). Noteworthy is the 1.6 percent of young never-married women who reported never having had sex but are nonetheless HIV positive. The finding indicates that they were infected by another means or they falsely reported not having had sex.

Table 15.8 HIV prevalence among young people

Percentage HIV positive among women and men age 15-24 who were tested for HIV, by background characteristics, Rwanda 2005

	Women		Men		Total	
Background characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Age						
15-17	0.3	826	0.2	691	0.3	1,517
18-19	1.2	490	0.8	396	1.0	887
20-22	2.7	720	0.4	611	1.7	1,331
23-24	2.2	421	0.5	328	1.4	749
Residence						
Urban	3.9	431	1.1	348	2.7	779
Rural	1.0	2,027	0.3	1,678	0.7	3,705
Province						
Kigali city	4.2	271	1.4	224	2.9	495
South	0.5	616	0.0	544	0.3	1,161
West	2.2	656	0.4	487	1.4	1,143
North	0.8	409	1.1	344	0.9	754
East	0.9	505	0.0	427	0.5	932
Marital status						
Never married	1.7	1,145	0.4	1,850	0.9	2,995
Ever had sex	1.9	429	0.9	621	1.3	1,050
Never had sex	1.6	716	0.2	1,229	0.7	1,946
Currently in union	1.2	1,251	0.5	166	1.1	1,418
Divorced/separated/widowed	3.8	61	*	10	3.8	71
Relative age of first sexual partner						
10+ years older	(10.4)	38	na	na	na	na
<10 years older/same age/younger/don't know	1.4	2,419	na	na	na	na
Higher-risk intercourse in past 12 months						
Had higher-risk intercourse	3.3	108	1.5	171	2.2	279
Had intercourse, not higher risk	2.9	514	0.5	164	2.3	679
No sexual intercourse in last 12 months	1.0	1,835	0.3	1,691	0.7	3,526
Number of sexual partners in past 12 months						
0	1.0	1,835	0.3	1,691	0.7	3,526
1	3.0	618	1.1	320	2.3	938
2+	*	5	*	15	*	20
Number of higher-risk partners in past 12 months						
0	1.4	2,349	0.3	1,855	0.9	4,204
1	3.4	105	1.6	160	2.3	265
2+	*	4	*	11	*	15
Condom use						
Ever used a condom	7.3	51	2.1	163	3.4	214
Never used a condom	1.4	2,407	0.3	1,863	0.9	4,270
Condom use at last sex in past 12 months						
Used condom at last sex	(11.7)	38	1.5	63	5.3	102
Did not use condom	2.4	584	0.9	272	1.9	856
Condom use at first sex						
Used a condom	5.9	54	1.4	92	3.0	146
Did not use a condom	1.4	2,403	0.4	1,934	1.0	4,338
Total	1.5	2,458	0.4	2,026	1.0	4,484

Note: An asterisk indicates that an figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

Seroprevalence is higher among respondents who engaged in higher-risk sex, especially women (3.3 percent versus 1.5 percent for men). At the same time, it should be noted that among both men and women, prevalence is higher for those using condoms than for those not using condoms; this difference is greater among young women (7.3 percent using condoms versus 1.4 percent not using condoms) than among young men (2.1 percent versus 0.3 percent).

15.3.5 HIV Prevalence and Other Risk Factors

Table 15.9 shows STI prevalence for women and men who have ever had and whether the respondent was tested for HIV before the survey. HIV prevalence is markedly higher among those who reported they already had an STI or symptoms of an STI. Among women who reported having an STI or symptoms of an STI in the past 12 months, HIV prevalence is 18.1 percent compared with 4.2 percent among those who reported that they did not have an STI or symptoms of an STI. For men who reported having an STI or symptoms of an STI in the past 12 months, prevalence is 9.9 percent versus 3.0 percent for those who have not had an STI or symptoms of an infection.

Table 15.9 HIV prevalence by other characteristics

Percentage HIV positive among women and men age 15-49 who ever had sex and who were tested, by other characteristics, Rwanda 2005

	Women		Men		Total	
Characteristic	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Sexually transmitted infection in past 12 months						
Had STI or STI symptom	18.1	204	9.9	83	15.7	287
No STI, no symptoms	4.2	3,646	3.0	2,907	3.7	6,554
HIV testing status						
Ever tested	9.5	665	4.3	826	6.6	1,492
Received results	10.0	603	4.2	759	6.8	1,362
Did not receive results	4.5	62	5.5	67	5.0	129
Never tested	3.9	2,690	2.8	2,183	3.4	4,873
Total[1]	4.9	3,898	3.3	3,022	4.2	6,920

[1] Includes men and women with missing information.

HIV prevalence among men who had never been tested previously for HIV is lower than among women (2.8 percent and 3.9 percent, respectively).

Table 15.10 provides additional information about the relation between a previous HIV test and the respondent's HIV status. This is useful for measuring infected respondents' knowledge of their HIV status prior to the HIV test done during the RDHS-III.

Among seropositive women, more than half (56.2 percent) did not know their status because they had never been tested for HIV before the survey. Among seropositive men, 66 percent did not know their status, either because they had never been tested (62 percent), or, if they had been, had never received their results (3.7 percent). Although the proportion of women and men who are aware of their HIV status is higher among seropositive respondents (31.3 percent and 31.6 percent, respectively) than among the HIV negative respondents (12.3 percent for women and 19.5 percent for men), a large proportion of those infected with HIV do not know they carry the virus and should therefore take the necessary measures to avoid transmitting the infection.

Table 15.10 Prior HIV testing by HIV status

Percent distribution of women and men age 15-49 who were tested for HIV by whether they were tested prior to the survey, and whether they received the test results, according to HIV status (positive or negative), Rwanda 2005

HIV testing prior to the survey	Women		Men		Total	
	HIV positive	HIV negative	HIV positive	HIV negative	HIV positive	HIV negative
Previously tested and received results of last test	31.3	12.3	31.6	19.5	31.4	15.4
Previously tested and did not receive results of last test	0.0	0.0	3.7	1.4	1.2	0.6
Not previously tested	56.2	76.8	62.4	78.5	58.3	77.5
Missing	12.5	11.0	2.3	0.6	9.1	6.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	204	5,451	101	4,260	305	9,711

15.3.6 HIV Prevalence and Male Circumcision

The RDHS-III included questions on whether men had been circumcised. These data can be used to examine possible relationships between HIV prevalence and male circumcision. Among men age 15 to 59 who were tested for HIV, 9 percent had been circumcised.

Table 15.11 indicates higher prevalence of HIV among circumcised males (3.5 percent) than among uncircumcised males (2.1 percent). This pattern is found for all sociodemographic variables, except urban residence, where prevalence among circumcised men (5.0 percent) is slightly lower than among uncircumcised men (5.7 percent).

Table 15.11 HIV prevalence by male circumcision

Among men age 15-59 who were tested for HIV, the percentage HIV positive by whether circumcised, according to background characteristics, Rwanda 2005

Background characteristic	Circumcised		Uncircumcised	
	Percentage HIV positive	Number	Percentage HIV positive	Number
Age				
15-19	2.1	82	0.1	994
20-24	0.0	82	0.5	849
25-29	4.9	76	1.8	548
30-34	3.1	61	4.2	432
35-39	(0.0)	39	2.5	391
40-44	(19.6)	39	5.7	359
45-49	(2.0)	39	5.7	336
50-54	*	20	1.9	238
55-59	*	10	0.9	132
Education				
No education	(5.6)	45	2.4	781
Primary	1.7	222	1.8	2,679
Secondary or higher	5.2	182	2.6	818
Religion				
Catholic	4.7	181	2.1	2,222
Protestant	4.3	142	2.1	1,406
Adventist	0.0	52	2.1	521
Muslim	2.2	65	(0.0)	25
Other/missing	*	7	1.1	105
Residence				
Urban	5.0	210	5.7	609
Rural	2.2	239	1.5	3,669
Total 15-59	3.5	449	2.1	4,278

Note: An asterisk indicates that an figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

15.3.7 HIV Prevalence among Couples

Table 15.12 presents HIV prevalence rates for couples living together, and in which both partners were tested. HIV status was obtained of both partners in a total of 2,231 couples.

In 96.0 percent of couples both spouses were HIV negative and in 1.7 percent of couples both spouses were positive. The percentage of couples in which both partners tested positive is especially high in urban areas (5.2 percent), in Kigali (4.5 percent) among couples having at least a secondary education (5.0 percent), and among couples in the wealthiest quintile (4.4 percent).

Table 15.12 HIV prevalence among couples

Percent distribution of couples living in the same household, both of whom were tested for HIV, by HIV status, according to background characteristics, Rwanda 2005

Background characteristic	Both HIV positive	Man HIV positive, woman HIV negative	Woman HIV positive, man HIV negative	Both HIV negative	Total	Number
Woman's age						
15-19	(0.0)	(0.0)	(0.0)	(100.0)	(100.0)	25
20-29	1.7	1.1	0.7	96.6	100.0	908
30-39	2.2	1.7	0.9	95.3	100.0	800
40-49	1.3	1.7	1.1	95.9	100.0	498
Man's age						
15-19	*	*	*	*	*	2
20-29	1.3	0.4	0.5	97.8	100.0	538
30-39	1.3	1.1	0.5	97.1	100.0	792
40-49	3.2	2.7	0.6	93.5	100.0	681
50-59	0.0	0.8	3.8	95.3	100.0	218
Age difference between partners						
Woman older	2.0	1.8	0.8	95.4	100.0	278
Same age/man older by 0-4 years	1.3	0.9	0.5	97.2	100.0	992
Man older by 5-9 years	1.4	1.4	0.7	96.5	100.0	586
Man older by 10-14 years	3.4	2.5	0.4	93.8	100.0	225
Man older by 15+ years	2.8	2.2	4.3	90.6	100.0	149
Marital status						
Married	1.7	1.2	0.7	96.4	100.0	1,363
Living together	1.8	1.7	1.1	95.4	100.0	868
Type of union						
Monogamous	1.7	1.3	0.7	96.2	100.0	1,995
Polygynous	1.4	1.3	2.0	95.3	100.0	223
Residence						
Urban	5.2	3.7	2.5	88.7	100.0	285
Rural	1.2	1.1	0.6	97.1	100.0	1,946
Province						
Kigali city	4.5	3.9	1.9	89.7	100.0	145
South	2.0	1.3	0.4	96.3	100.0	569
West	2.2	1.5	0.7	95.7	100.0	597
North	0.8	0.2	0.2	98.8	100.0	426
East	0.9	1.8	1.7	95.5	100.0	493
Woman's education						
None	1.2	1.1	1.1	96.7	100.0	637
Primary	1.3	1.2	0.8	96.7	100.0	1,135
Secondary or higher	3.6	2.4	0.5	93.5	100.0	459
Man's education						
None	0.3	0.2	0.8	98.7	100.0	400
Primary	1.6	2.0	0.9	95.5	100.0	1,555
Secondary or higher	5.0	0.0	1.0	94.1	100.0	216
Wealth quintile						
Lowest	0.9	0.8	0.2	98.2	100.0	449
Second	1.7	0.4	0.2	97.6	100.0	465
Middle	1.0	1.4	0.7	97.0	100.0	459
Fourth	1.3	2.0	1.5	95.2	100.0	499
Highest	4.4	2.7	1.8	91.1	100.0	359
Total[1]	1.7	1.4	0.8	96.0	100.0	2,231

Note: An asterisk indicates that an figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes men and women with missing information

In 2.2 percent of cases, only one of the partners was seropositive. In some of these discordant couples the woman was seropositive (0.8 percent), but in most cases it was the man who was seropositive (1.4 percent).

15.4 SENTINEL SURVEILLANCE SYSTEM AND RDHS-III

In 2003, data from the national sentinel surveillance system indicated that HIV prevalence in Rwanda ranged from 6.9 percent to 8.3 percent in urban areas. This does not differ greatly from the rates observed in 2002, which ranged from 7.0 percent to 8.5 percent. These estimates are also close to the results found in the RDHS-III, where HIV prevalence in urban areas was 7.3 percent (with a 95 percent confidence interval between 6.0 and 8.6 percent).

According to the national sentinel surveillance system, HIV prevalence in rural areas ranged from 2.6 percent to 3.6 percent in 2002 and from 2.7 percent to 3.6 percent in 2003. The RDHS-III estimate for HIV prevalence in rural areas is lower at 2.2 percent (95 percent confidence interval between 1.8 and 2.6 percent). The difference between the sentinel surveillance data and the RDHS-III data for rural residents can be explained primarily by the distribution of the sentinel sites in rural areas.

ORPHANED AND VULNERABLE CHILDREN 16

One of the most devastating impacts of the HIV/AIDS epidemic is the dramatic increase in the number of children orphaned and made vulnerable by the death or chronic illness of one or more of the adults in their household. Deprived of the protection of these adults, such children are at increased risk of violence, exploitation, and other forms of abuse. With the spread of the HIV/AIDS epidemic, it is urgent that national strategies be adapted to strengthen governmental, family, and community capacities to support and protect these children. In June 2001, a special session of the United Nations General Assembly issued a Declaration of Commitment on HIV/AIDS (United Nations, 2001) signed by 189 member states that focused special attention on children orphaned and made vulnerable by HIV/AIDS. Numerous goals were established aimed at developing policies and strategies to support orphans by ensuring their access to education, proper nutrition, and health and social services. To assess progress in meeting this commitment, a series of indicators was developed to "monitor and evaluate the national response to orphans and children made vulnerable by HIV/AIDS" (UNICEF, 2005). The third DHS survey in Rwanda gathered data for use in estimating a number of these indicators. The results are presented in this chapter.

16.1 ORPHANHOOD AND CHILDREN'S LIVING ARRANGEMENTS

Because the family is the primary safety net for children, any strategy aimed at protecting children must place a high priority on strengthening family capacities to care for children. It is therefore essential to identify orphaned children and find out whether those who have one or both parents living are living with either or both surviving parents. Table 16.1 presents these two types information for children under age 18, according to background characteristics.

The data show that 60 percent of Rwandan children under the age of 18 live with both their parents. This proportion declines steadily with age, from a high of 82 percent at age 0-1 year and 63 percent at age 5 to 9 years, to a low of 38 percent at age 15 to 17 years. The results show practically no difference according to the child's sex. The proportion of children living with their parents is higher in rural areas (61 percent) than in urban areas (54 percent). The lowest proportion of children living with both parents is in the City of Kigali (50 percent); the highest proportion is in the West and North provinces (64 percent for both). Twenty-three percent of children under age 18 live with their mother only, whether their father is alive (12 percent) or deceased (11 percent), and 3 percent live with their father only. Thirteen percent (13 percent) do not live with either parent.

Overall, 21 percent of children under age 18 have lost their father and/or mother: 4 percent have lost both parents, 13 percent have lost their father, and 3 percent have lost their mother. Because a parent's risk of dying increases with time, the proportion of children who have lost their father and/or mother increases significantly with the age of the child, from 2 percent at age 0 to 1 year, to 6 percent at age 2 to 4 years, to 16 percent at age 5 to 9 years. These proportions jump to very high levels among children age 10 to 14 (36 percent) and 15 to 17 (41 percent), largely due to the effects of the 1994 genocide.

Table 16.1 Children's living arrangements and orphanhood

Percent distribution of de jure children under age 18 by children's living arrangements and survival status of parents, and the percentage of children with one or both parents dead, according to background characteristics, Rwanda 2005

Background characteristic	Living with both parents	Living with mother but not with father		Living with father but not with mother		Not living with either parent				Missing information on father or mother	Total	Percentage with one or both parents dead	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Only mother alive	Only father alive	Both dead				
Age													
0-1	81.7	14.9	1.5	0.3	0.1	0.8	0.1	0.0	0.1	0.6	100.0	1.9	3,411
2-4	74.1	14.2	3.7	0.9	0.5	4.5	0.4	0.3	0.7	0.9	100.0	5.5	4,711
5-9	62.8	11.4	9.8	1.3	1.3	6.6	1.3	1.8	1.9	1.8	100.0	16.4	7,168
10-14	44.0	10.0	18.6	1.3	2.8	7.0	2.7	4.0	7.4	2.1	100.0	35.9	6,341
15-17	38.0	9.3	20.7	1.1	3.0	7.7	3.0	4.4	9.5	3.3	100.0	41.0	3,235
Sex													
Male	60.2	11.8	11.1	1.3	1.5	5.2	1.5	2.1	3.6	1.7	100.0	20.0	12,406
Female	58.8	11.8	11.2	0.8	1.7	6.0	1.6	2.3	4.0	1.7	100.0	21.0	12,460
Residence													
Urban	53.8	13.0	12.6	1.2	1.1	5.9	1.8	2.8	5.1	2.6	100.0	23.8	3,548
Rural	60.5	11.6	10.9	1.1	1.7	5.6	1.5	2.1	3.6	1.6	100.0	20.0	21,319
Province													
City of Kigali	50.2	13.0	14.7	1.4	1.3	6.9	1.7	2.8	6.0	2.1	100.0	26.6	1,774
South	55.9	14.0	11.1	1.1	2.1	6.1	1.6	2.1	3.9	2.0	100.0	21.1	6,343
West	63.5	9.3	10.7	0.7	1.4	4.5	1.6	2.0	4.2	2.0	100.0	20.2	6,663
North	63.7	10.2	11.4	0.9	1.5	5.4	1.0	1.9	2.9	1.1	100.0	18.9	4,953
East	57.9	13.3	10.4	1.5	1.5	6.2	1.7	2.6	3.4	1.4	100.0	19.8	5,135
Total < 15 years	62.7	12.2	9.7	1.1	1.4	5.3	1.3	1.9	3.0	1.5	100.0	17.5	21,632
Total <18 years	59.5	11.8	11.2	1.1	1.6	5.6	1.5	2.2	3.8	1.7	100.0	20.5	24,867

Table 16.2 shows the percentage of children who are orphans and vulnerable children (OVC). Children are considered vulnerable (UNICEF, 2005) if they are under age 18 and:

1. Have lost one or both parents (21 percent);
2. One or both parents have been chronically ill for at least three of the past 12 months (8 percent);
3. Live in a household in which at least one adult age 18 to 59 has been chronically ill for at least three of the past 12 months (10 percent);
4. Live in a household in which at least one adult age 18 to 59 has died during the past 12 months after being chronically ill for at least three months (1 percent).[1]

Overall, 11 percent of children are considered vulnerable by virtue of being in categories 2, 3 and/or 4. When the data for orphans are added, 29 percent of children under age 18 are considered to be OVC.

[1] Children deprived of family protection, i.e., living in an institution or on the street, are also considered vulnerable. However, these children are not included here because, by definition, they are not identifiable within the scope of a household survey.

The proportion of OVC increases steadily with age, from 11 percent at age 0 to 1 year, to 25 percent at 5 to 9 years; at age 15 to 17 years, 48 percent of children are OVC. The proportion of OVC shows no variation by sex; however, OVC are more common in urban areas (33 percent) than in rural areas (28 percent). The highest proportion of OVC is in the City of Kigali (35 percent); the lowest proportion is in the North province (25 percent). The proportion of OVC is higher in the poorest households (33 percent) than in the richest households (28 percent).

Table 16.2 Orphans and vulnerable children (OVC)

Percentage of children under age 18 years who are orphans or made vulnerable due to illness among adult household members, according to background characteristics, Rwanda 2005

		Percentage of children who are vulnerable because					
Background characteristic	Percentage of children with one or both parents dead (orphans)	Have a chronically ill parent[1]	Live in a household where at least 1 adult[2] was chronically ill in the past 12 months	Live in a household where at least 1 adult[2] died in the past 12 months and had been chronically ill before he/she died	Have a chronically ill parent OR live in a household where an adult was chronically ill OR died in the past 12 months (vulnerable)	Percentage of children who are orphans and/or vulnerable (OVC)	Number of children
Age							
0-1	1.9	8.0	8.6	0.3	9.1	10.7	3,411
2-4	5.5	8.3	8.6	0.4	9.6	14.4	4,711
5-9	16.4	8.0	9.1	0.5	10.2	24.7	7,168
10-14	35.9	8.6	10.3	0.8	11.9	43.0	6,341
15-17	41.0	9.2	11.3	1.1	13.3	48.2	3,235
Sex							
Male	20.0	8.5	9.6	0.6	10.9	28.2	12,406
Female	21.0	8.3	9.5	0.6	10.7	28.9	12,460
Residence							
Urban	23.8	9.7	11.7	0.8	13.4	33.1	3,548
Rural	20.0	8.2	9.2	0.6	10.4	27.8	21,319
Province							
City of Kigali	26.6	8.9	10.8	1.1	12.8	34.8	1,774
South	21.1	9.6	11.1	0.4	12.4	30.1	6,343
West	20.2	8.2	9.5	0.5	10.5	28.1	6,663
North	18.9	6.1	6.8	0.6	7.8	24.7	4,953
East	19.8	9.2	10.0	0.7	11.4	28.7	5,135
Wealth quintile							
Lowest	24.0	9.2	9.9	0.7	11.3	32.6	5,237
Second	20.6	7.3	8.3	0.4	9.0	26.6	4,871
Middle	20.0	8.7	10.1	0.5	11.4	28.4	5,143
Fourth	17.6	8.8	10.6	0.6	11.7	27.0	4,917
Highest	20.3	7.9	8.8	0.9	10.4	27.8	4,699
Total <15 years	17.5	8.3	9.3	0.5	10.4	25.6	21,632
Total <18 years	20.5	8.4	9.5	0.6	10.8	28.6	24,867

Note: Table is based on de jure household members, i.e., usual household members. Chronically ill means person was too sick to work or do normal activities.

[1] Whether or not lives in same household as child.

[2] Person age 18 to 59 years.

16.2 ACCESS TO ESSENTIAL SERVICES

Access to education is considered an "essential service" and is included among the key components of national responses to guarantee OVC access to services on an equal basis with other children.

To assess whether OVC are educationally disadvantaged in relation to other children, an indicator was devised to compare school attendance among OVC and non-OVC. The results are presented in Table 16.3 for children age 10 to 14, the age group in which school attendance is generally assumed for all children.

The data show a clear relationship between parent survivorship and school attendance of children age 10 to 14. Whereas 91 percent of children whose parents are both alive and who are living with one of their parents attend school, only 75 percent of children who have lost both parents attend school. The ratio of school attendance for orphaned and nonorphaned children is less than 1 (0.82), indicating an educational disadvantage for orphans. The results also show that 82 percent of OVC attend school, compared with 89 percent of non-OVC. The ratio of OVC to non-OVC is 0.92. These results indicate that orphans and OVC are educationally disadvantaged in relation to other Rwandan children.

Table 16.3 School attendance by survivorship of parents and by OVC status

For children age 10-14, the percentage attending school by parental survival and by OVC status, and the ratios of the percentages attending school by parental survival and OVC status, according to background characteristics, Rwanda 2005

	Percentage attending school by survivorship of parents					Percentage attending school by OVC status				
Background characteristic	Both parents deceased	Number	Both parents alive and living with at least one parent	Number	Ratio[1]	OVC	Number	Non OVC	Number	Ratio[2]
Sex										
Male	70.1	223	90.7	1,741	0.77	81.3	1,333	88.1	1,760	0.92
Female	78.8	245	91.6	1,770	0.86	83.3	1,394	90.1	1,854	0.92
Residence										
Urban	80.1	90	94.8	414	0.85	85.2	455	90.0	431	0.95
Rural	73.3	379	90.7	3,096	0.81	81.7	2,272	89.0	3,184	0.92
Province										
City of Kigali	76.0	48	97.5	178	0.78	82.8	238	90.8	198	0.91
South	71.6	136	89.3	848	0.80	78.4	732	85.8	892	0.91
West	74.5	136	92.2	1,024	0.81	82.3	701	91.9	1,037	0.90
North	75.4	57	91.0	727	0.83	83.4	471	89.5	739	0.93
East	78.1	92	90.5	735	0.86	86.2	584	88.4	748	0.97
Wealth quintile										
Lowest	75.8	72	87.6	709	0.86	81.8	629	87.6	701	0.93
Second	72.3	83	91.7	702	0.79	83.6	504	91.2	698	0.92
Middle	71.2	97	90.3	767	0.79	79.9	567	88.9	775	0.90
Fourth	71.2	96	90.9	718	0.78	83.8	504	87.6	757	0.96
Highest	81.1	120	96.0	615	0.84	83.1	523	90.3	685	0.92
Total	74.6	468	91.2	3,511	0.82	82.3	2,727	89.1	3,615	0.92

Note: Table is based on de jure household members, i.e., usual household members.
[1] Ratio of the percentage with both parents deceased to the percentage with both parents alive and living with a parent
[2] Ratio of the percentage OVC to the percentage not OVC

16.3 Strengthening Family Capacities to Support and Protect Children

16.3.1 Malnutrition

The death or illness of a parent or other household member often leads to economic hardship for children and increases their risk of falling short of basic nutritional needs. Table 16.4 shows the proportion of children under age five who are underweight, for all children and by OVC status, according to background characteristics. The ratio of malnutrition among OVC to malnutrition among non-OVC is also shown.

Table 16.4 Underweight orphans and vulnerable children

Percentage of de facto children under age five years who are underweight, percentage of OVC and non-OVC who are underweight, and ratio of malnutrition (OVC to non-OVC), according to background characteristics, Rwanda 2005

Background characteristic	Children under age 5 years		OVC		Non-OVC		Ratio[2]
	Percentage underweight[1]	Number of children	Percentage underweight[1]	Number of OVC	Percentage underweight[1]	Number of non-OVC	
Age							
< 1 year	11.1	774	9.8	73	11.3	701	0.87
1-2 years	30.9	1,652	27.8	180	31.3	1,472	0.89
3-4 years	18.6	1,388	18.5	211	18.6	1,177	0.99
Sex							
Male	22.9	1,878	20.2	220	23.2	1,658	0.87
Female	22.0	1,936	21.3	244	22.1	1,692	0.97
Residence							
Urban	16.0	536	21.2	80	15.1	456	1.40
Rural	23.5	3,278	20.7	385	23.8	2,894	0.87
Province							
City of Kigali	14.3	247	11.3	50	15.0	197	0.75
South	27.5	972	22.6	151	28.4	821	0.79
West	20.2	994	20.4	127	20.2	867	1.01
North	23.7	789	24.2	52	23.7	737	1.02
East	20.2	813	21.6	85	20.0	728	1.08
Wealth quintile							
Lowest	30.5	786	31.3	120	30.4	666	1.03
Second	25.8	815	27.7	87	25.5	729	1.09
Middle	22.2	798	15.6	79	22.9	719	0.68
Fourth	21.6	785	11.6	98	23.0	687	0.50
Highest	9.3	630	13.8	81	8.7	549	1.59
Total	22.4	3,814	20.8	464	22.6	3,350	0.92

Note: Table is based on de facto household members, persons who slept in household the night preceding the interview.
[1] More than two standard deviations below the mean of the WHO/CDC/NCHS reference standard for weight-for-age.
[2] Ratio of the percentage OVC to the percentage not OVC

The results show that in Rwanda a little more than one in five children (22 percent) are underweight. This form of malnutrition affects 21 percent of OVC, compared with 23 percent of non-OVC. The ratio of OVC to non-OVC is less than 1 (0.92), indicating that non-OVC are slightly more undernourished than OVC. This result is confirmed regardless of child's age or sex. However, OVC in the poorest households (ratio of 1.03), and also in the richest households (ratio of 1.59), appear to be less well-nourished than their non-OVC counterparts. Similarly, in urban areas, OVC appear to be less well-nourished than non-OVC (ratio of 1.4), while the opposite is true in rural areas (ratio of 0.87).

16.3.2 Early Sexual Intercourse

Deprived of family protection, OVC are more exposed than other children to risky sexual encounters. It is therefore important to assess the "prevalence of early sexual activity among orphans and vulnerable children and other children between the age of 15 and 17" (UNICEF, 2005).

Table 16.5 shows the proportion of youth who have had sexual intercourse before exact age 15, according to OVC status. This table also shows the ratio of OVC to non-OVC age 15 to 17 who have had sexual intercourse before exact age 15. Early sexual intercourse is much more frequent among men (14 percent) than women (5 percent). Moreover, it appears that early sexual intercourse is slightly more frequent among OVC (6 percent of girls, 15 percent of boys) than among non-OVC (5 percent of girls, 14 percent of boys); this difference translates into a ratio of greater than 1 (1.22 for girls, 1.08 for boys).

Table 16.5 Sexual intercourse before age 15 among orphans and vulnerable children

Percentage of children age 15-17 who had sexual intercourse before exact age 15, by OVC status and ratio of OVC to non-OVC sexual intercourse before age 15, Rwanda 2005

	Women 15-17		Men 15-17	
OVC status	Percentage who had sexual intercourse before exact age 15	Number of women	Percentage who had sexual intercourse before exact age 15	Number of men
OVC	6.0	759	14.7	317
Non-OVC	4.9	829	13.6	369
Total	5.4	1,588	14.1	687
Ratio[1]	1.22	na	1.08	na

Note: Table is based on de facto household members, persons who slept in household the night before the survey.
na = Not applicable
[1] Ratio of the percentage OVC to the percentage not OVC

16.3.3 Succession Planning

Strengthening family capacities to support and protect orphans is essential. Identifying someone who will care for a child if his caregiver dies or falls ill is one way to ensure a better future for children.

In Rwanda, 8 percent of women and men reported being primary caregivers to children under age 18, regardless of whether these children were their own (Table 16.6). The proportion increases significantly with the age of the respondent, from 8 percent among respondents age 20 to 29, to 14 percent among respondents age 40 to 49. The proportions are highest among those with the highest educational levels (14 percent), those living in urban areas (13 percent) and in the City of Kigali (13 percent), and those living in the richest households (13 percent). The proportions are almost the same for men (9 percent) and women (8 percent).

Among these primary caregivers, only 19 percent said that they had made arrangements to have someone care for the children in the event of their own illness or death. The proportion of caregivers who have made succession arrangements is higher among men (25 percent) than women (17 percent). It is also higher in rural areas (20 percent) than in urban areas (17 percent), and higher in the North province (32 percent) than elsewhere. The percentage of caregivers who have made succession arrangements is higher for those with the highest education (24 percent for those with a secondary education or higher) and those in the richest households (23 percent).

Table 16.6 Succession planning

Percentage of de facto women and men age 15-49 who are the primary caregivers of children under age 18 years, and among the primary caregivers, the percentage who have made arrangements for someone else to care for the children in the event of their own inability to do so because of illness or death, by background characteristics, Rwanda 2005

Background characteristic	Percentage of women and men who are primary caregivers	Number of women and men age 15-49	Percentage of caregivers who have made succession arrangements	Number of primary caregivers
Age				
15-19	1.5	3,687	16.0	56
20-29	8.0	5,669	20.9	454
30-39	11.3	3,550	19.4	400
40-49	14.2	2,828	18.1	403
Sex				
Male	9.1	4,413	25.2	402
Female	8.0	11,321	16.8	911
Residence				
Urban	13.1	2,705	17.4	356
Rural	7.4	13,029	20.1	958
Province				
City of Kigali	12.9	1,622	18.5	209
South	8.7	4,097	15.7	356
West	8.5	3,890	15.9	330
North	6.4	2,840	31.7	183
East	7.2	3,285	21.0	236
Education				
No education	8.1	3,364	11.7	272
Primary	7.5	10,724	20.7	807
Secondary or higher	14.3	1,646	23.7	235
Wealth quintile				
Lowest	6.9	3,220	13.6	222
Second	7.3	3,119	18.3	226
Middle	7.5	2,991	16.5	225
Fourth	6.8	3,033	22.0	205
Highest	12.9	3,371	23.1	434
Total	8.3	15,734	19.4	1,313

Note: Table is based on de facto household members, persons who slept in household the night before the survey.

16.4 PROTECTION OF VULNERABLE CHILDREN

Dispossession of property can worsen the vulnerability of both people who care for children and the children themselves. It is therefore important to improve inheritance laws, including enforcement mechanisms, to ensure the right of women and children to inherit property after the death of a husband or father (UNICEF, 2005). For this reason, an indicator was devised to estimate the proportion of women who were dispossessed of property after the death of a spouse.

Table 16.7 shows the proportion of women who were or are widows and the percentage of widowed women who were dispossessed of their property after the death of their spouse. Altogether, 7 percent of the women surveyed have been widowed. This proportion increases with the age of the woman, from 2 percent at age 20 to 29, to 21 percent at age 40 to 49. Similarly, the proportion of widows increases with the age of the child. The results according to other background characteristics show no major differentials.

One-third of ever-widowed women said they had been dispossessed of their property. This proportion is much higher for women age 20 to 29 (67 percent) and women age 30 to 39 (42 percent) than for older women (21 percent at age 40 to 49). Moreover, it appears that those most often disinherited are women with a primary education (36 percent), women in urban areas (37 percent), and women in the South (37 percent) and West (36 percent) provinces.

Table 16.7 Widows dispossessed of property

Percentage of de facto women age 15-49 who have been widowed, and the percentage of widowed women who have been dispossessed of property, by s background characteristics, Rwanda 2005

Background characteristic	Percentage of women who have been widowed	Number of women	Percentage who were dispossessed of property[1]	Number of ever-widowed women
Age				
15-19	0.0	2,585	na	0
20-29	1.8	4,092	66.5	73
30-39	12.1	2,600	41.9	314
40-49	20.9	2,045	21.2	428
Age of youngest child				
No children	0.3	4,234	*	12
<18 years	7.9	5,167	44.9	406
18+ years	20.6	1,921	*	396
Residence				
Urban	7.6	1,921	36.5	145
Rural	7.1	9,400	32.5	669
Province				
City of Kigali	8.4	1,127	34.8	94
South	7.7	2,958	36.5	228
West	7.1	2,824	36.0	200
North	6.8	2,063	22.4	141
East	6.4	2,348	33.6	150
Education				
No education	10.9	2,646	30.3	289
Primary	5.8	7,591	36.2	437
Secondary or higher	8.0	1,084	28.1	87
Wealth quintile				
Lowest	8.2	2,421	29.1	198
Second	7.7	2,325	35.1	178
Middle	7.7	2,099	34.5	162
Fourth	6.0	2,133	36.3	128
Highest	6.3	2,342	32.4	148
Total	7.2	11,321	33.2	814

Note: Table is based on de facto household members, persons who slept in household the night before the survey. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Dispossessed of property indicates that most of late husband's property went to another wife, to the husband's family (not including respondent or children), or to another person.

16.5 CARE AND SUPPORT

16.5.1 Care and Support of the Chronically Ill

When an adult member of a household dies or falls chronically ill, it can have a devastating effect on the remaining members of the household, particularly children. In such cases, household survival often depends on external assistance or support. For this reason, the survey asked households in which someone age 18 to 59 had been chronically ill for three of the past 12 months, or had died after a chronic illness in the past 12 months, whether the household had received free medical, emotional, or material support to care for these persons in the past year. The results are presented in Table 16.8.

Table 16.8 External support for chronically ill persons

For persons age 18 to 59 chronically ill for at least 3 of the past 12 months or who died within the past 12 months after being chronically ill for at least 3 months, the percentage whose household received some type of free basic external support in the past year to care for them, by background characteristics, Rwanda 2005

Background characteristic	Percentage of chronically ill persons whose households received: Medical support at least once a month during illness	Emotional support[1] in the past 30 days[3]	Social/ material, support[2] in the past 30 days[3]	At least one type of support in the past 30 days[3]	All three types of support in the past 30 days[3]	None of the three types of support	Number of persons
Age							
18-29	2.2	10.0	1.6	12.6	0.2	87.4	338
30-39	5.0	7.2	3.0	11.8	0.3	88.2	244
40-49	2.8	6.5	3.0	10.4	0.0	89.6	305
50-59	4.5	9.4	3.2	14.9	0.3	85.1	226
Sex							
Male	2.5	8.5	2.2	11.5	0.2	88.5	428
Female	4.0	8.2	2.8	12.8	0.2	87.2	685
Residence							
Urban	3.8	6.4	1.5	10.2	0.3	89.8	209
Rural	3.4	8.8	2.9	12.8	0.1	87.2	904
Province							
City of Kigali	4.7	8.2	1.8	14.7	0.0	85.3	114
South	4.0	5.7	2.2	9.8	0.2	90.2	320
West	2.3	11.9	4.8	16.0	0.0	84.0	280
North	2.7	13.5	2.6	15.6	0.4	84.4	148
East	3.8	4.6	1.0	8.3	0.2	91.7	251
Wealth quintile							
Lowest	2.9	7.5	2.2	10.3	0.0	89.7	252
Second	1.6	7.1	1.7	8.7	0.0	91.3	196
Middle	2.8	8.0	2.7	11.1	0.0	88.9	233
Fourth	5.1	8.9	3.8	15.7	0.2	84.3	243
Highest	4.7	10.5	2.3	15.8	0.7	84.2	187
Total	3.4	8.3	2.6	12.3	0.2	87.7	1,113

Note: Table is based on de jure household members, i.e., usual household members, who were chronically ill in the past 12 months or who died of a chronic illness in the past 12 months.
[1] Support such as companionship, counseling from a trained counselor or spiritual support for which there was no payment
[2] Support such as help with household work, training for a caregiver, legal services, clothing, food or financial support for which there was no payment.
[3] In the past 30 days for living persons and in the 30 days preceding death for dead persons

The data show that very few households had received assistance to care for a chronically ill member. The great majority of households caring for chronically ill persons, or that had lost a member to chronic illness, in the past 12 months, had received no support at all (88 percent). When assistance was received, it was generally in the form of emotional support in the past 30 days (8 percent). Only a small proportion of households caring for chronically ill persons received any other type of support, be it medical (3 percent) or material/social (3 percent). Altogether, 12 percent of households with chronically ill members received a single type of support; less than 1 percent of households received all three types of support.

16.5.2 Care and Support of OVC

OVC are generally cared for by their families, which, in turn, often depend on community assistance to survive. Strengthening family and community capacities to protect OVC and ensure their basic needs is therefore a key component of OVC support. For all households supporting an OVC under age 18, the RDHS-III asked if the household had received free assistance to care for the OVC in the form of one of the external supports covered by the survey. The indicator presented in Table 16.9 estimates the level of free external support received by families to care for OVC.

As for households caring for chronically ill, the majority of households supporting OVC (87 percent) received no external support to assist in their care. When support was received, it was generally in the form of school-related assistance (9 percent). Only a small proportion of OVC received any other type of support, be it medical (3 percent), emotional (2 percent), or material/social (2 percent). Altogether, 13 percent of OVC households received a single type of support; less than 1 percent of households received all three types of support.

Table 16.9 External support for orphans and vulnerable children

Percentage of orphans and vulnerable children under age 18 years whose household received some type of free basic external support to care for the child in the past 12 months, by background characteristics, Rwanda 2005

	Percentage of orphans and vulnerable children whose households received:							
Background characteristic	Medical support[1] in the past 12 months	Emotional support[2] in the past 3 months	Social/ material support[3] in the past 3 months	School-related assistance[4] in the past 12 months	At least one type of support[5]	All of the types of support[5]	None of the types of support	Number of OVC
Age								
0-4	1.7	2.4	1.2	na	4.4	0.0	95.6	1,001
5-9	3.3	2.6	2.5	7.9	12.2	0.0	87.8	1,728
10-14	4.5	1.8	2.1	13.2	16.7	0.3	83.3	2,676
15-17	2.7	1.8	1.8	8.5	11.2	0.2	88.8	1,531
Sex								
Male	3.2	2.1	2.0	8.3	11.8	0.2	88.2	3,427
Female	3.6	2.1	2.1	9.6	13.4	0.1	86.6	3,509
Residence								
Urban	6.2	2.6	3.3	9.2	14.4	0.3	85.6	1,161
Rural	2.8	2.0	1.8	8.9	12.2	0.1	87.8	5,775
Province								
City of Kigali	4.0	3.3	1.2	6.6	11.0	0.4	89.0	616
South	4.7	1.2	2.0	7.7	10.8	0.1	89.2	1,897
West	2.8	2.7	1.3	13.8	17.5	0.1	82.5	1,826
North	3.4	1.9	3.8	9.6	14.3	0.0	85.7	1,177
East	2.3	2.2	1.9	4.9	8.0	0.3	92.0	1,420
Wealth quintile								
Lowest	3.3	1.5	1.7	8.5	11.5	0.1	88.5	1,657
Second	3.6	2.4	2.4	11.3	15.3	0.3	84.7	1,247
Middle	3.3	1.4	2.0	7.8	11.0	0.0	89.0	1,416
Fourth	3.4	2.0	1.9	8.4	13.0	0.1	87.0	1,322
Highest	3.5	3.4	2.3	9.0	12.6	0.3	87.4	1,295
Total	3.4	2.1	2.0	8.9	12.6	0.2	87.4	6,936

Note: Table is based on de jure household members, i.e., usual household members.
[1] Medical care, supplies or medicine
[2] Companionship, counseling from a trained counselor, or spiritual support for which there was no payment.
[3] Help with household work, training for a caregiver, legal services, clothing, food, or financial support for which there was no payment.
[4] Allowance, free admission, books, or supplies for which there as no payment. Percentage calculated for age 5-17 years.
[5] Four types of support for those age 5-17, three types of support (i.e. excluding school support) received by those age 0-4.

REFERENCES

ACC/SCN. 2000. *Fourth report on the world nutrition situation*. Geneva: CC/SCN in collaboration with IFPRI.

Attaran, A., K.I. Barnes, C. Curtis et al. 2004. WHO, the Global Fund, and medical malpractice in malaria treatment. *Lancet* 363(9404): 237-40.

Barrère, B., J. Schoemaker, M. Barrère, T. Habiyakare, A. Kabagwira, and M. Ngendakumana. 1994. *Enquête Démographique et de Santé, Rwanda 1992*. Kigali, Rwanda and Calverton, Maryland, USA: Office National de la Population [Rwanda] and Macro International Inc.

Boerma, T. 1988. Monitoring and evaluation of health interventions : Age- and cause-specific mortality and morbidity in childhood. In *Research and intervention issues concerning infant and child mortality and health*, 195-218. Proceedings of the East Africa Workshop, International Development Research Centre, Ottawa, Canada.

Centers for Disease Control and Prevention (CDC). 1998. Recommendations to prevent and control iron deficiency in the United States. *Morbidity and Mortality Weekly Report* 47 (RR-3): 1-29.

Delpeuch, F. 1991. Indices et indicateurs anthropométriques : choix, interprétation, présentation et utilisation. In *Atelier sur la surveillance nutritionnelle en Afrique de l'Ouest : méthodologie des enquêtes nutritionnelles*. Working paper. Dakar, Sénégal: ORANA, ORSTOM and OMS.

DeMaeyer, E.M. 1989. *Preventing and controlling iron deficiency anaemia through primary health care : A guide for health administrators and programme managers*. E.M. DeMaeyer with the collaboration of P. Dallman et al. Geneva: World Health Organization.

Department of Statistics [Rwanda]. 2004. *Rwanda Development Indicators, 2004*. Kigali, Rwanda: Ministry of Finances and Economic Planning.

Direction des Statistiques [Rwanda]. 1998. *Enquête Socio-démographique (ESD, 1996)*. Kigali, Rwanda: Ministère des Finances et de la Planification Économiques.

Direction des Statistiques [Rwanda]. 1997. *L'Enquête Intégrale sur les Conditions de Vie (EICV),1997*. Kigali, Rwanda: Ministère du Plan.

Fall, I.S. 2003. *Analyse de situation pour la lutte contre le paludisme dans le cadre de l'initiative « Roll Back Malaria » au Rwanda*.

Gwatkin, D.R., S. Rutstein, K. Johnson, R.P. Pande and A. Wagstaff. 2000. *Socio-economic differences in health, nutrition and poverty*. HNP/Poverty Thematic Group of the World Bank, Washington, D.C.: The World Bank.

Hinde, A. 1998. *Demography methods*. New York: Oxford University Press, Inc.

Ivorra, C.V. 1967. Paludisme. In *Santé et maladies au Rwanda*. Bruxelles: AGCD. 427-447.

Manga, L. 1997. *Mise en œuvre accélérée de la lutte contre le paludisme en Afrique en 1997. Mission d'appui au programme national de lutte contre le paludisme au Rwanda*. Final Report.

Meyus, H., M. Lips, and H. Caubergh. 1962. L'état actuel des problèmes de paludisme d'altitude au Ruanda-Urundi. *Annales de la Société belge de médecine tropicale* 42(5): 771-782.

Ministry of Local Government, Community Development and Social Affairs (MINALOC) [Rwanda]. 2001. *Rapport national sur le suivi du sommet mondial de 1990 pour les enfants*. Kigali: MINALOC.

National Census Bureau [Rwanda]. 2005. *Third Rwandan General Population and Housing Census – August 15, 2002*. Kigali, Rwanda: National Census Bureau.

Office National de la Population (ONAPO) [Rwanda]. 1984. *National Fertility Survey, 1983,* Vol. 1, *Analyse des résultats*. Kigali, Rwanda: Office National de la Population.

Office National de la Population (ONAPO) [Rwanda] and Macro International Inc. 2001. *Enquête Démographique et de Santé Rwanda 2000*. Kigali, Rwanda and Calverton, Maryland, USA: Office National de la Population and Macro International Inc.

Population Reference Bureau (PRB). 2005. *International data sheet*. http://www.prb.org/

Programme National Intégré de Lutte contre le Paludisme (PNILP). 2001. *Rapport de l'atelier sur la nouvelle approche thérapeutique*. PNILP.

Rusanganwa, A. 1999. Epidemiologic Microstratification of paludism: Index plasmodisques and its determinants in two basic medical zones of Rwanda. Work of end of studies of the DEA in sciences of health: specialization in statistical epidemiology, Université Libre de Bruxelles.

Rutstein, S.O., and G. Rojas. 2003. *Guide to DHS statistics*. Calverton, Maryland, USA: ORC Macro.

Strauss, M.A. 1990. Measuring intrafamily conflict and violence: The conflict tactics (CT) scales. In *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families,* ed. M.A. Strauss and R.J. Gelles, 39-47. New Brunswick: Transation Publishers.

Sullivan, J.M., S.O. Rutstein, and G.T. Bicego. 1994. *Infant and child mortality*. DHS Comparative Studies No. 15. Calverton, Maryland, USA: ORC Macro.

Trussell, J. and G. Rodriguez. 1990. A note on the sisterhood estimate of maternal mortality. *Studies in Family Planning* 21(6): 344-346.

U.S. Census Bureau. 2005. *International data base*. http://www.census.gov/ipc

UNICEF. 2005. *Guide to monitoring and evaluation of the national response for children orphaned and made vulnerable by HIV/AIDS*. New York: UNICEF.

United Nations. 1973. *The determinants and consequences of population trends*. Vol. 1. New York: United Nations.

United Nations. 1982. *Model Life Tables for developing countries*. New York: United Nations.

United Nations. 2001. *Declaration of Commitment on HIV/AIDS*. New York: United Nations.

United Nations General Assembly. 1993. *Declaration on the Elimination of Violence against Women.* Secretary General's Report. New York: United Nations.

Vermylen, M. 1967. Répartition des Anophèles de la République du Rwanda et Burundi. *Rivista di Malariologia* 46(1): 13-22.

World Health Organization (WHO). 2003. *Position of WHO's Roll Back Malaria Department on malaria treatment policy*. Geneva: World Health Organization.

Yamey, G. 2003. Malaria researchers say global fund is buying "useless drug." *British Medical Journal* 327(7425): 1188.

Yip, R. 1994. Changes in iron metabolism with age. In *Iron metabolism in health and disease,* ed. J.H. Brock, J. Halliday and L. Powell. London: W.B. Sanders. 427-448.

SAMPLE DESIGN

APPENDIX A

A.1 INTRODUCTION

The third Demographic and Health Survey in Rwanda (2005 RDHS-III) followed those conducted in 1992 and 2000. It is composed of a nationally representative sample of approximately 10,500 households. All women age 15-49 who were usual residents of the household or who were present in the sampled households on the night before the survey were eligible to be interviewed. In addition, a subsample of 50 percent of all households selected for the women's questionnaire was selected for the men's questionnaire. In this subsample of households, all men age 15-59 were eligible to be interviewed and, in addition, all eligible men and women were asked to consent to an HIV test. As with the prior two surveys, the primary goal of the survey was to collect data on fertility, knowledge and use of contraception, maternal and childhood mortality, and sexually-transmitted infections and HIV/AIDS. The data were representative at the national level, for urban-rural residence, and for each of the five provinces. The sample was designed to be representative for each of the 12 old provinces, and is therefore representative at the level of the five new provinces, since these represent a regrouping of the 12 old provinces.

A.2 SAMPLE FRAME

The National Census Service possesses a computer file of 7,727 enumeration areas (EAs) created for the 2002 General Census of Population and Housing (RGPH, 2002). In that file, each EA is listed with all of its identifiers (province, district, and identification code), its population size, number of households, and classification as urban or rural. The boundaries for each EA are clearly identifiable on the cartographic maps created for the 2002 RGPH. The distribution of EAs and of households among the 12 old provinces and according to urban-rural residence is shown in Table A.1.

Table A.1 Distribution of households and enumeration areas (EAs) by old province and according to residence (RGPH, 2002)

Old province	Number of households			Number of EAs		
	Urban	Rural	Total	Urban	Rural	Total
Ville de Kigali	124,964	0	124,964	565	0	565
Kigali Ngali	11,513	160,967	172,480	41	694	735
Gitarama	27,205	157,108	184,313	116	698	814
Butare	27,117	137,526	164,643	113	568	681
Gikongoro	6,258	100,833	107,091	28	465	493
Cyangugu	9,284	111,267	120,551	42	559	601
Kibuye	9,654	92,747	102,401	40	432	472
Gisenyi	12,360	174,853	187,213	51	761	812
Ruhengeri	14,474	178,686	193,160	61	779	840
Byumba	12,294	139,645	151,939	50	615	665
Umutara	1,843	89,817	91,660	7	393	400
Kibungo	16,015	140,996	157,011	64	585	649
Total	272,981	1,484,445	1,757,426	1,178	6,549	7,727

A.3 SAMPLE SELECTION

The sample for the RDHS-III used a stratified, two-stage cluster selection. The primary sampling unit is the EA as defined in the 2002 census. Each province is separated into urban and rural areas to create the sampling strata and the sample was drawn independently in each stratum. There were therefore 23 strata in total, because the City of Kigali comprised one strata, as it had no rural component. In the first stage, 432 EAs were selected with probability proportional to size, the size being the number of households in the EA. An updating operation listed all the households in each selected EA and this list was used to select the households for the second stage. Before this updating of the households, the larger EAs were divided into segments, of which only one was selected for the survey. In the second stage, in each EA selected in the first stage, a fixed number of households (20 households in each urban cluster, 24 households in each rural cluster) were selected using a systematic selection based on the new list of households created during the household listing. In all, 10,644 households were selected for the women's interview.

All members of each selected household were listed in the Household Questionnaire. Every woman age 15-49 in the household was interviewed using the Women's Questionnaire. Half of the households selected for the women's interview were also selected for the men's interview. In this subsample of households all men age 15-59 were interviewed. All men age 15-59 and all women age 15-49 in this subsample of households were also asked to consent to an HIV test.

Table A.2 shows the sample allocation by old province and according to urban-rural residence. In all, 462 EAs were selected (111 in urban areas and 351 in rural areas) and 10,644 households were selected (2,220 in urban areas and 8,424 in rural areas.)

Table A.2 Sample allocation by old province and according to residence

Old province	Number of households			Number of EAs			Expected number of interviewed women
	Urban	Rural	Total	Urban	Rural	Total	
Ville de Kigali	880	0	880	44	0	44	899
Kigali Ngali	100	792	892	5	33	38	911
Gitarama	180	696	876	9	29	38	894
Butare	200	672	872	10	28	38	890
Gikongoro	100	792	892	5	33	38	911
Cyangugu	120	768	888	6	32	38	907
Kibuye	120	768	888	6	32	38	907
Gisenyi	100	792	892	5	33	38	911
Ruhengeri	120	768	888	6	32	38	907
Byumba	120	768	888	6	32	38	907
Umutara	40	864	904	2	36	38	923
Kibungo	140	744	884	7	31	38	903
Total	2,220	8,424	10,644	111	351	462	10,868

A.4 SAMPLING PROBABILITY

The sampling probabilities were calculated separately for each sampling stage and for each stratum. For each stratum *h*, the following notations are used:

P_{1hi}: first-stage sampling probability of EA *i*.
P_{2hi}: second-stage sampling probability of households in EA *i*.

Let a_h be the number of clusters selected in stratum *h*, M_{hi} the number of households of the i^{th} EA in stratum *h*, and M_h the total number of households in stratum *h*.

In the first stage, the probability of inclusion of the i^{th} EA in the sample is calculated as follows:

$$P_{1hi} = \frac{a_h \times M_{hi}}{M_h}$$

In the second stage, a number of b_{hi} households is selected from the number L_{hi} households found during the household listing in the i^{th} EA. We then have:

$$P_{2hi} = \frac{b_{hi}}{L_{hi}}$$

Because of the non-proportional distribution of the sample between strata, sampling weights are used to insure that the sample is representative at the national level. Sampling weights for individuals of cluster *i* in strata *h* are calculated as follows:

$$W_{hi} = \frac{1}{P_{1hi} P_{2hi}}$$

with a correction for non-response and normalization.

A.5 SURVEY RESULTS

Tables A.3 and A.4 present the detailed results of the household interviews and the women's and men's interviews, according to urban-rural residence and the five provinces.

Tables A.5 and A.6 present the coverage of HIV testing among women and men, respectively, by background characteristics. Tables A.7 and A.8 present the coverage of HIV testing among women and men, respectively, according to characteristics related to risk status.

Table A.3 Sample implementation: women

Percent distribution of households and eligible women by results of the household and individual interviews, and household, eligible women and overall response rates, according to urban-rural residence and province, Rwanda 2005

Result	Residence		Province					Total
	Urban	Rural	City of Kigali	South	West	North	East	
Selected households								
Completed (1)	94.9	96.9	93.7	96.9	96.9	97.4	96.4	96.5
Household present but no respondent at home (2)	0.4	0.2	0.6	0.3	0.1	0.2	0.1	0.2
Household absent (3)	0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.5
Postponed (4)	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Refused (5)	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.1
Dwelling vacant/address not a dwelling (6)	3.0	1.8	0.5	0.3	0.3	0.3	0.8	2.1
Dwelling destroyed (7)	0.9	0.6	3.1	2.2	1.9	1.7	2.0	0.6
Dwelling not found (8)	0.0	0.0	1.4	0.4	0.6	0.4	0.7	0.0
Other (9)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	2,220	8,424	1,100	2,640	2,764	1,752	2,388	10,644
Household response rate (HRR) [1]	99.3	99.8	98.7	99.7	99.7	99.8	99.9	99.7
Eligible women								
Completed (a)	97.3	98.4	96.3	98.7	97.6	98.0	99.1	98.1
Not at home (b)	1.6	1.0	2.2	0.8	1.6	1.3	0.3	1.2
Postponed (c)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refused (d)	0.3	0.0	0.5	0.0	0.1	0.1	0.0	0.1
Partly completed (e)	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Incapacitated (f)	0.7	0.5	0.8	0.5	0.6	0.5	0.5	0.5
Other (g)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	2,689	8,850	1,380	2,796	3,043	1,858	2,462	11,539
Eligible women response rate (EWRR) [2]	97.3	98.4	96.3	98.7	97.6	98.0	99.1	98.1
Overall response rate (ORR) [3]	96.6	98.1	95.0	98.4	97.4	97.8	99.0	97.8

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * (1)}{(1) + (2) + (4) + (5) + (8)}$$

[2] Using the number of eligible women falling into specific response categories, the eligible woman response rate (EWRR) is calculated as:

$$\frac{100 * (a)}{(a) + (b) + (c) + (d) + (e) + (f) + (g)}$$

[3] The overall response rate (ORR) is calculated as: ORR = HRR * EWRR/100

Table A.4 Sample implementation: men

Percent distribution of households and eligible men by results of the household and individual interviews, and household, eligible men and overall response rates, according to urban-rural residence and province, Rwanda 2005

Result	Residence		Province					Total
	Urban	Rural	City of Kigali	South	West	North	East	
Selected households								
Completed (1)	94.9	96.9	93.8	96.5	96.9	97.7	96.4	96.5
Household present but no respondent at home (2)	0.5	0.2	0.7	0.4	0.2	0.1	0.2	0.3
Household absent (3)	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.5
Postponed (4)	0.1	0.0	0.4	0.0	0.1	0.0	0.0	0.0
Refused (5)	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.1
Dwelling vacant/address not a dwelling (6)	2.8	1.8	0.7	0.2	0.4	0.5	0.6	2.0
Dwelling destroyed (7)	1.0	0.5	2.4	2.4	1.7	1.4	2.2	0.6
Dwelling not found (8)	0.1	0.0	1.6	0.5	0.7	0.2	0.7	0.0
Other (9)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of sampled households	1,110	4,212	550	1,320	1,382	876	1,194	5,322
Household response rate (HRR) [1]	99.2	99.7	98.5	99.6	99.7	99.9	99.8	99.6
Eligible men								
Completed (a)	95.5	97.7	93.9	97.6	97.1	97.0	99.0	97.2
Not at home (b)	3.1	1.3	4.1	1.1	2.2	1.4	0.6	1.7
Postponed (c)	0.1	0.0	0.2	0.0	0.0	0.0	0.1	0.0
Refused (d)	0.4	0.1	0.5	0.1	0.2	0.4	0.0	0.2
Partly completed (e)	0.3	0.1	0.5	0.2	0.1	0.1	0.1	0.2
Incapacitated (f)	0.6	0.7	0.9	1.0	0.4	1.0	0.2	0.7
Other (g)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	1,183	3,776	659	1,180	1,274	769	1,077	4,959
Eligible men response rate (EMRR) [2]	95.5	97.7	93.9	97.6	97.1	97.0	99.0	97.2
Overall response rate (ORR) [3]	94.8	97.4	92.5	97.2	96.8	96.9	98.8	96.8

[1] Using the number of households falling into specific response categories, the household response rate (HRR) is calculated as:

$$\frac{100 * (1)}{(1) + (2) + (4) + (5) + (8)}$$

[2] Using the number of eligible men falling into specific response categories, the eligible man response rate (EMRR) is calculated as:

$$\frac{100 * (a)}{(a) + (b) + (c) + (d) + (e) + (f) + (g)}$$

[3] The overall response rate (ORR) is calculated as: ORR = HRR * EMRR/100

Table A.5 Coverage of HIV testing among interviewed women by background characteristics

Percent distribution of interviewed women age 15-49 by testing status, according to background characteristics (unweighted), Rwanda 2005

Background characteristic	Tested	Refused	Absent for testing	Other/ missing	Total	Unweighted number
Marital status						
Currently married/in union	99.0	0.8	0.1	0.1	100.0	2,737
Widowed	97.8	2.2	0.0	0.0	100.0	229
Divorced/separated	99.4	0.4	0.0	0.2	100.0	522
Never married	98.6	1.0	0.3	0.1	100.0	2,241
Ever had sex	99.3	0.2	0.2	0.2	100.0	435
Never had sex	98.4	1.2	0.3	0.1	100.0	1,806
Type of union						
In union, polygynous	99.1	0.9	0.0	0.0	100.0	325
In union, not polygynous	99.0	0.8	0.1	0.1	100.0	2,387
Not in union	98.7	1.0	0.2	0.1	100.0	2,992
Missing	96.0	4.0	0.0	0.0	100.0	25
Ever had sexual intercourse						
Yes	99.0	0.8	0.1	0.1	100.0	3,923
No	98.4	1.2	0.3	0.1	100.0	1,806
Currently pregnant						
Yes	99.5	0.5	0.0	0.0	100.0	434
Not pregnant/not sure	98.8	0.9	0.2	0.1	100.0	5,295
Times slept away from home in past 12 months						
Never	98.9	0.9	0.2	0.1	100.0	4,420
1-2	99.2	0.7	0.1	0.0	100.0	967
3-4	98.2	1.3	0.0	0.4	100.0	223
5+	96.5	2.7	0.0	0.9	100.0	113
Missing	100.0	0.0	0.0	0.0	100.0	6
Whether away for more than one month in past 12 months						
Away for more than 1 month	98.3	0.8	0.4	0.4	100.0	239
Away for less than 1 month	98.9	1.0	0.0	0.1	100.0	1,062
Never away	98.9	0.9	0.2	0.1	100.0	4,420
Missing	100.0	0.0	0.0	0.0	100.0	8
Religion						
Catholic	99.0	0.7	0.2	0.1	100.0	2,536
Protestant	98.7	0.9	0.2	0.1	100.0	2,224
Adventist	98.6	1.4	0.0	0.0	100.0	720
Muslim	99.2	0.8	0.0	0.0	100.0	119
Other/missing	99.2	0.8	0.0	0.0	100.0	130
Total	98.8	0.9	0.2	0.1	100.0	5,729

Table A.6 Coverage of HIV testing among interviewed men by background characteristics

Percent distribution of interviewed men age 15-59 by testing status, according to background characteristics (unweighted), Rwanda 2005

Background characteristic	Tested	Refused	Absent for testing	Other/ missing	Total	Unweighted number
Marital status						
Currently married/in union	98.2	1.5	0.2	0.0	100.0	2,478
Widowed	97.2	0.0	0.0	2.8	100.0	36
Divorced/separated	95.7	2.2	2.2	0.0	100.0	92
Never married	98.1	1.7	0.2	0.1	100.0	2,214
Ever had sex	97.8	2.1	0.1	0.0	100.0	858
Never had sex	98.2	1.4	0.2	0.1	100.0	1,356
Type of union						
In union, polygynous	98.5	1.5	0.0	0.0	100.0	134
In union, not polygynous	98.2	1.5	0.2	0.0	100.0	2,341
Not in union	98.0	1.7	0.3	0.1	100.0	2,342
Missing	100.0	0.0	0.0	0.0	100.0	3
Ever had sexual intercourse						
Yes	98.0	1.7	0.2	0.1	100.0	3,463
No	98.2	1.4	0.2	0.1	100.0	1,357
Circumcision status						
Circumcised	95.1	4.5	0.4	0.0	100.0	532
Not circumcised	98.5	1.2	0.2	0.1	100.0	4,261
Missing	92.6	7.4	0.0	0.0	100.0	27
Times slept away from home in past 12 months						
Never	98.1	1.6	0.3	0.1	100.0	3,592
1-2	99.0	1.0	0.0	0.0	100.0	704
3-4	97.4	1.9	0.4	0.4	100.0	265
5+	97.1	2.5	0.4	0.0	100.0	238
Missing	90.5	9.5	0.0	0.0	100.0	21
Whether away for more than one month in past 12 months						
Away for more than 1 month	98.1	1.6	0.0	0.3	100.0	373
Away for less than 1 month	98.1	1.6	0.2	0.0	100.0	809
Never away	98.1	1.6	0.3	0.1	100.0	3,592
Missing	97.8	2.2	0.0	0.0	100.0	46
Religion						
Catholic	98.5	1.2	0.2	0.1	100.0	2,416
Protestant	97.9	1.6	0.3	0.1	100.0	1,586
Adventist	97.9	2.1	0.0	0.0	100.0	585
Muslim	95.5	4.5	0.0	0.0	100.0	112
Other/missing	95.0	5.0	0.0	0.0	100.0	121
Total	98.1	1.6	0.2	0.1	100.0	4,820

Table A.7 Coverage of HIV testing among women who ever had sex by risk status variables

Percent distribution of women age 15-49 who ever had sex by testing status, according to characteristics relating to risk status (unweighted), Rwanda 2005

Risk status characteristic	Tested	Refused	Absent for testing	Other/ missing	Total	Unweighted number
Age at first sex						
< 16	100.0	0.0	0.0	0.0	100.0	433
16-17	99.9	0.0	0.0	0.1	100.0	683
18-19	99.3	0.6	0.1	0.0	100.0	986
20 or older	98.5	1.2	0.1	0.1	100.0	1,701
Missing	95.8	2.5	0.8	0.8	100.0	120
Higher-risk sex in past 12 months						
Had higher-risk sex	99.3	0.0	0.4	0.4	100.0	269
Had sex, not higher-risk sex	99.0	0.8	0.1	0.1	100.0	2,673
No sex in past 12 months	99.1	0.8	0.0	0.1	100.0	981
Number of partners in past 12 months						
0	99.1	0.8	0.0	0.1	100.0	981
1	99.0	0.8	0.1	0.1	100.0	2,923
2 or more	100.0	0.0	0.0	0.0	100.0	19
Number of higher-risk sexual partners in past 12 months						
0	99.0	0.8	0.1	0.1	100.0	3,654
1	99.2	0.0	0.4	0.4	100.0	256
2 or more	100.0	0.0	0.0	0.0	100.0	13
Any condom use (FP, other)						
Used condom at any time	98.3	0.6	0.6	0.6	100.0	175
Never used condom	99.1	0.8	0.1	0.1	100.0	3,748
Condom use at last sex in past 12 months						
Used condom at last sex	97.1	0.0	1.0	1.9	100.0	104
No condom at last sex	99.1	0.8	0.1	0.0	100.0	2,838
Condom use at last higher-risk sex in past 12 months						
Used condom at last higher-risk sex	96.8	0.0	1.6	1.6	100.0	63
No condom at last higher-risk sex	100.0	0.0	0.0	0.0	100.0	206
Condom use at first sex						
Used condom at first sex	98.2	0.0	1.8	0.0	100.0	57
No condom at first sex	99.0	0.8	0.1	0.1	100.0	3,866
Number of lifetime sexual partners						
1	98.9	0.8	0.1	0.1	100.0	2,721
2	99.3	0.6	0.0	0.1	100.0	845
3-4	99.7	0.3	0.0	0.0	100.0	303
5-9	97.4	2.6	0.0	0.0	100.0	39
10 or more	100.0	0.0	0.0	0.0	100.0	10
Missing	80.0	20.0	0.0	0.0	100.0	5
HIV testing status						
Ever tested and knows results of last test	98.4	1.1	0.2	0.3	100.0	1,137
Ever tested, does not results	98.0	2.0	0.0	0.0	100.0	152
Never tested	99.4	0.5	0.1	0.0	100.0	2,618
Missing	100.0	0.0	0.0	0.0	100.0	16
Total	99.0	0.8	0.1	0.1	100.0	3,923

Table A.8 Coverage of HIV testing among men who ever had sex by risk status variables

Percent distribution of men age 15-59 who ever had sex by testing status, according to characteristics relating to risk status (unweighted), Rwanda 2005

Risk status characteristic	Tested	Refused	Absent for testing	Other/ missing	Total	Unweighted number
Age at first sex						
< 16	99.2	0.8	0.0	0.0	100.0	597
16-17	97.6	2.2	0.2	0.0	100.0	465
18-19	97.8	1.8	0.3	0.1	100.0	730
20 or older	97.8	1.8	0.3	0.1	100.0	1,661
Missing	100.0	0.0	0.0	0.0	100.0	10
Higher-risk sex in past 12 months						
Had higher-risk sex	96.7	3.1	0.2	0.0	100.0	425
Had sex, not higher-risk sex	98.3	1.5	0.2	0.0	100.0	2,344
No sex in past 12 months	98.0	1.6	0.3	0.1	100.0	694
Number of partners in past 12 months						
0	98.0	1.6	0.3	0.1	100.0	694
1	98.0	1.7	0.2	0.0	100.0	2,635
2 or more	99.3	0.7	0.0	0.0	100.0	134
Number of higher-risk sexual partners in past 12 months						
0	98.2	1.5	0.2	0.1	100.0	3,038
1	96.5	3.3	0.3	0.0	100.0	400
2 or more	100.0	0.0	0.0	0.0	100.0	25
Paid for sex in the past 12 months						
Yes	97.6	2.4	0.0	0.0	100.0	42
No	98.0	1.7	0.2	0.1	100.0	3,421
Any condom use (FP, other)						
Used condom at any time	95.1	4.4	0.3	0.2	100.0	653
Never used condom	98.7	1.0	0.2	0.0	100.0	2,810
Condom use at last sex in past 12 months						
Used condom at last sex	97.0	2.4	0.6	0.0	100.0	169
No condom at last sex	98.1	1.7	0.2	0.0	100.0	2,600
Condom use at last higher-risk sex in past 12 months						
Used condom at last higher-risk sex	96.9	3.1	0.0	0.0	100.0	160
No condom at last higher-risk sex	96.6	3.0	0.4	0.0	100.0	265
Condom use at last paid sexual encounter in past 12 months						
Used condom at last sex	100.0	0.0	0.0	0.0	100.0	27
No condom at last sex	93.3	6.7	0.0	0.0	100.0	15
Condom use at first sex						
Used condom at first sex	97.2	2.8	0.0	0.0	100.0	106
No condom at first sex	98.1	1.6	0.2	0.1	100.0	3,357
Number of lifetime sexual partners						
1	98.5	1.2	0.2	0.0	100.0	1,233
2	98.2	1.6	0.1	0.1	100.0	871
3-4	97.7	2.1	0.2	0.0	100.0	898
5-9	98.4	1.0	0.6	0.0	100.0	314
10 or more	95.6	3.7	0.0	0.7	100.0	136
Missing	81.8	18.2	0.0	0.0	100.0	11
HIV testing status						
Ever tested and knows results of last test	96.2	3.5	0.3	0.0	100.0	858
Ever tested, does not results	100.0	0.0	0.0	0.0	100.0	82
Never tested	98.6	1.1	0.2	0.1	100.0	2,522
Missing	100.0	0.0	0.0	0.0	100.0	1
Total	98.0	1.7	0.2	0.1	100.0	3,463

ESTIMATES OF SAMPLING ERRORS

APPENDIX B

The estimates from a sample survey are affected by two types of errors: (1) nonsampling errors, and (2) sampling errors. Non-sampling errors are the results of mistakes made in implementing 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 2005 RDHS to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2005 RDHS 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 2005 RDHS-III sample is the result of a multistage stratified design, and, consequently, it was necessary to use more complex formula. The computer software used to calculate sampling errors for the 2005 RDHS-III is the ISSA Sampling Error Module. This module used 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 linearization 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:

$$SE^2(r) = var(r) = \frac{1-f}{x^2}\sum_{h=1}^{H}\left[\frac{m_h}{m_h-1}\left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h}\right)\right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}\text{, and } \; z_h = y_h - rx_h$$

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 2005 RDHS-III, there were 462 non-empty clusters. Hence, 461 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 462 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 461 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 2005 RDHS-III are calculated for selected variables considered to be of primary interest for woman's survey and for man's surveys, respectively. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for each of the five 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.9 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 surviving*) can be interpreted as follows: the overall average from the national sample is 2.141 and its standard error is 0.022. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 2.141±2×0.022. There is a high probability (95 percent) that the true average number of children surviving is between 2.141 - 2×0.022 and 2.141 + 2×0.022, that is, between 2.097 and 2.185.

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 0.3 percent and 17.3 percent with an average of 3.8 percent; the highest relative standard errors are for estimates of very low values (e.g., women currently using IUD). If estimates of very low values (less than 10 percent) were removed, then the average drops to 2.6 percent. So in general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. The relative standard error for the total fertility rate is small, 1.6 percent. However, for the mortality rates, the averaged relative standard error is much higher, 5.2 percent.

There are differentials in the relative standard error for the estimates of sub-populations. For example, for the variable *Children ever born to women 40-49*, the relative standard errors as a percent of the estimated mean for the whole country and for rural and urban areas are 1.0 percent, 1.1 percent and 2.4 percent, respectively.

For the total sample, the value of the design effect (DEFT), averaged over all variables, is 1.22 which means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 1.22 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Rwanda 2005

Variable	Estimate	Base Population
	WOMEN	
Urban residence	Proportion	All women 15-49
Literate	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 20-49
Currently pregnant	Proportion	All women 15-49
Children ever born	Mean	All women 15-49
Children ever born to women 40-49	Mean	Women 40-49
Children surviving	Mean	All women 15-49
Knows any contraceptive method	Proportion	Currently married women 15-49
Ever used any contraceptive method	Proportion	Currently married women 15-49
Currently using any contraceptive method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using condom	Proportion	Currently married women 15-49
Currently using female sterilization	Proportion	Currently married women 15-49
Currently using periodic abstinence	Proportion	Currently married women 15-49
Obtained method from public sector source	Proportion	Current users of modern methods
Want no more children	Proportion	Currently married women 15-49
Want to delay birth at least two years	Proportion	Currently married women 15-49
Ideal number of children	Mean	All women 15-49
Mothers received tetanus injection for last birth	Proportion	Most recent births in the last 5 years
Mothers received medical assistance at delivery	Proportion	Births in the last 5 years
Child had diarrhea in the 2 weeks prior to survey	Proportion	Children under 5
Treated with oral rehydration salts (ORS)	Proportion	Children with diarrhea in two weeks before interview
Taken to a health provider	Proportion	Children with diarrhea in two weeks before interview
Vaccination card seen	Proportion	Children age 12-23 months
Received BCG	Proportion	Children age 12-23 months
Received DPT (3 doses)	Proportion	Children age 12-23 months
Received polio (3 doses)	Proportion	Children age 12-23 months
Received measles	Proportion	Children age 12-23 months
Fully immunized	Proportion	Children age 12-23 months
Weight-for-height (below -2SD)	Proportion	Children under 5 who were measured
Height-for-age (below -2SD)	Proportion	Children under 5 who were measured
Weight-for-age (below -2SD)	Proportion	Children under 5 who were measured
Anemia among children	Proportion	Children age 6-59 months
Anemia among women	Proportion	All women 15-49
BMI <18.5	Proportion	All women 15-49
Total Fertility Rate (0-3 years)	Rate	All women
Neonatal mortality[1]	Rate	Number of births in past 5 (10) years
Postneonatal mortality[1]	Rate	Number of births in past 5 (10) years
Infant mortality[1]	Rate	Number of births in past 5 (10) years
Child mortality[1]	Rate	Number of births in past 5 (10) years
Under-five mortality[1]	Rate	Number of births in past 5 (10) years
Maternal mortality (0-9 years)[2]	Rate	Number of births in past 10 years
HIV prevalence	Proportion	All women 15-49 tested for HIV
	MEN	
Urban residence	Proportion	All men 15-59
Literate	Proportion	All men 15-59
No education	Proportion	All men 15-59
Secondary education or higher	Proportion	All men 15-59
Never married/in union	Proportion	All men 15-59
Currently married/in union	Proportion	All men 15-59
HIV prevalence (15-49)	Proportion	All men 15-49 tested for HIV
HIV prevalence (15-59)	Proportion	All men 15-59 tested for HIV
	WOMEN AND MEN	
HIV prevalence (15-49)	Proportion	All women and men 15-49 tested for HIV

[1] Past 5 years for national-level rate and past 10 years for residence- and regional-level rates
[2] Maternal mortality rate is only calculated at the national level.

Table B.2 Sampling errors – National sample, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.170	0.005	11,321	11,321	1.420	0.030	0.160	0.180
Literate	0.703	0.006	11,321	11,321	1.426	0.009	0.691	0.715
No education	0.234	0.006	11,321	11,321	1.448	0.025	0.222	0.245
Secondary education or higher	0.096	0.004	11,321	11,321	1.585	0.046	0.087	0.105
Never married/in union	0.377	0.006	11,321	11,321	1.209	0.015	0.366	0.388
Currently married/in union	0.487	0.006	11,321	11,321	1.225	0.012	0.475	0.498
Married before age 20	0.419	0.007	6,370	6,383	1.178	0.017	0.404	0.433
Currently pregnant	0.080	0.003	11,321	11,321	1.103	0.035	0.074	0.085
Children ever born	2.683	0.028	11,321	11,321	1.025	0.011	2.627	2.740
Children ever born to women 40-49	6.565	0.067	2,032	2,045	1.132	0.010	6.431	6.699
Children surviving	2.141	0.022	11,321	11,321	0.985	0.010	2.097	2.185
Knows any contraceptive method	0.979	0.003	5,458	5,510	1.305	0.003	0.974	0.984
Ever used any contraceptive method	0.346	0.008	5,458	5,510	1.206	0.022	0.330	0.361
Currently using any contraceptive method	0.174	0.006	5,458	5,510	1.124	0.033	0.162	0.185
Currently using pill	0.024	0.003	5,458	5,510	1.384	0.118	0.019	0.030
Currently using condom	0.009	0.001	5,458	5,510	0.955	0.136	0.006	0.011
Currently using female sterilization	0.005	0.001	5,458	5,510	0.942	0.173	0.004	0.007
Currently using periodic abstinence	0.042	0.003	5,458	5,510	1.140	0.074	0.035	0.048
Obtained method from public sector source	0.726	0.021	621	592	1.164	0.029	0.684	0.768
Want no more children	0.427	0.007	5,458	5,510	1.077	0.017	0.413	0.442
Want to delay birth at least two years	0.388	0.007	5,458	5,510	1.025	0.017	0.375	0.402
Ideal number of children	4.283	0.022	10,937	10,899	1.404	0.005	4.240	4.327
Mothers received tetanus injection for last birth	0.634	0.007	5,393	5,425	1.078	0.011	0.620	0.648
Mothers received medical assistance at delivery	0.386	0.009	8,649	8,715	1.424	0.024	0.368	0.405
Child had diarrhea in the 2 weeks prior to survey	0.141	0.005	7,752	7,797	1.088	0.032	0.132	0.151
Treated with oral rehydration salts (ORS)	0.116	0.011	1,096	1,103	1.046	0.092	0.094	0.137
Taken to a health provider	0.141	0.011	1,096	1,103	1.007	0.078	0.119	0.163
Vaccination card seen	0.759	0.014	1,624	1,626	1.304	0.018	0.731	0.787
Received BCG	0.965	0.008	1,624	1,626	1.718	0.008	0.949	0.981
Received DPT (3 doses)	0.870	0.011	1,624	1,626	1.314	0.013	0.848	0.892
Received polio (3 doses)	0.843	0.012	1,624	1,626	1.331	0.014	0.819	0.867
Received measles	0.856	0.012	1,624	1,626	1.337	0.014	0.833	0.880
Fully immunized	0.752	0.014	1,624	1,626	1.287	0.018	0.724	0.780
Weight-for-height (below -2SD)	0.039	0.003	3,874	3,859	1.042	0.086	0.032	0.046
Height-for-age (below -2SD)	0.453	0.009	3,874	3,859	1.084	0.020	0.435	0.472
Weight-for-age (below -2SD)	0.225	0.008	3,874	3,859	1.106	0.035	0.209	0.240
Anemia among children	0.563	0.012	3,554	3,537	1.363	0.022	0.539	0.587
Anemia among women	0.328	0.012	5,638	5,657	1.898	0.036	0.304	0.352
BMI <18.5	0.098	0.004	5,083	5,100	0.960	0.041	0.090	0.106
Total Fertility Rate (0-3 years)	6.076	0.095	na	31,571	1.308	0.016	5.885	6.266
Neonatal mortality (0-4 years)	36.975	2.348	8,714	8,774	1.091	0.063	32.279	41.670
Postneonatal mortality (0-4 years)	49.144	3.002	8,751	8,808	1.233	0.061	43.140	55.147
Infant mortality (0-4 years)	86.118	3.976	8,757	8,815	1.245	0.046	78.166	94.071
Child mortality (0-4 years)	72.294	3.736	8,933	9,005	1.171	0.052	64.822	79.767
Under-five mortality (0-4 years)	152.187	5.410	8,982	9,052	1.303	0.036	141.366	163.007
Maternal mortality (0-9 years)	750	79	na	na	na	0.105	592	908
HIV prevalence	0.036	0.003	5,677	5,656	1.070	0.073	0.031	0.041
MEN								
Urban residence	0.174	0.005	4,820	4,820	1.006	0.032	0.163	0.185
Literate	0.775	0.008	4,820	4,820	1.256	0.010	0.760	0.791
No education	0.174	0.007	4,820	4,820	1.267	0.040	0.160	0.188
Secondary education or higher	0.123	0.006	4,820	4,820	1.355	0.052	0.110	0.136
Never married/in union	0.456	0.008	4,820	4,820	1.180	0.019	0.439	0.473
Currently married/in union	0.519	0.008	4,820	4,820	1.166	0.016	0.502	0.535
HIV prevalence (15-49)	0.023	0.002	4,340	4,361	1.044	0.103	0.018	0.028
HIV prevalence (15-59)	0.022	0.002	4,742	4,763	1.049	0.101	0.018	0.027
WOMEN AND MEN								
HIV prevalence (15-49)	0.030	0.002	10,017	10,016	1.186	0.067	0.026	0.035

na = Not applicable

Table B.3 Sampling errors – Urban sample, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (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	2,616	1,921	na	0.000	1.000	1.000
Literate	0.838	0.007	2,616	1,921	1.021	0.009	0.823	0.852
No education	0.135	0.007	2,616	1,921	1.111	0.055	0.120	0.149
Secondary education or higher	0.277	0.015	2,616	1,921	1.730	0.055	0.246	0.307
Never married/in union	0.470	0.012	2,616	1,921	1.186	0.025	0.447	0.493
Currently married/in union	0.387	0.012	2,616	1,921	1.213	0.030	0.364	0.410
Married before age 20	0.353	0.016	1,381	1,011	1.232	0.045	0.321	0.384
Currently pregnant	0.063	0.005	2,616	1,921	1.013	0.077	0.053	0.072
Children ever born	2.103	0.059	2,616	1,921	1.182	0.028	1.985	2.221
Children ever born to women 40-49	5.806	0.137	362	264	0.991	0.024	5.532	6.080
Children surviving	1.792	0.047	2,616	1,921	1.100	0.026	1.698	1.886
Knows any contraceptive method	0.993	0.003	1,026	744	1.040	0.003	0.987	0.998
Ever used any contraceptive method	0.529	0.019	1,026	744	1.191	0.035	0.492	0.566
Currently using any contraceptive method	0.316	0.021	1,026	744	1.458	0.067	0.273	0.358
Currently using pill	0.042	0.008	1,026	744	1.217	0.181	0.027	0.057
Currently using condom	0.040	0.006	1,026	744	1.031	0.159	0.027	0.052
Currently using female sterilization	0.011	0.003	1,026	744	1.061	0.321	0.004	0.017
Currently using periodic abstinence	0.069	0.012	1,026	744	1.512	0.173	0.045	0.093
Obtained method from public sector source	0.482	0.038	238	175	1.184	0.080	0.406	0.559
Want no more children	0.493	0.019	1,026	744	1.195	0.038	0.456	0.530
Want to delay birth at least two years	0.338	0.015	1,026	744	1.034	0.045	0.307	0.368
Ideal number of children	3.818	0.035	2,540	1,864	1.254	0.009	3.748	3.887
Mothers received tetanus injection for last birth	0.713	0.015	1,063	774	1.089	0.021	0.683	0.743
Mothers received medical assistance at delivery	0.631	0.021	1,701	1,228	1.439	0.033	0.589	0.673
Child had diarrhea in the 2 weeks prior to survey	0.127	0.010	1,582	1,144	1.189	0.083	0.106	0.148
Treated with oral rehydration salts (ORS)	0.146	0.028	203	145	1.075	0.190	0.090	0.202
Taken to a health provider	0.162	0.028	203	145	1.028	0.170	0.107	0.218
Vaccination card seen	0.693	0.038	308	214	1.387	0.054	0.618	0.769
Received BCG	0.976	0.009	308	214	1.044	0.010	0.958	0.995
Received DPT (3 doses)	0.849	0.026	308	214	1.195	0.030	0.797	0.901
Received polio (3 doses)	0.810	0.030	308	214	1.271	0.037	0.750	0.869
Received measles	0.896	0.019	308	214	1.032	0.021	0.859	0.933
Fully immunized	0.710	0.032	308	214	1.172	0.045	0.646	0.773
Weight-for-height (below -2SD)	0.038	0.007	780	543	0.925	0.196	0.023	0.052
Height-for-age (below -2SD)	0.331	0.021	780	543	1.116	0.062	0.289	0.372
Weight-for-age (below -2SD)	0.162	0.013	780	543	0.948	0.081	0.136	0.188
Anemia among children	0.543	0.022	718	495	1.095	0.041	0.498	0.587
Anemia among women	0.333	0.021	1,272	938	1.620	0.064	0.291	0.376
BMI <18.5	0.099	0.010	1,165	862	1.122	0.099	0.079	0.118
Total Fertility Rate (0-3 years)	4.908	0.168	na	5,289	1.074	0.034	4.571	5.244
Neonatal mortality (0-9 years)	31.849	3.421	3,218	2,335	0.970	0.107	25.006	38.692
Postneonatal mortality (0-9 years)	37.198	3.504	3,223	2,339	0.946	0.094	30.190	44.206
Infant mortality (0-9 years)	69.047	4.823	3,224	2,340	0.963	0.070	59.400	78.694
Child mortality (0-9 years)	57.386	5.895	3,249	2,355	1.132	0.103	45.595	69.176
Under-five mortality (0-9 years)	122.470	7.766	3,256	2,360	1.082	0.063	106.938	138.003
HIV prevalence	0.086	0.009	1,283	946	1.092	0.099	0.069	0.103
MEN								
Urban residence	1.000	0.000	1,130	840	na	0.000	1.000	1.000
Literate	0.860	0.013	1,130	840	1.252	0.015	0.834	0.886
No education	0.095	0.009	1,130	840	0.999	0.092	0.077	0.112
Secondary education or higher	0.310	0.023	1,130	840	1.669	0.074	0.264	0.356
Never married/in union	0.547	0.015	1,130	840	1.003	0.027	0.517	0.576
Currently married/in union	0.420	0.014	1,130	840	0.940	0.033	0.392	0.447
HIV prevalence (15-49)	0.058	0.008	1,004	774	1.040	0.133	0.042	0.073
HIV prevalence (15-59)	0.056	0.007	1,077	830	1.066	0.134	0.041	0.070
WOMEN AND MEN								
HIV prevalence (15-49)	0.073	0.006	2,287	1,720	1.192	0.089	0.060	0.086

na = Not applicable

Table B.4 Sampling errors – Rural sample, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (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	8,705	9,400	na	na	0.000	0.000
Literate	0.676	0.007	8,705	9,400	1.431	0.011	0.661	0.690
No education	0.254	0.007	8,705	9,400	1.441	0.026	0.241	0.267
Secondary education or higher	0.059	0.004	8,705	9,400	1.529	0.066	0.051	0.067
Never married/in union	0.358	0.006	8,705	9,400	1.204	0.017	0.345	0.370
Currently married/in union	0.507	0.006	8,705	9,400	1.212	0.013	0.494	0.520
Married before age 20	0.431	0.008	4,989	5,372	1.165	0.019	0.415	0.448
Currently pregnant	0.083	0.003	8,705	9,400	1.092	0.039	0.077	0.089
Children ever born	2.802	0.032	8,705	9,400	0.991	0.011	2.738	2.865
Children ever born to women 40-49	6.678	0.074	1,670	1,781	1.141	0.011	6.530	6.826
Children surviving	2.212	0.025	8,705	9,400	0.958	0.011	2.163	2.261
Knows any contraceptive method	0.977	0.003	4,432	4,766	1.280	0.003	0.971	0.983
Ever used any contraceptive method	0.317	0.008	4,432	4,766	1.188	0.026	0.300	0.334
Currently using any contraceptive method	0.152	0.006	4,432	4,766	1.038	0.037	0.140	0.163
Currently using pill	0.022	0.003	4,432	4,766	1.429	0.144	0.015	0.028
Currently using condom	0.004	0.001	4,432	4,766	1.040	0.243	0.002	0.006
Currently using female sterilization	0.005	0.001	4,432	4,766	0.924	0.205	0.003	0.006
Currently using periodic abstinence	0.037	0.003	4,432	4,766	1.060	0.081	0.031	0.043
Obtained method from public sector source	0.828	0.023	383	417	1.196	0.028	0.782	0.874
Want no more children	0.417	0.008	4,432	4,766	1.051	0.019	0.401	0.433
Want to delay birth at least two years	0.396	0.007	4,432	4,766	1.012	0.019	0.381	0.411
Ideal number of children	4.379	0.025	8,397	9,035	1.398	0.006	4.329	4.429
Mothers received tetanus injection for last birth	0.621	0.008	4,330	4,651	1.053	0.013	0.605	0.636
Mothers received medical assistance at delivery	0.346	0.010	6,948	7,487	1.421	0.029	0.326	0.366
Child had diarrhea in the 2 weeks prior to survey	0.144	0.005	6,170	6,653	1.056	0.035	0.134	0.154
Treated with oral rehydration salts (ORS)	0.111	0.012	893	958	1.029	0.104	0.088	0.134
Taken to a health provider	0.138	0.012	893	958	0.986	0.086	0.114	0.162
Vaccination card seen	0.769	0.015	1,316	1,412	1.277	0.019	0.739	0.799
Received BCG	0.963	0.009	1,316	1,412	1.708	0.009	0.945	0.981
Received DPT (3 doses)	0.873	0.012	1,316	1,412	1.312	0.014	0.849	0.897
Received polio (3 doses)	0.848	0.013	1,316	1,412	1.322	0.016	0.822	0.874
Received measles	0.850	0.013	1,316	1,412	1.326	0.016	0.824	0.877
Fully immunized	0.758	0.015	1,316	412	1.282	0.020	0.728	0.789
Weight-for-height (below -2SD)	0.039	0.004	3,094	3,316	1.049	0.095	0.032	0.047
Height-for-age (below -2SD)	0.473	0.010	3,094	3,316	1.066	0.021	0.453	0.494
Weight-for-age (below -2SD)	0.235	0.009	3,094	3,316	1.096	0.038	0.217	0.253
Anemia among children	0.566	0.014	2,836	3,042	1.372	0.024	0.539	0.593
Anemia among women	0.327	0.014	4,366	4,719	1.910	0.041	0.300	0.354
BMI <18.5	0.098	0.004	3,918	4,238	0.924	0.045	0.089	0.107
Total Fertility Rate (0-3 years)	6.306	0.105	na	25,961	1.300	0.017	6.095	6.516
Neonatal mortality (0-9 years)	46.080	2.071	13,351	14,380	1.002	0.045	41.939	50.221
Postneonatal mortality (0-9 years)	61.948	2.830	13,372	14,402	1.267	0.046	56.288	67.608
Infant mortality (0-9 years)	108.028	3.598	13,377	14,408	1.207	0.033	100.833	115.223
Child mortality (0-9 years)	94.199	3.906	13,557	14,598	1.204	0.041	86.387	102.010
Under-five mortality (0-9 years)	192.051	5.370	13,588	14,632	1.321	0.028	181.311	202.790
HIV prevalence	0.026	0.003	4,394	4,710	1.089	0.100	0.021	0.031
MEN								
Urban residence	0.000	0.000	3,690	3,980	na	na	0.000	0.000
Literate	0.758	0.009	3,690	3,980	1.229	0.011	0.740	0.775
No education	0.191	0.008	3,690	3,980	1.263	0.043	0.174	0.207
Secondary education or higher	0.083	0.006	3,690	3,980	1.260	0.069	0.072	0.095
Never married/in union	0.436	0.010	3,690	3,980	1.204	0.023	0.417	0.456
Currently married/in union	0.539	0.010	3,690	3,980	1.196	0.018	0.520	0.559
HIV prevalence (15-49)	0.016	0.002	3,336	3,587	1.105	0.151	0.011	0.021
HIV prevalence (15-59)	0.015	0.002	3,665	3,934	1.100	0.145	0.011	0.020
WOMEN AND MEN								
HIV prevalence (15-49)	0.022	0.002	7,730	8,297	1.222	0.094	0.018	0.026

na = Not applicable

Table B.5 Sampling errors – City of Kigali, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.854	0.014	1,329	1,127	1.486	0.017	0.825	0.883
Literate	0.850	0.013	1,329	1,127	1.344	0.015	0.824	0.876
No education	0.113	0.015	1,329	1,127	1.669	0.128	0.084	0.142
Secondary education or higher	0.301	0.020	1,329	1,127	1.619	0.068	0.260	0.342
Never married/in union	0.482	0.017	1,329	1,127	1.226	0.035	0.448	0.515
Currently married/in union	0.361	0.016	1,329	1,127	1.241	0.045	0.328	0.393
Married before age 20	0.356	0.021	668	573	1.150	0.060	0.314	0.399
Currently pregnant	0.069	0.007	1,329	1,127	1.006	0.101	0.055	0.083
Children ever born	1.894	0.067	1,329	1,127	1.026	0.035	1.760	2.027
Children ever born to women 40-49	5.914	0.185	147	132	0.950	0.031	5.543	6.284
Children surviving	1.611	0.058	1,329	1,127	1.046	0.036	1.495	1.727
Knows any contraceptive method	0.995	0.003	481	407	1.038	0.003	0.989	1.000
Ever used any contraceptive method	0.590	0.023	481	407	1.031	0.039	0.544	0.636
Currently using any contraceptive method	0.355	0.031	481	407	1.440	0.089	0.292	0.418
Currently using pill	0.042	0.011	481	407	1.203	0.262	0.020	0.064
Currently using condom	0.052	0.011	481	407	1.064	0.208	0.030	0.073
Currently using female sterilization	0.013	0.005	481	407	1.019	0.401	0.003	0.024
Currently using periodic abstinence	0.079	0.019	481	407	1.521	0.237	0.042	0.117
Obtained method from public sector source	0.332	0.046	132	105	1.128	0.140	0.239	0.425
Want no more children	0.520	0.027	481	407	1.182	0.052	0.466	0.574
Want to delay birth at least two years	0.321	0.018	481	407	0.864	0.057	0.284	0.358
Ideal number of children	3.694	0.046	1,295	1,096	1.207	0.012	3.603	3.785
Mothers received tetanus injection for last birth	0.760	0.018	502	427	0.953	0.024	0.724	0.796
Mothers received medical assistance at delivery	0.618	0.031	772	655	1.425	0.050	0.556	0.679
Child had diarrhea in the 2 weeks prior to survey	0.112	0.015	711	599	1.231	0.132	0.082	0.141
Treated with oral rehydration salts (ORS)	0.203	0.050	78	67	1.106	0.248	0.103	0.304
Taken to a health provider	0.186	0.044	78	67	0.997	0.237	0.098	0.274
Vaccination card seen	0.690	0.056	127	103	1.321	0.081	0.578	0.801
Received BCG	0.974	0.015	127	103	1.042	0.015	0.944	1.000
Received DPT (3 doses)	0.806	0.037	127	103	1.031	0.046	0.732	0.881
Received polio (3 doses)	0.764	0.046	127	103	1.179	0.060	0.673	0.855
Received measles	0.854	0.033	127	103	1.027	0.039	0.787	0.920
Fully immunized	0.617	0.048	127	103	1.090	0.079	0.520	0.714
Weight-for-height (below -2SD)	0.075	0.015	312	250	0.798	0.196	0.046	0.105
Height-for-age (below -2SD)	0.292	0.030	312	250	1.063	0.103	0.232	0.352
Weight-for-age (below -2SD)	0.144	0.020	312	250	0.916	0.139	0.104	0.185
Anemia among children	0.696	0.033	286	226	1.056	0.048	0.629	0.762
Anemia among women	0.459	0.043	640	547	2.212	0.095	0.372	0.545
BMI <18.5	0.097	0.013	576	493	1.072	0.135	0.071	0.124
Total Fertility Rate (0-3 years)	4.301	0.230	na	3,110	1.148	0.053	3.842	4.760
Neonatal mortality (0-9 years)	27.489	4.567	1,393	1,197	0.977	0.166	18.356	36.622
Postneonatal mortality (0-9 years)	40.187	6.168	1,394	1,198	1.121	0.153	27.850	52.523
Infant mortality (0-9 years)	67.675	8.229	1,395	1,199	1.151	0.122	51.217	84.134
Child mortality (0-9 years)	60.261	9.950	1,398	1,202	1.253	0.165	40.360	80.162
Under-five mortality (0-9 years)	123.858	15.460	1,401	1,204	1.498	0.125	92.939	154.778
HIV prevalence	0.080	0.012	647	556	1.156	0.154	0.055	0.104
MEN								
Urban residence	0.881	0.017	619	523	1.314	0.019	0.847	0.915
Literate	0.860	0.018	619	523	1.293	0.021	0.824	0.896
No education	0.099	0.012	619	523	1.000	0.122	0.075	0.123
Secondary education or higher	0.338	0.029	619	523	1.522	0.086	0.280	0.396
Never married/in union	0.592	0.020	619	523	1.009	0.034	0.552	0.632
Currently married/in union	0.378	0.018	619	523	0.914	0.047	0.342	0.413
HIV prevalence (15-49)	0.052	0.010	542	487	1.064	0.196	0.031	0.072
HIV prevalence (15-59)	0.049	0.010	575	517	1.080	0.199	0.029	0.068
WOMEN AND MEN								
HIV prevalence (15-49)	0.067	0.009	1,189	1,043	1.254	0.136	0.048	0.085

na = Not applicable

Table B.6 Sampling errors – South Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.139	0.005	2,760	2,958	0.808	0.038	0.129	0.150
Literate	0.728	0.011	2,760	2,958	1.283	0.015	0.706	0.750
No education	0.203	0.010	2,760	2,958	1.334	0.050	0.183	0.224
Secondary education or higher	0.083	0.008	2,760	2,958	1.486	0.094	0.068	0.099
Never married/in union	0.385	0.009	2,760	2,958	0.950	0.023	0.367	0.402
Currently married/in union	0.477	0.010	2,760	2,958	1.045	0.021	0.457	0.497
Married before age 20	0.300	0.013	1,611	1,728	1.116	0.042	0.275	0.326
Currently pregnant	0.076	0.005	2,760	2,958	1.083	0.072	0.065	0.087
Children ever born	2.574	0.047	2,760	2,958	0.878	0.018	2.480	2.669
Children ever born to women 40-49	6.116	0.129	554	605	1.172	0.021	5.857	6.375
Children surviving	2.059	0.038	2,760	2,958	0.879	0.019	1.982	2.135
Knows any contraceptive method	0.985	0.003	1,327	1,411	0.754	0.003	0.980	0.990
Ever used any contraceptive method	0.344	0.014	1,327	1,411	1.073	0.041	0.316	0.372
Currently using any contraceptive method	0.148	0.011	1,327	1,411	1.079	0.071	0.127	0.169
Currently using pill	0.017	0.006	1,327	1,411	1.696	0.356	0.005	0.029
Currently using condom	0.007	0.002	1,327	1,411	0.922	0.294	0.003	0.012
Currently using female sterilization	0.004	0.002	1,327	1,411	1.089	0.460	0.000	0.008
Currently using periodic abstinence	0.034	0.005	1,327	1,411	0.957	0.140	0.025	0.044
Obtained method from public sector source	0.791	0.037	109	120	0.952	0.047	0.716	0.865
Want no more children	0.407	0.015	1,327	1,411	1.110	0.037	0.377	0.437
Want to delay birth at least two years	0.420	0.013	1,327	1,411	0.958	0.031	0.394	0.446
Ideal number of children	4.275	0.036	2,711	2,902	1.251	0.008	4.204	4.347
Mothers received tetanus injection for last birth	0.644	0.014	1,284	1,357	1.029	0.022	0.616	0.672
Mothers received medical assistance at delivery	0.399	0.013	2,020	2,122	0.950	0.032	0.374	0.424
Child had diarrhea in the 2 weeks prior to survey	0.145	0.008	1,821	1,909	0.896	0.055	0.129	0.161
Treated with oral rehydration salts (ORS)	0.066	0.017	277	277	1.061	0.256	0.032	0.100
Taken to a health provider	0.109	0.018	277	277	0.929	0.169	0.072	0.146
Vaccination card seen	0.764	0.025	384	393	1.117	0.033	0.714	0.814
Received BCG	0.983	0.006	384	393	0.909	0.006	0.971	0.995
Received DPT (3 doses)	0.925	0.013	384	393	0.921	0.014	0.899	0.950
Received polio (3 doses)	0.888	0.016	384	393	0.973	0.018	0.856	0.920
Received measles	0.941	0.013	384	393	1.050	0.014	0.915	0.967
Fully immunized	0.843	0.019	384	393	0.999	0.023	0.805	0.881
Weight-for-height (below -2SD)	0.050	0.009	938	987	1.167	0.171	0.033	0.067
Height-for-age (below -2SD)	0.448	0.019	938	987	1.108	0.042	0.410	0.487
Weight-for-age (below -2SD)	0.276	0.018	938	987	1.155	0.066	0.240	0.312
Anemia among children	0.472	0.020	864	908	1.126	0.043	0.431	0.512
Anemia among women	0.280	0.016	1,405	1,518	1.341	0.057	0.248	0.312
BMI <18.5	0.131	0.007	1,268	1,367	0.791	0.057	0.116	0.146
Total Fertility Rate (0-3 years)	5.646	0.172	na	8,251	1.222	0.030	5.302	5.989
Neonatal mortality (0-9 years)	47.648	3.762	3,907	4,130	0.942	0.079	40.124	55.172
Postneonatal mortality (0-9 years)	59.047	5.005	3,912	4,136	1.289	0.085	49.037	69.056
Infant mortality (0-9 years)	106.694	6.352	3,914	4,138	1.159	0.060	93.991	119.397
Child mortality (0-9 years)	79.591	6.497	3,969	4,196	1.176	0.082	66.596	92.585
Under-five mortality (0-9 years)	177.793	9.152	3,978	4,207	1.233	0.051	159.489	196.097
HIV prevalence	0.031	0.005	1,408	1,501	1.020	0.151	0.022	0.041
MEN								
Urban residence	0.131	0.007	1,152	1,250	0.753	0.057	0.116	0.146
Literate	0.746	0.015	1,152	1,250	1.156	0.020	0.716	0.775
No education	0.164	0.014	1,152	1,250	1.314	0.088	0.135	0.192
Secondary education or higher	0.105	0.011	1,152	1,250	1.262	0.109	0.082	0.128
Never married/in union	0.468	0.014	1,152	1,250	0.980	0.031	0.439	0.497
Currently married/in union	0.505	0.014	1,152	1,250	0.962	0.028	0.477	0.533
HIV prevalence (15-49)	0.020	0.004	1,045	1,126	0.829	0.179	0.013	0.027
HIV prevalence (15-59)	0.018	0.003	1,141	1,235	0.830	0.180	0.012	0.025
WOMEN AND MEN								
HIV prevalence (15-49)	0.027	0.004	2,453	2,627	1.099	0.134	0.019	0.034

na = Not applicable

Table B.7 Sampling errors – West Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.079	0.009	2,971	2,824	1.805	0.113	0.061	0.096
Literate	0.658	0.014	2,971	2,824	1.641	0.022	0.629	0.687
No education	0.281	0.014	2,971	2,824	1.656	0.049	0.253	0.308
Secondary education or higher	0.062	0.008	2,971	2,824	1.789	0.128	0.046	0.078
Never married/in union	0.377	0.012	2,971	2,824	1.332	0.031	0.353	0.401
Currently married/in union	0.505	0.012	2,971	2,824	1.283	0.023	0.482	0.529
Married before age 20	0.447	0.014	1,639	1,550	1.112	0.031	0.420	0.475
Currently pregnant	0.079	0.006	2,971	2,824	1.162	0.073	0.068	0.091
Children ever born	2.834	0.061	2,971	2,824	1.061	0.021	2.713	2.955
Children ever born to women 40-49	7.110	0.114	561	521	1.032	0.016	6.882	7.338
Children surviving	2.264	0.047	2,971	2,824	1.016	0.021	2.170	2.357
Knows any contraceptive method	0.960	0.007	1,478	1,427	1.383	0.007	0.946	0.974
Ever used any contraceptive method	0.276	0.016	1,478	1,427	1.386	0.058	0.244	0.308
Currently using any contraceptive method	0.145	0.010	1,478	1,427	1.134	0.072	0.124	0.166
Currently using pill	0.022	0.003	1,478	1,427	0.867	0.150	0.015	0.029
Currently using condom	0.004	0.002	1,478	1,427	1.020	0.415	0.001	0.007
Currently using female sterilization	0.010	0.002	1,478	1,427	0.834	0.221	0.005	0.014
Currently using periodic abstinence	0.023	0.005	1,478	1,427	1.221	0.206	0.014	0.033
Obtained method from public sector source	0.873	0.027	153	139	0.999	0.031	0.819	0.927
Want no more children	0.395	0.015	1,478	1,427	1.158	0.037	0.365	0.424
Want to delay birth at least two years	0.374	0.015	1,478	1,427	1.162	0.039	0.344	0.403
Ideal number of children	4.574	0.053	2,821	2,673	1.542	0.012	4.469	4.680
Mothers received tetanus injection for last birth	0.598	0.012	1,442	1,395	0.932	0.020	0.574	0.622
Mothers received medical assistance at delivery	0.344	0.017	2,352	2,290	1.443	0.051	0.309	0.379
Child had diarrhea in the 2 weeks prior to survey	0.137	0.009	2,133	2,075	1.177	0.067	0.119	0.155
Treated with oral rehydration salts (ORS)	0.170	0.028	276	284	1.216	0.165	0.114	0.226
Taken to a health provider	0.132	0.021	276	284	1.009	0.156	0.091	0.174
Vaccination card seen	0.760	0.025	454	440	1.274	0.033	0.709	0.810
Received BCG	0.967	0.010	454	440	1.213	0.010	0.947	0.987
Received DPT (3 doses)	0.844	0.018	454	440	1.034	0.021	0.809	0.879
Received polio (3 doses)	0.826	0.021	454	440	1.180	0.025	0.785	0.868
Received measles	0.825	0.020	454	440	1.131	0.024	0.785	0.865
Fully immunized	0.720	0.026	454	440	1.221	0.035	0.669	0.772
Weight-for-height (below -2SD)	0.028	0.005	1,044	999	0.994	0.178	0.018	0.039
Height-for-age (below -2SD)	0.469	0.018	1,044	999	1.132	0.038	0.433	0.505
Weight-for-age (below -2SD)	0.203	0.016	1,044	999	1.221	0.079	0.171	0.235
Anemia among children	0.593	0.023	973	933	1.390	0.039	0.547	0.638
Anemia among women	0.262	0.016	1,466	1,397	1.412	0.062	0.230	0.295
BMI <18.5	0.081	0.007	1,345	1,280	1.008	0.093	0.066	0.096
Total Fertility Rate (0-3 years)	6.638	0.200	na	7,726	1.406	0.030	6.239	7.037
Neonatal mortality (0-9 years)	43.194	3.389	4,526	4,387	1.041	0.078	36.415	49.973
Postneonatal mortality (0-9 years)	57.251	5.362	4,530	4,392	1.420	0.094	46.526	67.975
Infant mortality (0-9 years)	100.445	5.948	4,532	4,393	1.236	0.059	88.549	112.341
Child mortality (0-9 years)	87.219	7.300	4,590	4,447	1.368	0.084	72.618	101.819
Under-five mortality (0-9 years)	178.903	8.845	4,598	4,455	1.315	0.049	161.213	196.592
HIV prevalence	0.037	0.005	1,475	1,406	1.080	0.143	0.026	0.048
MEN								
Urban residence	0.078	0.008	1,237	1,185	1.094	0.107	0.061	0.095
Literate	0.773	0.015	1,237	1,185	1.282	0.020	0.743	0.804
No education	0.178	0.013	1,237	1,185	1.211	0.074	0.151	0.204
Secondary education or higher	0.106	0.012	1,237	1,185	1.372	0.113	0.082	0.130
Never married/in union	0.414	0.019	1,237	1,185	1.337	0.045	0.377	0.452
Currently married/in union	0.560	0.019	1,237	1,185	1.354	0.034	0.522	0.598
HIV prevalence (15-49)	0.024	0.005	1,096	1,051	0.986	0.189	0.015	0.034
HIV prevalence (15-59)	0.023	0.004	1,220	1,169	0.980	0.182	0.015	0.032
WOMEN AND MEN								
HIV prevalence (15-49)	0.032	0.004	2,571	2,458	1.209	0.132	0.023	0.040

na = Not applicable

Table B.8 Sampling errors – North Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.098	0.011	1,821	2,063	1.622	0.115	0.076	0.121
Literate	0.695	0.016	1,821	2,063	1.441	0.022	0.664	0.726
No education	0.254	0.014	1,821	2,063	1.359	0.055	0.227	0.282
Secondary education or higher	0.094	0.012	1,821	2,063	1.781	0.130	0.070	0.118
Never married/in union	0.348	0.013	1,821	2,063	1.179	0.038	0.321	0.374
Currently married/in union	0.513	0.012	1,821	2,063	1.064	0.024	0.488	0.538
Married before age 20	0.475	0.020	1,055	1,205	1.296	0.042	0.435	0.515
Currently pregnant	0.079	0.006	1,821	2,063	1.026	0.082	0.066	0.092
Children ever born	2.936	0.075	1,821	2,063	1.052	0.026	2.786	3.086
Children ever born to women 40-49	6.745	0.166	349	397	1.124	0.025	6.414	7.077
Children surviving	2.394	0.054	1,821	2,063	0.938	0.023	2.285	2.502
Knows any contraceptive method	0.984	0.005	921	1,058	1.247	0.005	0.973	0.994
Ever used any contraceptive method	0.315	0.021	921	1,058	1.361	0.066	0.273	0.356
Currently using any contraceptive method	0.160	0.013	921	1,058	1.066	0.081	0.134	0.185
Currently using pill	0.028	0.007	921	1,058	1.274	0.248	0.014	0.042
Currently using condom	0.007	0.002	921	1,058	0.791	0.320	0.002	0.011
Currently using female sterilization	0.002	0.002	921	1,058	1.004	0.700	0.000	0.005
Currently using periodic abstinence	0.035	0.007	921	1,058	1.083	0.188	0.022	0.048
Obtained method from public sector source	0.809	0.049	119	121	1.367	0.061	0.710	0.908
Want no more children	0.441	0.017	921	1,058	1.040	0.039	0.407	0.475
Want to delay birth at least two years	0.395	0.016	921	1,058	1.006	0.041	0.363	0.428
Ideal number of children	4.291	0.056	1,721	1,941	1.382	0.013	4.179	4.403
Mothers received tetanus injection for last birth	0.610	0.020	921	1,052	1.232	0.032	0.571	0.650
Mothers received medical assistance at delivery	0.341	0.026	1,493	1,716	1.736	0.076	0.289	0.393
Child had diarrhea in the 2 weeks prior to survey	0.145	0.012	1,366	1,571	1.152	0.080	0.121	0.168
Treated with oral rehydration salts (ORS)	0.147	0.021	202	227	0.748	0.140	0.106	0.188
Taken to a health provider	0.225	0.033	202	227	1.059	0.147	0.159	0.291
Vaccination card seen	0.766	0.030	295	340	1.208	0.039	0.706	0.825
Received BCG	0.990	0.006	295	340	0.981	0.006	0.978	1.000
Received DPT (3 doses)	0.903	0.018	295	340	1.016	0.020	0.868	0.939
Received polio (3 doses)	0.866	0.021	295	340	1.055	0.024	0.824	0.908
Received measles	0.921	0.017	295	340	1.034	0.018	0.888	0.954
Fully immunized	0.812	0.025	295	340	1.095	0.031	0.761	0.862
Weight-for-height (below -2SD)	0.029	0.007	709	793	1.065	0.233	0.015	0.042
Height-for-age (below -2SD)	0.522	0.022	709	793	1.102	0.043	0.477	0.567
Weight-for-age (below -2SD)	0.236	0.018	709	793	1.017	0.075	0.201	0.272
Anemia among children	0.562	0.034	655	729	1.633	0.061	0.494	0.630
Anemia among women	0.316	0.044	905	1,020	2.842	0.139	0.228	0.404
BMI <18.5	0.066	0.010	799	905	1.137	0.152	0.046	0.086
Total Fertility Rate (0-3 years)	6.353	0.224	na	5,702	1.173	0.035	5.904	6.802
Neonatal mortality (0-9 years)	42.308	4.265	2,924	3,358	1.004	0.101	33.779	50.837
Postneonatal mortality (0-9 years)	46.764	4.864	2,928	3,363	1.178	0.104	37.037	56.492
Infant mortality (0-9 years)	89.072	6.439	2,928	3,363	1.122	0.072	76.195	101.950
Child mortality (0-9 years)	77.446	7.002	2,965	3,404	1.130	0.090	63.441	91.451
Under-five mortality (0-9 years)	159.620	10.422	2,969	3,409	1.322	0.065	138.775	180.464
HIV prevalence	0.026	0.006	907	1,019	1.143	0.233	0.014	0.038
MEN								
Urban residence	0.089	0.010	746	845	0.972	0.114	0.069	0.110
Literate	0.760	0.020	746	845	1.293	0.027	0.720	0.801
No education	0.201	0.021	746	845	1.434	0.105	0.159	0.243
Secondary education or higher	0.097	0.017	746	845	1.554	0.174	0.063	0.131
Never married/in union	0.420	0.022	746	845	1.209	0.052	0.376	0.464
Currently married/in union	0.561	0.023	746	845	1.278	0.041	0.514	0.607
HIV prevalence (15-49)	0.011	0.004	682	773	1.035	0.372	0.003	0.020
HIV prevalence (15-59)	0.012	0.004	743	840	1.029	0.348	0.004	0.020
WOMEN AND MEN								
HIV prevalence (15-49)	0.020	0.004	1,589	1,792	1.243	0.221	0.011	0.028

na = Not applicable

Table B.9 Sampling errors – East Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.051	0.004	2,440	2,348	0.817	0.071	0.044	0.059
Literate	0.662	0.012	2,440	2,348	1.271	0.018	0.638	0.687
No education	0.255	0.012	2,440	2,348	1.304	0.045	0.232	0.278
Secondary education or higher	0.055	0.005	2,440	2,348	1.124	0.094	0.045	0.066
Never married/in union	0.341	0.013	2,440	2,348	1.375	0.039	0.315	0.367
Currently married/in union	0.515	0.015	2,440	2,348	1.462	0.029	0.485	0.544
Married before age 20	0.516	0.017	1,397	1,327	1.265	0.033	0.482	0.550
Currently pregnant	0.090	0.007	2,440	2,348	1.151	0.074	0.077	0.104
Children ever born	2.796	0.064	2,440	2,348	1.076	0.023	2.668	2.923
Children ever born to women 40-49	6.571	0.145	421	391	1.116	0.022	6.280	6.861
Children surviving	2.129	0.048	2,440	2,348	1.044	0.023	2.033	2.225
Knows any contraceptive method	0.985	0.006	1,251	1,208	1.669	0.006	0.973	0.996
Ever used any contraceptive method	0.375	0.014	1,251	1,208	0.989	0.036	0.348	0.402
Currently using any contraceptive method	0.189	0.011	1,251	1,208	1.017	0.060	0.167	0.212
Currently using pill	0.027	0.008	1,251	1,208	1.678	0.283	0.012	0.043
Currently using condom	0.004	0.002	1,251	1,208	1.037	0.462	0.000	0.008
Currently using female sterilization	0.002	0.001	1,251	1,208	0.987	0.632	0.000	0.004
Currently using periodic abstinence	0.065	0.008	1,251	1,208	1.095	0.118	0.049	0.080
Obtained method from public sector source	0.752	0.053	108	107	1.267	0.070	0.646	0.858
Want no more children	0.446	0.013	1,251	1,208	0.925	0.029	0.420	0.472
Want to delay birth at least two years	0.384	0.014	1,251	1,208	1.027	0.037	0.356	0.412
Ideal number of children	4.228	0.045	2,389	2,288	1.475	0.011	4.137	4.319
Mothers received tetanus injection for last birth	0.640	0.015	1,244	1,194	1.088	0.023	0.610	0.669
Mothers received medical assistance at delivery	0.385	0.021	2,012	1,932	1.593	0.055	0.343	0.428
Child had diarrhea in the 2 weeks prior to survey	0.151	0.010	1,721	1,644	1.094	0.066	0.131	0.171
Treated with oral rehydration salts (ORS)	0.056	0.016	263	248	1.092	0.280	0.025	0.088
Taken to a health provider	0.099	0.019	263	248	1.027	0.193	0.061	0.137
Vaccination card seen	0.766	0.035	364	350	1.576	0.046	0.696	0.837
Received BCG	0.914	0.032	364	350	2.137	0.035	0.850	0.979
Received DPT (3 doses)	0.826	0.038	364	350	1.902	0.046	0.749	0.902
Received polio (3 doses)	0.814	0.038	364	350	1.863	0.047	0.737	0.891
Received measles	0.739	0.039	364	350	1.694	0.053	0.661	0.818
Fully immunized	0.670	0.041	364	350	1.645	0.061	0.588	0.752
Weight-for-height (below -2SD)	0.038	0.007	871	831	0.993	0.172	0.025	0.051
Height-for-age (below -2SD)	0.424	0.017	871	831	0.990	0.041	0.389	0.459
Weight-for-age (below -2SD)	0.202	0.013	871	831	0.953	0.064	0.177	0.228
Anemia among children	0.596	0.025	776	741	1.331	0.042	0.546	0.647
Anemia among women	0.416	0.024	1,222	1,175	1.694	0.057	0.369	0.464
BMI <18.5	0.105	0.009	1,095	1,055	1.023	0.090	0.086	0.124
Total Fertility Rate (0-3 years)	6.491	0.176	na	6,459	1.118	0.027	6.139	6.844
Neonatal mortality (0-9 years)	48.246	4.339	3,819	3,643	1.071	0.090	39.567	56.925
Postneonatal mortality (0-9 years)	76.487	5.517	3,831	3,653	1.179	0.072	65.452	87.521
Infant mortality (0-9 years)	124.732	7.870	3,832	3,654	1.283	0.063	108.991	140.473
Child mortality (0-9 years)	123.291	7.614	3,884	3,705	1.103	0.062	108.064	138.518
Under-five mortality (0-9 years)	232.645	10.723	3,898	3,716	1.323	0.046	211.199	254.090
HIV prevalence	0.029	0.005	1,240	1,173	0.971	0.159	0.020	0.039
MEN								
Urban residence	0.047	0.006	1,066	1,017	0.874	0.121	0.035	0.058
Literate	0.784	0.015	1,066	1,017	1.219	0.020	0.753	0.815
No education	0.198	0.014	1,066	1,017	1.118	0.069	0.171	0.226
Secondary education or higher	0.075	0.008	1,066	1,017	0.958	0.103	0.060	0.091
Never married/in union	0.448	0.020	1,066	1,017	1.286	0.044	0.408	0.487
Currently married/in union	0.525	0.018	1,066	1,017	1.182	0.034	0.488	0.561
HIV prevalence (15-49)	0.021	0.006	975	923	1.398	0.308	0.008	0.033
HIV prevalence (15-59)	0.022	0.006	1,063	1,002	1.383	0.283	0.009	0.034
WOMEN AND MEN								
HIV prevalence (15-49)	0.025	0.004	2,215	2,096	1.195	0.157	0.017	0.033

na = Not applicable

ESTIMATES OF SAMPLING ERRORS

APPENDIX B

The estimates from a sample survey are affected by two types of errors: (1) nonsampling errors, and (2) sampling errors. Non-sampling errors are the results of mistakes made in implementing 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 2005 RDHS to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2005 RDHS 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 2005 RDHS-III sample is the result of a multistage stratified design, and, consequently, it was necessary to use more complex formula. The computer software used to calculate sampling errors for the 2005 RDHS-III is the ISSA Sampling Error Module. This module used 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 linearization 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:

$$SE^2(r) = var(r) = \frac{1-f}{x^2}\sum_{h=1}^{H}\left[\frac{m_h}{m_h-1}\left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h}\right)\right]$$

in which

$$z_{hi} = y_{hi} - rx_{hi}\text{, and } \; z_h = y_h - rx_h$$

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 2005 RDHS-III, there were 462 non-empty clusters. Hence, 461 replications were created. The variance of a rate r is calculated as follows:

$$SE^2(r) = var(r) = \frac{1}{k(k-1)} \sum_{i=1}^{k} (r_i - r)^2$$

in which

$$r_i = kr - (k-1)r_{(i)}$$

where r is the estimate computed from the full sample of 462 clusters,
$r_{(i)}$ is the estimate computed from the reduced sample of 461 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 2005 RDHS-III are calculated for selected variables considered to be of primary interest for woman's survey and for man's surveys, respectively. The results are presented in this appendix for the country as a whole, for urban and rural areas, and for each of the five 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.9 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 surviving*) can be interpreted as follows: the overall average from the national sample is 2.141 and its standard error is 0.022. Therefore, to obtain the 95 percent confidence limits, one adds and subtracts twice the standard error to the sample estimate, i.e., 2.141±2×0.022. There is a high probability (95 percent) that the true average number of children surviving is between 2.141 - 2×0.022 and 2.141 + 2×0.022, that is, between 2.097 and 2.185.

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 0.3 percent and 17.3 percent with an average of 3.8 percent; the highest relative standard errors are for estimates of very low values (e.g., women currently using IUD). If estimates of very low values (less than 10 percent) were removed, then the average drops to 2.6 percent. So in general, the relative standard error for most estimates for the country as a whole is small, except for estimates of very small proportions. The relative standard error for the total fertility rate is small, 1.6 percent. However, for the mortality rates, the averaged relative standard error is much higher, 5.2 percent.

There are differentials in the relative standard error for the estimates of sub-populations. For example, for the variable *Children ever born to women 40-49*, the relative standard errors as a percent of the estimated mean for the whole country and for rural and urban areas are 1.0 percent, 1.1 percent and 2.4 percent, respectively.

For the total sample, the value of the design effect (DEFT), averaged over all variables, is 1.22 which means that, due to multi-stage clustering of the sample, the average standard error is increased by a factor of 1.22 over that in an equivalent simple random sample.

Table B.1 List of selected variables for sampling errors, Rwanda 2005

Variable	Estimate	Base Population
	WOMEN	
Urban residence	Proportion	All women 15-49
Literate	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 20-49
Currently pregnant	Proportion	All women 15-49
Children ever born	Mean	All women 15-49
Children ever born to women 40-49	Mean	Women 40-49
Children surviving	Mean	All women 15-49
Knows any contraceptive method	Proportion	Currently married women 15-49
Ever used any contraceptive method	Proportion	Currently married women 15-49
Currently using any contraceptive method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using condom	Proportion	Currently married women 15-49
Currently using female sterilization	Proportion	Currently married women 15-49
Currently using periodic abstinence	Proportion	Currently married women 15-49
Obtained method from public sector source	Proportion	Current users of modern methods
Want no more children	Proportion	Currently married women 15-49
Want to delay birth at least two years	Proportion	Currently married women 15-49
Ideal number of children	Mean	All women 15-49
Mothers received tetanus injection for last birth	Proportion	Most recent births in the last 5 years
Mothers received medical assistance at delivery	Proportion	Births in the last 5 years
Child had diarrhea in the 2 weeks prior to survey	Proportion	Children under 5
Treated with oral rehydration salts (ORS)	Proportion	Children with diarrhea in two weeks before interview
Taken to a health provider	Proportion	Children with diarrhea in two weeks before interview
Vaccination card seen	Proportion	Children age 12-23 months
Received BCG	Proportion	Children age 12-23 months
Received DPT (3 doses)	Proportion	Children age 12-23 months
Received polio (3 doses)	Proportion	Children age 12-23 months
Received measles	Proportion	Children age 12-23 months
Fully immunized	Proportion	Children age 12-23 months
Weight-for-height (below -2SD)	Proportion	Children under 5 who were measured
Height-for-age (below -2SD)	Proportion	Children under 5 who were measured
Weight-for-age (below -2SD)	Proportion	Children under 5 who were measured
Anemia among children	Proportion	Children age 6-59 months
Anemia among women	Proportion	All women 15-49
BMI <18.5	Proportion	All women 15-49
Total Fertility Rate (0-3 years)	Rate	All women
Neonatal mortality[1]	Rate	Number of births in past 5 (10) years
Postneonatal mortality[1]	Rate	Number of births in past 5 (10) years
Infant mortality[1]	Rate	Number of births in past 5 (10) years
Child mortality[1]	Rate	Number of births in past 5 (10) years
Under-five mortality[1]	Rate	Number of births in past 5 (10) years
Maternal mortality (0-9 years)[2]	Rate	Number of births in past 10 years
HIV prevalence	Proportion	All women 15-49 tested for HIV
	MEN	
Urban residence	Proportion	All men 15-59
Literate	Proportion	All men 15-59
No education	Proportion	All men 15-59
Secondary education or higher	Proportion	All men 15-59
Never married/in union	Proportion	All men 15-59
Currently married/in union	Proportion	All men 15-59
HIV prevalence (15-49)	Proportion	All men 15-49 tested for HIV
HIV prevalence (15-59)	Proportion	All men 15-59 tested for HIV
	WOMEN AND MEN	
HIV prevalence (15-49)	Proportion	All women and men 15-49 tested for HIV

[1] Past 5 years for national-level rate and past 10 years for residence- and regional-level rates
[2] Maternal mortality rate is only calculated at the national level.

Table B.2 Sampling errors – National sample, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.170	0.005	11,321	11,321	1.420	0.030	0.160	0.180
Literate	0.703	0.006	11,321	11,321	1.426	0.009	0.691	0.715
No education	0.234	0.006	11,321	11,321	1.448	0.025	0.222	0.245
Secondary education or higher	0.096	0.004	11,321	11,321	1.585	0.046	0.087	0.105
Never married/in union	0.377	0.006	11,321	11,321	1.209	0.015	0.366	0.388
Currently married/in union	0.487	0.006	11,321	11,321	1.225	0.012	0.475	0.498
Married before age 20	0.419	0.007	6,370	6,383	1.178	0.017	0.404	0.433
Currently pregnant	0.080	0.003	11,321	11,321	1.103	0.035	0.074	0.085
Children ever born	2.683	0.028	11,321	11,321	1.025	0.011	2.627	2.740
Children ever born to women 40-49	6.565	0.067	2,032	2,045	1.132	0.010	6.431	6.699
Children surviving	2.141	0.022	11,321	11,321	0.985	0.010	2.097	2.185
Knows any contraceptive method	0.979	0.003	5,458	5,510	1.305	0.003	0.974	0.984
Ever used any contraceptive method	0.346	0.008	5,458	5,510	1.206	0.022	0.330	0.361
Currently using any contraceptive method	0.174	0.006	5,458	5,510	1.124	0.033	0.162	0.185
Currently using pill	0.024	0.003	5,458	5,510	1.384	0.118	0.019	0.030
Currently using condom	0.009	0.001	5,458	5,510	0.955	0.136	0.006	0.011
Currently using female sterilization	0.005	0.001	5,458	5,510	0.942	0.173	0.004	0.007
Currently using periodic abstinence	0.042	0.003	5,458	5,510	1.140	0.074	0.035	0.048
Obtained method from public sector source	0.726	0.021	621	592	1.164	0.029	0.684	0.768
Want no more children	0.427	0.007	5,458	5,510	1.077	0.017	0.413	0.442
Want to delay birth at least two years	0.388	0.007	5,458	5,510	1.025	0.017	0.375	0.402
Ideal number of children	4.283	0.022	10,937	10,899	1.404	0.005	4.240	4.327
Mothers received tetanus injection for last birth	0.634	0.007	5,393	5,425	1.078	0.011	0.620	0.648
Mothers received medical assistance at delivery	0.386	0.009	8,649	8,715	1.424	0.024	0.368	0.405
Child had diarrhea in the 2 weeks prior to survey	0.141	0.005	7,752	7,797	1.088	0.032	0.132	0.151
Treated with oral rehydration salts (ORS)	0.116	0.011	1,096	1,103	1.046	0.092	0.094	0.137
Taken to a health provider	0.141	0.011	1,096	1,103	1.007	0.078	0.119	0.163
Vaccination card seen	0.759	0.014	1,624	1,626	1.304	0.018	0.731	0.787
Received BCG	0.965	0.008	1,624	1,626	1.718	0.008	0.949	0.981
Received DPT (3 doses)	0.870	0.011	1,624	1,626	1.314	0.013	0.848	0.892
Received polio (3 doses)	0.843	0.012	1,624	1,626	1.331	0.014	0.819	0.867
Received measles	0.856	0.012	1,624	1,626	1.337	0.014	0.833	0.880
Fully immunized	0.752	0.014	1,624	1,626	1.287	0.018	0.724	0.780
Weight-for-height (below -2SD)	0.039	0.003	3,874	3,859	1.042	0.086	0.032	0.046
Height-for-age (below -2SD)	0.453	0.009	3,874	3,859	1.084	0.020	0.435	0.472
Weight-for-age (below -2SD)	0.225	0.008	3,874	3,859	1.106	0.035	0.209	0.240
Anemia among children	0.563	0.012	3,554	3,537	1.363	0.022	0.539	0.587
Anemia among women	0.328	0.012	5,638	5,657	1.898	0.036	0.304	0.352
BMI <18.5	0.098	0.004	5,083	5,100	0.960	0.041	0.090	0.106
Total Fertility Rate (0-3 years)	6.076	0.095	na	31,571	1.308	0.016	5.885	6.266
Neonatal mortality (0-4 years)	36.975	2.348	8,714	8,774	1.091	0.063	32.279	41.670
Postneonatal mortality (0-4 years)	49.144	3.002	8,751	8,808	1.233	0.061	43.140	55.147
Infant mortality (0-4 years)	86.118	3.976	8,757	8,815	1.245	0.046	78.166	94.071
Child mortality (0-4 years)	72.294	3.736	8,933	9,005	1.171	0.052	64.822	79.767
Under-five mortality (0-4 years)	152.187	5.410	8,982	9,052	1.303	0.036	141.366	163.007
Maternal mortality (0-9 years)	750	79	na	na	na	0.105	592	908
HIV prevalence	0.036	0.003	5,677	5,656	1.070	0.073	0.031	0.041
MEN								
Urban residence	0.174	0.005	4,820	4,820	1.006	0.032	0.163	0.185
Literate	0.775	0.008	4,820	4,820	1.256	0.010	0.760	0.791
No education	0.174	0.007	4,820	4,820	1.267	0.040	0.160	0.188
Secondary education or higher	0.123	0.006	4,820	4,820	1.355	0.052	0.110	0.136
Never married/in union	0.456	0.008	4,820	4,820	1.180	0.019	0.439	0.473
Currently married/in union	0.519	0.008	4,820	4,820	1.166	0.016	0.502	0.535
HIV prevalence (15-49)	0.023	0.002	4,340	4,361	1.044	0.103	0.018	0.028
HIV prevalence (15-59)	0.022	0.002	4,742	4,763	1.049	0.101	0.018	0.027
WOMEN AND MEN								
HIV prevalence (15-49)	0.030	0.002	10,017	10,016	1.186	0.067	0.026	0.035

na = Not applicable

Table B.3 Sampling errors – Urban sample, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (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	2,616	1,921	na	0.000	1.000	1.000
Literate	0.838	0.007	2,616	1,921	1.021	0.009	0.823	0.852
No education	0.135	0.007	2,616	1,921	1.111	0.055	0.120	0.149
Secondary education or higher	0.277	0.015	2,616	1,921	1.730	0.055	0.246	0.307
Never married/in union	0.470	0.012	2,616	1,921	1.186	0.025	0.447	0.493
Currently married/in union	0.387	0.012	2,616	1,921	1.213	0.030	0.364	0.410
Married before age 20	0.353	0.016	1,381	1,011	1.232	0.045	0.321	0.384
Currently pregnant	0.063	0.005	2,616	1,921	1.013	0.077	0.053	0.072
Children ever born	2.103	0.059	2,616	1,921	1.182	0.028	1.985	2.221
Children ever born to women 40-49	5.806	0.137	362	264	0.991	0.024	5.532	6.080
Children surviving	1.792	0.047	2,616	1,921	1.100	0.026	1.698	1.886
Knows any contraceptive method	0.993	0.003	1,026	744	1.040	0.003	0.987	0.998
Ever used any contraceptive method	0.529	0.019	1,026	744	1.191	0.035	0.492	0.566
Currently using any contraceptive method	0.316	0.021	1,026	744	1.458	0.067	0.273	0.358
Currently using pill	0.042	0.008	1,026	744	1.217	0.181	0.027	0.057
Currently using condom	0.040	0.006	1,026	744	1.031	0.159	0.027	0.052
Currently using female sterilization	0.011	0.003	1,026	744	1.061	0.321	0.004	0.017
Currently using periodic abstinence	0.069	0.012	1,026	744	1.512	0.173	0.045	0.093
Obtained method from public sector source	0.482	0.038	238	175	1.184	0.080	0.406	0.559
Want no more children	0.493	0.019	1,026	744	1.195	0.038	0.456	0.530
Want to delay birth at least two years	0.338	0.015	1,026	744	1.034	0.045	0.307	0.368
Ideal number of children	3.818	0.035	2,540	1,864	1.254	0.009	3.748	3.887
Mothers received tetanus injection for last birth	0.713	0.015	1,063	774	1.089	0.021	0.683	0.743
Mothers received medical assistance at delivery	0.631	0.021	1,701	1,228	1.439	0.033	0.589	0.673
Child had diarrhea in the 2 weeks prior to survey	0.127	0.010	1,582	1,144	1.189	0.083	0.106	0.148
Treated with oral rehydration salts (ORS)	0.146	0.028	203	145	1.075	0.190	0.090	0.202
Taken to a health provider	0.162	0.028	203	145	1.028	0.170	0.107	0.218
Vaccination card seen	0.693	0.038	308	214	1.387	0.054	0.618	0.769
Received BCG	0.976	0.009	308	214	1.044	0.010	0.958	0.995
Received DPT (3 doses)	0.849	0.026	308	214	1.195	0.030	0.797	0.901
Received polio (3 doses)	0.810	0.030	308	214	1.271	0.037	0.750	0.869
Received measles	0.896	0.019	308	214	1.032	0.021	0.859	0.933
Fully immunized	0.710	0.032	308	214	1.172	0.045	0.646	0.773
Weight-for-height (below -2SD)	0.038	0.007	780	543	0.925	0.196	0.023	0.052
Height-for-age (below -2SD)	0.331	0.021	780	543	1.116	0.062	0.289	0.372
Weight-for-age (below -2SD)	0.162	0.013	780	543	0.948	0.081	0.136	0.188
Anemia among children	0.543	0.022	718	495	1.095	0.041	0.498	0.587
Anemia among women	0.333	0.021	1,272	938	1.620	0.064	0.291	0.376
BMI <18.5	0.099	0.010	1,165	862	1.122	0.099	0.079	0.118
Total Fertility Rate (0-3 years)	4.908	0.168	na	5,289	1.074	0.034	4.571	5.244
Neonatal mortality (0-9 years)	31.849	3.421	3,218	2,335	0.970	0.107	25.006	38.692
Postneonatal mortality (0-9 years)	37.198	3.504	3,223	2,339	0.946	0.094	30.190	44.206
Infant mortality (0-9 years)	69.047	4.823	3,224	2,340	0.963	0.070	59.400	78.694
Child mortality (0-9 years)	57.386	5.895	3,249	2,355	1.132	0.103	45.595	69.176
Under-five mortality (0-9 years)	122.470	7.766	3,256	2,360	1.082	0.063	106.938	138.003
HIV prevalence	0.086	0.009	1,283	946	1.092	0.099	0.069	0.103
MEN								
Urban residence	1.000	0.000	1,130	840	na	0.000	1.000	1.000
Literate	0.860	0.013	1,130	840	1.252	0.015	0.834	0.886
No education	0.095	0.009	1,130	840	0.999	0.092	0.077	0.112
Secondary education or higher	0.310	0.023	1,130	840	1.669	0.074	0.264	0.356
Never married/in union	0.547	0.015	1,130	840	1.003	0.027	0.517	0.576
Currently married/in union	0.420	0.014	1,130	840	0.940	0.033	0.392	0.447
HIV prevalence (15-49)	0.058	0.008	1,004	774	1.040	0.133	0.042	0.073
HIV prevalence (15-59)	0.056	0.007	1,077	830	1.066	0.134	0.041	0.070
WOMEN AND MEN								
HIV prevalence (15-49)	0.073	0.006	2,287	1,720	1.192	0.089	0.060	0.086

na = Not applicable

Table B.4 Sampling errors – Rural sample, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (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	8,705	9,400	na	na	0.000	0.000
Literate	0.676	0.007	8,705	9,400	1.431	0.011	0.661	0.690
No education	0.254	0.007	8,705	9,400	1.441	0.026	0.241	0.267
Secondary education or higher	0.059	0.004	8,705	9,400	1.529	0.066	0.051	0.067
Never married/in union	0.358	0.006	8,705	9,400	1.204	0.017	0.345	0.370
Currently married/in union	0.507	0.006	8,705	9,400	1.212	0.013	0.494	0.520
Married before age 20	0.431	0.008	4,989	5,372	1.165	0.019	0.415	0.448
Currently pregnant	0.083	0.003	8,705	9,400	1.092	0.039	0.077	0.089
Children ever born	2.802	0.032	8,705	9,400	0.991	0.011	2.738	2.865
Children ever born to women 40-49	6.678	0.074	1,670	1,781	1.141	0.011	6.530	6.826
Children surviving	2.212	0.025	8,705	9,400	0.958	0.011	2.163	2.261
Knows any contraceptive method	0.977	0.003	4,432	4,766	1.280	0.003	0.971	0.983
Ever used any contraceptive method	0.317	0.008	4,432	4,766	1.188	0.026	0.300	0.334
Currently using any contraceptive method	0.152	0.006	4,432	4,766	1.038	0.037	0.140	0.163
Currently using pill	0.022	0.003	4,432	4,766	1.429	0.144	0.015	0.028
Currently using condom	0.004	0.001	4,432	4,766	1.040	0.243	0.002	0.006
Currently using female sterilization	0.005	0.001	4,432	4,766	0.924	0.205	0.003	0.006
Currently using periodic abstinence	0.037	0.003	4,432	4,766	1.060	0.081	0.031	0.043
Obtained method from public sector source	0.828	0.023	383	417	1.196	0.028	0.782	0.874
Want no more children	0.417	0.008	4,432	4,766	1.051	0.019	0.401	0.433
Want to delay birth at least two years	0.396	0.007	4,432	4,766	1.012	0.019	0.381	0.411
Ideal number of children	4.379	0.025	8,397	9,035	1.398	0.006	4.329	4.429
Mothers received tetanus injection for last birth	0.621	0.008	4,330	4,651	1.053	0.013	0.605	0.636
Mothers received medical assistance at delivery	0.346	0.010	6,948	7,487	1.421	0.029	0.326	0.366
Child had diarrhea in the 2 weeks prior to survey	0.144	0.005	6,170	6,653	1.056	0.035	0.134	0.154
Treated with oral rehydration salts (ORS)	0.111	0.012	893	958	1.029	0.104	0.088	0.134
Taken to a health provider	0.138	0.012	893	958	0.986	0.086	0.114	0.162
Vaccination card seen	0.769	0.015	1,316	1,412	1.277	0.019	0.739	0.799
Received BCG	0.963	0.009	1,316	1,412	1.708	0.009	0.945	0.981
Received DPT (3 doses)	0.873	0.012	1,316	1,412	1.312	0.014	0.849	0.897
Received polio (3 doses)	0.848	0.013	1,316	1,412	1.322	0.016	0.822	0.874
Received measles	0.850	0.013	1,316	1,412	1.326	0.016	0.824	0.877
Fully immunized	0.758	0.015	1,316	412	1.282	0.020	0.728	0.789
Weight-for-height (below -2SD)	0.039	0.004	3,094	3,316	1.049	0.095	0.032	0.047
Height-for-age (below -2SD)	0.473	0.010	3,094	3,316	1.066	0.021	0.453	0.494
Weight-for-age (below -2SD)	0.235	0.009	3,094	3,316	1.096	0.038	0.217	0.253
Anemia among children	0.566	0.014	2,836	3,042	1.372	0.024	0.539	0.593
Anemia among women	0.327	0.014	4,366	4,719	1.910	0.041	0.300	0.354
BMI <18.5	0.098	0.004	3,918	4,238	0.924	0.045	0.089	0.107
Total Fertility Rate (0-3 years)	6.306	0.105	na	25,961	1.300	0.017	6.095	6.516
Neonatal mortality (0-9 years)	46.080	2.071	13,351	14,380	1.002	0.045	41.939	50.221
Postneonatal mortality (0-9 years)	61.948	2.830	13,372	14,402	1.267	0.046	56.288	67.608
Infant mortality (0-9 years)	108.028	3.598	13,377	14,408	1.207	0.033	100.833	115.223
Child mortality (0-9 years)	94.199	3.906	13,557	14,598	1.204	0.041	86.387	102.010
Under-five mortality (0-9 years)	192.051	5.370	13,588	14,632	1.321	0.028	181.311	202.790
HIV prevalence	0.026	0.003	4,394	4,710	1.089	0.100	0.021	0.031
MEN								
Urban residence	0.000	0.000	3,690	3,980	na	na	0.000	0.000
Literate	0.758	0.009	3,690	3,980	1.229	0.011	0.740	0.775
No education	0.191	0.008	3,690	3,980	1.263	0.043	0.174	0.207
Secondary education or higher	0.083	0.006	3,690	3,980	1.260	0.069	0.072	0.095
Never married/in union	0.436	0.010	3,690	3,980	1.204	0.023	0.417	0.456
Currently married/in union	0.539	0.010	3,690	3,980	1.196	0.018	0.520	0.559
HIV prevalence (15-49)	0.016	0.002	3,336	3,587	1.105	0.151	0.011	0.021
HIV prevalence (15-59)	0.015	0.002	3,665	3,934	1.100	0.145	0.011	0.020
WOMEN AND MEN								
HIV prevalence (15-49)	0.022	0.002	7,730	8,297	1.222	0.094	0.018	0.026

na = Not applicable

Table B.5 Sampling errors – City of Kigali, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.854	0.014	1,329	1,127	1.486	0.017	0.825	0.883
Literate	0.850	0.013	1,329	1,127	1.344	0.015	0.824	0.876
No education	0.113	0.015	1,329	1,127	1.669	0.128	0.084	0.142
Secondary education or higher	0.301	0.020	1,329	1,127	1.619	0.068	0.260	0.342
Never married/in union	0.482	0.017	1,329	1,127	1.226	0.035	0.448	0.515
Currently married/in union	0.361	0.016	1,329	1,127	1.241	0.045	0.328	0.393
Married before age 20	0.356	0.021	668	573	1.150	0.060	0.314	0.399
Currently pregnant	0.069	0.007	1,329	1,127	1.006	0.101	0.055	0.083
Children ever born	1.894	0.067	1,329	1,127	1.026	0.035	1.760	2.027
Children ever born to women 40-49	5.914	0.185	147	132	0.950	0.031	5.543	6.284
Children surviving	1.611	0.058	1,329	1,127	1.046	0.036	1.495	1.727
Knows any contraceptive method	0.995	0.003	481	407	1.038	0.003	0.989	1.000
Ever used any contraceptive method	0.590	0.023	481	407	1.031	0.039	0.544	0.636
Currently using any contraceptive method	0.355	0.031	481	407	1.440	0.089	0.292	0.418
Currently using pill	0.042	0.011	481	407	1.203	0.262	0.020	0.064
Currently using condom	0.052	0.011	481	407	1.064	0.208	0.030	0.073
Currently using female sterilization	0.013	0.005	481	407	1.019	0.401	0.003	0.024
Currently using periodic abstinence	0.079	0.019	481	407	1.521	0.237	0.042	0.117
Obtained method from public sector source	0.332	0.046	132	105	1.128	0.140	0.239	0.425
Want no more children	0.520	0.027	481	407	1.182	0.052	0.466	0.574
Want to delay birth at least two years	0.321	0.018	481	407	0.864	0.057	0.284	0.358
Ideal number of children	3.694	0.046	1,295	1,096	1.207	0.012	3.603	3.785
Mothers received tetanus injection for last birth	0.760	0.018	502	427	0.953	0.024	0.724	0.796
Mothers received medical assistance at delivery	0.618	0.031	772	655	1.425	0.050	0.556	0.679
Child had diarrhea in the 2 weeks prior to survey	0.112	0.015	711	599	1.231	0.132	0.082	0.141
Treated with oral rehydration salts (ORS)	0.203	0.050	78	67	1.106	0.248	0.103	0.304
Taken to a health provider	0.186	0.044	78	67	0.997	0.237	0.098	0.274
Vaccination card seen	0.690	0.056	127	103	1.321	0.081	0.578	0.801
Received BCG	0.974	0.015	127	103	1.042	0.015	0.944	1.000
Received DPT (3 doses)	0.806	0.037	127	103	1.031	0.046	0.732	0.881
Received polio (3 doses)	0.764	0.046	127	103	1.179	0.060	0.673	0.855
Received measles	0.854	0.033	127	103	1.027	0.039	0.787	0.920
Fully immunized	0.617	0.048	127	103	1.090	0.079	0.520	0.714
Weight-for-height (below -2SD)	0.075	0.015	312	250	0.798	0.196	0.046	0.105
Height-for-age (below -2SD)	0.292	0.030	312	250	1.063	0.103	0.232	0.352
Weight-for-age (below -2SD)	0.144	0.020	312	250	0.916	0.139	0.104	0.185
Anemia among children	0.696	0.033	286	226	1.056	0.048	0.629	0.762
Anemia among women	0.459	0.043	640	547	2.212	0.095	0.372	0.545
BMI <18.5	0.097	0.013	576	493	1.072	0.135	0.071	0.124
Total Fertility Rate (0-3 years)	4.301	0.230	na	3,110	1.148	0.053	3.842	4.760
Neonatal mortality (0-9 years)	27.489	4.567	1,393	1,197	0.977	0.166	18.356	36.622
Postneonatal mortality (0-9 years)	40.187	6.168	1,394	1,198	1.121	0.153	27.850	52.523
Infant mortality (0-9 years)	67.675	8.229	1,395	1,199	1.151	0.122	51.217	84.134
Child mortality (0-9 years)	60.261	9.950	1,398	1,202	1.253	0.165	40.360	80.162
Under-five mortality (0-9 years)	123.858	15.460	1,401	1,204	1.498	0.125	92.939	154.778
HIV prevalence	0.080	0.012	647	556	1.156	0.154	0.055	0.104
MEN								
Urban residence	0.881	0.017	619	523	1.314	0.019	0.847	0.915
Literate	0.860	0.018	619	523	1.293	0.021	0.824	0.896
No education	0.099	0.012	619	523	1.000	0.122	0.075	0.123
Secondary education or higher	0.338	0.029	619	523	1.522	0.086	0.280	0.396
Never married/in union	0.592	0.020	619	523	1.009	0.034	0.552	0.632
Currently married/in union	0.378	0.018	619	523	0.914	0.047	0.342	0.413
HIV prevalence (15-49)	0.052	0.010	542	487	1.064	0.196	0.031	0.072
HIV prevalence (15-59)	0.049	0.010	575	517	1.080	0.199	0.029	0.068
WOMEN AND MEN								
HIV prevalence (15-49)	0.067	0.009	1,189	1,043	1.254	0.136	0.048	0.085

na = Not applicable

Table B.6 Sampling errors – South Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.139	0.005	2,760	2,958	0.808	0.038	0.129	0.150
Literate	0.728	0.011	2,760	2,958	1.283	0.015	0.706	0.750
No education	0.203	0.010	2,760	2,958	1.334	0.050	0.183	0.224
Secondary education or higher	0.083	0.008	2,760	2,958	1.486	0.094	0.068	0.099
Never married/in union	0.385	0.009	2,760	2,958	0.950	0.023	0.367	0.402
Currently married/in union	0.477	0.010	2,760	2,958	1.045	0.021	0.457	0.497
Married before age 20	0.300	0.013	1,611	1,728	1.116	0.042	0.275	0.326
Currently pregnant	0.076	0.005	2,760	2,958	1.083	0.072	0.065	0.087
Children ever born	2.574	0.047	2,760	2,958	0.878	0.018	2.480	2.669
Children ever born to women 40-49	6.116	0.129	554	605	1.172	0.021	5.857	6.375
Children surviving	2.059	0.038	2,760	2,958	0.879	0.019	1.982	2.135
Knows any contraceptive method	0.985	0.003	1,327	1,411	0.754	0.003	0.980	0.990
Ever used any contraceptive method	0.344	0.014	1,327	1,411	1.073	0.041	0.316	0.372
Currently using any contraceptive method	0.148	0.011	1,327	1,411	1.079	0.071	0.127	0.169
Currently using pill	0.017	0.006	1,327	1,411	1.696	0.356	0.005	0.029
Currently using condom	0.007	0.002	1,327	1,411	0.922	0.294	0.003	0.012
Currently using female sterilization	0.004	0.002	1,327	1,411	1.089	0.460	0.000	0.008
Currently using periodic abstinence	0.034	0.005	1,327	1,411	0.957	0.140	0.025	0.044
Obtained method from public sector source	0.791	0.037	109	120	0.952	0.047	0.716	0.865
Want no more children	0.407	0.015	1,327	1,411	1.110	0.037	0.377	0.437
Want to delay birth at least two years	0.420	0.013	1,327	1,411	0.958	0.031	0.394	0.446
Ideal number of children	4.275	0.036	2,711	2,902	1.251	0.008	4.204	4.347
Mothers received tetanus injection for last birth	0.644	0.014	1,284	1,357	1.029	0.022	0.616	0.672
Mothers received medical assistance at delivery	0.399	0.013	2,020	2,122	0.950	0.032	0.374	0.424
Child had diarrhea in the 2 weeks prior to survey	0.145	0.008	1,821	1,909	0.896	0.055	0.129	0.161
Treated with oral rehydration salts (ORS)	0.066	0.017	277	277	1.061	0.256	0.032	0.100
Taken to a health provider	0.109	0.018	277	277	0.929	0.169	0.072	0.146
Vaccination card seen	0.764	0.025	384	393	1.117	0.033	0.714	0.814
Received BCG	0.983	0.006	384	393	0.909	0.006	0.971	0.995
Received DPT (3 doses)	0.925	0.013	384	393	0.921	0.014	0.899	0.950
Received polio (3 doses)	0.888	0.016	384	393	0.973	0.018	0.856	0.920
Received measles	0.941	0.013	384	393	1.050	0.014	0.915	0.967
Fully immunized	0.843	0.019	384	393	0.999	0.023	0.805	0.881
Weight-for-height (below -2SD)	0.050	0.009	938	987	1.167	0.171	0.033	0.067
Height-for-age (below -2SD)	0.448	0.019	938	987	1.108	0.042	0.410	0.487
Weight-for-age (below -2SD)	0.276	0.018	938	987	1.155	0.066	0.240	0.312
Anemia among children	0.472	0.020	864	908	1.126	0.043	0.431	0.512
Anemia among women	0.280	0.016	1,405	1,518	1.341	0.057	0.248	0.312
BMI <18.5	0.131	0.007	1,268	1,367	0.791	0.057	0.116	0.146
Total Fertility Rate (0-3 years)	5.646	0.172	na	8,251	1.222	0.030	5.302	5.989
Neonatal mortality (0-9 years)	47.648	3.762	3,907	4,130	0.942	0.079	40.124	55.172
Postneonatal mortality (0-9 years)	59.047	5.005	3,912	4,136	1.289	0.085	49.037	69.056
Infant mortality (0-9 years)	106.694	6.352	3,914	4,138	1.159	0.060	93.991	119.397
Child mortality (0-9 years)	79.591	6.497	3,969	4,196	1.176	0.082	66.596	92.585
Under-five mortality (0-9 years)	177.793	9.152	3,978	4,207	1.233	0.051	159.489	196.097
HIV prevalence	0.031	0.005	1,408	1,501	1.020	0.151	0.022	0.041
MEN								
Urban residence	0.131	0.007	1,152	1,250	0.753	0.057	0.116	0.146
Literate	0.746	0.015	1,152	1,250	1.156	0.020	0.716	0.775
No education	0.164	0.014	1,152	1,250	1.314	0.088	0.135	0.192
Secondary education or higher	0.105	0.011	1,152	1,250	1.262	0.109	0.082	0.128
Never married/in union	0.468	0.014	1,152	1,250	0.980	0.031	0.439	0.497
Currently married/in union	0.505	0.014	1,152	1,250	0.962	0.028	0.477	0.533
HIV prevalence (15-49)	0.020	0.004	1,045	1,126	0.829	0.179	0.013	0.027
HIV prevalence (15-59)	0.018	0.003	1,141	1,235	0.830	0.180	0.012	0.025
WOMEN AND MEN								
HIV prevalence (15-49)	0.027	0.004	2,453	2,627	1.099	0.134	0.019	0.034

na = Not applicable

Table B.7 Sampling errors – West Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.079	0.009	2,971	2,824	1.805	0.113	0.061	0.096
Literate	0.658	0.014	2,971	2,824	1.641	0.022	0.629	0.687
No education	0.281	0.014	2,971	2,824	1.656	0.049	0.253	0.308
Secondary education or higher	0.062	0.008	2,971	2,824	1.789	0.128	0.046	0.078
Never married/in union	0.377	0.012	2,971	2,824	1.332	0.031	0.353	0.401
Currently married/in union	0.505	0.012	2,971	2,824	1.283	0.023	0.482	0.529
Married before age 20	0.447	0.014	1,639	1,550	1.112	0.031	0.420	0.475
Currently pregnant	0.079	0.006	2,971	2,824	1.162	0.073	0.068	0.091
Children ever born	2.834	0.061	2,971	2,824	1.061	0.021	2.713	2.955
Children ever born to women 40-49	7.110	0.114	561	521	1.032	0.016	6.882	7.338
Children surviving	2.264	0.047	2,971	2,824	1.016	0.021	2.170	2.357
Knows any contraceptive method	0.960	0.007	1,478	1,427	1.383	0.007	0.946	0.974
Ever used any contraceptive method	0.276	0.016	1,478	1,427	1.386	0.058	0.244	0.308
Currently using any contraceptive method	0.145	0.010	1,478	1,427	1.134	0.072	0.124	0.166
Currently using pill	0.022	0.003	1,478	1,427	0.867	0.150	0.015	0.029
Currently using condom	0.004	0.002	1,478	1,427	1.020	0.415	0.001	0.007
Currently using female sterilization	0.010	0.002	1,478	1,427	0.834	0.221	0.005	0.014
Currently using periodic abstinence	0.023	0.005	1,478	1,427	1.221	0.206	0.014	0.033
Obtained method from public sector source	0.873	0.027	153	139	0.999	0.031	0.819	0.927
Want no more children	0.395	0.015	1,478	1,427	1.158	0.037	0.365	0.424
Want to delay birth at least two years	0.374	0.015	1,478	1,427	1.162	0.039	0.344	0.403
Ideal number of children	4.574	0.053	2,821	2,673	1.542	0.012	4.469	4.680
Mothers received tetanus injection for last birth	0.598	0.012	1,442	1,395	0.932	0.020	0.574	0.622
Mothers received medical assistance at delivery	0.344	0.017	2,352	2,290	1.443	0.051	0.309	0.379
Child had diarrhea in the 2 weeks prior to survey	0.137	0.009	2,133	2,075	1.177	0.067	0.119	0.155
Treated with oral rehydration salts (ORS)	0.170	0.028	276	284	1.216	0.165	0.114	0.226
Taken to a health provider	0.132	0.021	276	284	1.009	0.156	0.091	0.174
Vaccination card seen	0.760	0.025	454	440	1.274	0.033	0.709	0.810
Received BCG	0.967	0.010	454	440	1.213	0.010	0.947	0.987
Received DPT (3 doses)	0.844	0.018	454	440	1.034	0.021	0.809	0.879
Received polio (3 doses)	0.826	0.021	454	440	1.180	0.025	0.785	0.868
Received measles	0.825	0.020	454	440	1.131	0.024	0.785	0.865
Fully immunized	0.720	0.026	454	440	1.221	0.035	0.669	0.772
Weight-for-height (below -2SD)	0.028	0.005	1,044	999	0.994	0.178	0.018	0.039
Height-for-age (below -2SD)	0.469	0.018	1,044	999	1.132	0.038	0.433	0.505
Weight-for-age (below -2SD)	0.203	0.016	1,044	999	1.221	0.079	0.171	0.235
Anemia among children	0.593	0.023	973	933	1.390	0.039	0.547	0.638
Anemia among women	0.262	0.016	1,466	1,397	1.412	0.062	0.230	0.295
BMI <18.5	0.081	0.007	1,345	1,280	1.008	0.093	0.066	0.096
Total Fertility Rate (0-3 years)	6.638	0.200	na	7,726	1.406	0.030	6.239	7.037
Neonatal mortality (0-9 years)	43.194	3.389	4,526	4,387	1.041	0.078	36.415	49.973
Postneonatal mortality (0-9 years)	57.251	5.362	4,530	4,392	1.420	0.094	46.526	67.975
Infant mortality (0-9 years)	100.445	5.948	4,532	4,393	1.236	0.059	88.549	112.341
Child mortality (0-9 years)	87.219	7.300	4,590	4,447	1.368	0.084	72.618	101.819
Under-five mortality (0-9 years)	178.903	8.845	4,598	4,455	1.315	0.049	161.213	196.592
HIV prevalence	0.037	0.005	1,475	1,406	1.080	0.143	0.026	0.048
MEN								
Urban residence	0.078	0.008	1,237	1,185	1.094	0.107	0.061	0.095
Literate	0.773	0.015	1,237	1,185	1.282	0.020	0.743	0.804
No education	0.178	0.013	1,237	1,185	1.211	0.074	0.151	0.204
Secondary education or higher	0.106	0.012	1,237	1,185	1.372	0.113	0.082	0.130
Never married/in union	0.414	0.019	1,237	1,185	1.337	0.045	0.377	0.452
Currently married/in union	0.560	0.019	1,237	1,185	1.354	0.034	0.522	0.598
HIV prevalence (15-49)	0.024	0.005	1,096	1,051	0.986	0.189	0.015	0.034
HIV prevalence (15-59)	0.023	0.004	1,220	1,169	0.980	0.182	0.015	0.032
WOMEN AND MEN								
HIV prevalence (15-49)	0.032	0.004	2,571	2,458	1.209	0.132	0.023	0.040

na = Not applicable

Table B.8 Sampling errors – North Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.098	0.011	1,821	2,063	1.622	0.115	0.076	0.121
Literate	0.695	0.016	1,821	2,063	1.441	0.022	0.664	0.726
No education	0.254	0.014	1,821	2,063	1.359	0.055	0.227	0.282
Secondary education or higher	0.094	0.012	1,821	2,063	1.781	0.130	0.070	0.118
Never married/in union	0.348	0.013	1,821	2,063	1.179	0.038	0.321	0.374
Currently married/in union	0.513	0.012	1,821	2,063	1.064	0.024	0.488	0.538
Married before age 20	0.475	0.020	1,055	1,205	1.296	0.042	0.435	0.515
Currently pregnant	0.079	0.006	1,821	2,063	1.026	0.082	0.066	0.092
Children ever born	2.936	0.075	1,821	2,063	1.052	0.026	2.786	3.086
Children ever born to women 40-49	6.745	0.166	349	397	1.124	0.025	6.414	7.077
Children surviving	2.394	0.054	1,821	2,063	0.938	0.023	2.285	2.502
Knows any contraceptive method	0.984	0.005	921	1,058	1.247	0.005	0.973	0.994
Ever used any contraceptive method	0.315	0.021	921	1,058	1.361	0.066	0.273	0.356
Currently using any contraceptive method	0.160	0.013	921	1,058	1.066	0.081	0.134	0.185
Currently using pill	0.028	0.007	921	1,058	1.274	0.248	0.014	0.042
Currently using condom	0.007	0.002	921	1,058	0.791	0.320	0.002	0.011
Currently using female sterilization	0.002	0.002	921	1,058	1.004	0.700	0.000	0.005
Currently using periodic abstinence	0.035	0.007	921	1,058	1.083	0.188	0.022	0.048
Obtained method from public sector source	0.809	0.049	119	121	1.367	0.061	0.710	0.908
Want no more children	0.441	0.017	921	1,058	1.040	0.039	0.407	0.475
Want to delay birth at least two years	0.395	0.016	921	1,058	1.006	0.041	0.363	0.428
Ideal number of children	4.291	0.056	1,721	1,941	1.382	0.013	4.179	4.403
Mothers received tetanus injection for last birth	0.610	0.020	921	1,052	1.232	0.032	0.571	0.650
Mothers received medical assistance at delivery	0.341	0.026	1,493	1,716	1.736	0.076	0.289	0.393
Child had diarrhea in the 2 weeks prior to survey	0.145	0.012	1,366	1,571	1.152	0.080	0.121	0.168
Treated with oral rehydration salts (ORS)	0.147	0.021	202	227	0.748	0.140	0.106	0.188
Taken to a health provider	0.225	0.033	202	227	1.059	0.147	0.159	0.291
Vaccination card seen	0.766	0.030	295	340	1.208	0.039	0.706	0.825
Received BCG	0.990	0.006	295	340	0.981	0.006	0.978	1.000
Received DPT (3 doses)	0.903	0.018	295	340	1.016	0.020	0.868	0.939
Received polio (3 doses)	0.866	0.021	295	340	1.055	0.024	0.824	0.908
Received measles	0.921	0.017	295	340	1.034	0.018	0.888	0.954
Fully immunized	0.812	0.025	295	340	1.095	0.031	0.761	0.862
Weight-for-height (below -2SD)	0.029	0.007	709	793	1.065	0.233	0.015	0.042
Height-for-age (below -2SD)	0.522	0.022	709	793	1.102	0.043	0.477	0.567
Weight-for-age (below -2SD)	0.236	0.018	709	793	1.017	0.075	0.201	0.272
Anemia among children	0.562	0.034	655	729	1.633	0.061	0.494	0.630
Anemia among women	0.316	0.044	905	1,020	2.842	0.139	0.228	0.404
BMI <18.5	0.066	0.010	799	905	1.137	0.152	0.046	0.086
Total Fertility Rate (0-3 years)	6.353	0.224	na	5,702	1.173	0.035	5.904	6.802
Neonatal mortality (0-9 years)	42.308	4.265	2,924	3,358	1.004	0.101	33.779	50.837
Postneonatal mortality (0-9 years)	46.764	4.864	2,928	3,363	1.178	0.104	37.037	56.492
Infant mortality (0-9 years)	89.072	6.439	2,928	3,363	1.122	0.072	76.195	101.950
Child mortality (0-9 years)	77.446	7.002	2,965	3,404	1.130	0.090	63.441	91.451
Under-five mortality (0-9 years)	159.620	10.422	2,969	3,409	1.322	0.065	138.775	180.464
HIV prevalence	0.026	0.006	907	1,019	1.143	0.233	0.014	0.038
MEN								
Urban residence	0.089	0.010	746	845	0.972	0.114	0.069	0.110
Literate	0.760	0.020	746	845	1.293	0.027	0.720	0.801
No education	0.201	0.021	746	845	1.434	0.105	0.159	0.243
Secondary education or higher	0.097	0.017	746	845	1.554	0.174	0.063	0.131
Never married/in union	0.420	0.022	746	845	1.209	0.052	0.376	0.464
Currently married/in union	0.561	0.023	746	845	1.278	0.041	0.514	0.607
HIV prevalence (15-49)	0.011	0.004	682	773	1.035	0.372	0.003	0.020
HIV prevalence (15-59)	0.012	0.004	743	840	1.029	0.348	0.004	0.020
WOMEN AND MEN								
HIV prevalence (15-49)	0.020	0.004	1,589	1,792	1.243	0.221	0.011	0.028

na = Not applicable

Table B.9 Sampling errors – East Province, Rwanda 2005

Variable	Value (R)	Standard error (SE)	Number of cases: Un-weighted (N)	Number of cases: Weighted (WN)	Design effect (DEFT)	Relative error (SE/R)	Confidence limits: R-2SE	Confidence limits: R+2SE
WOMEN								
Urban residence	0.051	0.004	2,440	2,348	0.817	0.071	0.044	0.059
Literate	0.662	0.012	2,440	2,348	1.271	0.018	0.638	0.687
No education	0.255	0.012	2,440	2,348	1.304	0.045	0.232	0.278
Secondary education or higher	0.055	0.005	2,440	2,348	1.124	0.094	0.045	0.066
Never married/in union	0.341	0.013	2,440	2,348	1.375	0.039	0.315	0.367
Currently married/in union	0.515	0.015	2,440	2,348	1.462	0.029	0.485	0.544
Married before age 20	0.516	0.017	1,397	1,327	1.265	0.033	0.482	0.550
Currently pregnant	0.090	0.007	2,440	2,348	1.151	0.074	0.077	0.104
Children ever born	2.796	0.064	2,440	2,348	1.076	0.023	2.668	2.923
Children ever born to women 40-49	6.571	0.145	421	391	1.116	0.022	6.280	6.861
Children surviving	2.129	0.048	2,440	2,348	1.044	0.023	2.033	2.225
Knows any contraceptive method	0.985	0.006	1,251	1,208	1.669	0.006	0.973	0.996
Ever used any contraceptive method	0.375	0.014	1,251	1,208	0.989	0.036	0.348	0.402
Currently using any contraceptive method	0.189	0.011	1,251	1,208	1.017	0.060	0.167	0.212
Currently using pill	0.027	0.008	1,251	1,208	1.678	0.283	0.012	0.043
Currently using condom	0.004	0.002	1,251	1,208	1.037	0.462	0.000	0.008
Currently using female sterilization	0.002	0.001	1,251	1,208	0.987	0.632	0.000	0.004
Currently using periodic abstinence	0.065	0.008	1,251	1,208	1.095	0.118	0.049	0.080
Obtained method from public sector source	0.752	0.053	108	107	1.267	0.070	0.646	0.858
Want no more children	0.446	0.013	1,251	1,208	0.925	0.029	0.420	0.472
Want to delay birth at least two years	0.384	0.014	1,251	1,208	1.027	0.037	0.356	0.412
Ideal number of children	4.228	0.045	2,389	2,288	1.475	0.011	4.137	4.319
Mothers received tetanus injection for last birth	0.640	0.015	1,244	1,194	1.088	0.023	0.610	0.669
Mothers received medical assistance at delivery	0.385	0.021	2,012	1,932	1.593	0.055	0.343	0.428
Child had diarrhea in the 2 weeks prior to survey	0.151	0.010	1,721	1,644	1.094	0.066	0.131	0.171
Treated with oral rehydration salts (ORS)	0.056	0.016	263	248	1.092	0.280	0.025	0.088
Taken to a health provider	0.099	0.019	263	248	1.027	0.193	0.061	0.137
Vaccination card seen	0.766	0.035	364	350	1.576	0.046	0.696	0.837
Received BCG	0.914	0.032	364	350	2.137	0.035	0.850	0.979
Received DPT (3 doses)	0.826	0.038	364	350	1.902	0.046	0.749	0.902
Received polio (3 doses)	0.814	0.038	364	350	1.863	0.047	0.737	0.891
Received measles	0.739	0.039	364	350	1.694	0.053	0.661	0.818
Fully immunized	0.670	0.041	364	350	1.645	0.061	0.588	0.752
Weight-for-height (below -2SD)	0.038	0.007	871	831	0.993	0.172	0.025	0.051
Height-for-age (below -2SD)	0.424	0.017	871	831	0.990	0.041	0.389	0.459
Weight-for-age (below -2SD)	0.202	0.013	871	831	0.953	0.064	0.177	0.228
Anemia among children	0.596	0.025	776	741	1.331	0.042	0.546	0.647
Anemia among women	0.416	0.024	1,222	1,175	1.694	0.057	0.369	0.464
BMI <18.5	0.105	0.009	1,095	1,055	1.023	0.090	0.086	0.124
Total Fertility Rate (0-3 years)	6.491	0.176	na	6,459	1.118	0.027	6.139	6.844
Neonatal mortality (0-9 years)	48.246	4.339	3,819	3,643	1.071	0.090	39.567	56.925
Postneonatal mortality (0-9 years)	76.487	5.517	3,831	3,653	1.179	0.072	65.452	87.521
Infant mortality (0-9 years)	124.732	7.870	3,832	3,654	1.283	0.063	108.991	140.473
Child mortality (0-9 years)	123.291	7.614	3,884	3,705	1.103	0.062	108.064	138.518
Under-five mortality (0-9 years)	232.645	10.723	3,898	3,716	1.323	0.046	211.199	254.090
HIV prevalence	0.029	0.005	1,240	1,173	0.971	0.159	0.020	0.039
MEN								
Urban residence	0.047	0.006	1,066	1,017	0.874	0.121	0.035	0.058
Literate	0.784	0.015	1,066	1,017	1.219	0.020	0.753	0.815
No education	0.198	0.014	1,066	1,017	1.118	0.069	0.171	0.226
Secondary education or higher	0.075	0.008	1,066	1,017	0.958	0.103	0.060	0.091
Never married/in union	0.448	0.020	1,066	1,017	1.286	0.044	0.408	0.487
Currently married/in union	0.525	0.018	1,066	1,017	1.182	0.034	0.488	0.561
HIV prevalence (15-49)	0.021	0.006	975	923	1.398	0.308	0.008	0.033
HIV prevalence (15-59)	0.022	0.006	1,063	1,002	1.383	0.283	0.009	0.034
WOMEN AND MEN								
HIV prevalence (15-49)	0.025	0.004	2,215	2,096	1.195	0.157	0.017	0.033

na = Not applicable

DATA QUALITY TABLES

APPENDIX C

Table C.1 Household age distribution

Single-year distribution of the de facto household population by sex (weighted), Rwanda 2005

	Females		Males			Females		Males	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
0	871	3.5	897	4.1	36	220	0.9	167	0.8
1	794	3.2	855	3.9	37	250	1.0	182	0.8
2	897	3.6	895	4.1	38	183	0.7	160	0.7
3	735	3.0	705	3.2	39	209	0.8	156	0.7
4	711	2.9	745	3.4	40	254	1.0	196	0.9
5	792	3.2	775	3.6	41	194	0.8	180	0.8
6	617	2.5	643	3.0	42	231	0.9	171	0.8
7	712	2.9	738	3.4	43	267	1.1	157	0.7
8	734	3.0	741	3.4	44	191	0.8	143	0.7
9	683	2.8	712	3.3	45	213	0.9	204	0.9
10	624	2.5	592	2.7	46	226	0.9	147	0.7
11	612	2.5	595	2.7	47	174	0.7	146	0.7
12	672	2.7	649	3.0	48	162	0.7	131	0.6
13	693	2.8	602	2.8	49	147	0.6	114	0.5
14	629	2.5	614	2.8	50	148	0.6	131	0.6
15	544	2.2	522	2.4	51	145	0.6	102	0.5
16	609	2.5	545	2.5	52	175	0.7	106	0.5
17	508	2.1	499	2.3	53	160	0.6	114	0.5
18	547	2.2	518	2.4	54	133	0.5	72	0.3
19	438	1.8	405	1.9	55	122	0.5	99	0.5
20	475	1.9	460	2.1	56	94	0.4	83	0.4
21	464	1.9	389	1.8	57	68	0.3	65	0.3
22	508	2.1	417	1.9	58	66	0.3	44	0.2
23	491	2.0	384	1.8	59	67	0.3	44	0.2
24	445	1.8	317	1.5	60	135	0.5	72	0.3
25	389	1.6	388	1.8	61	66	0.3	38	0.2
26	374	1.5	276	1.3	62	72	0.3	39	0.2
27	363	1.5	280	1.3	63	79	0.3	48	0.2
28	314	1.3	229	1.1	64	51	0.2	28	0.1
29	318	1.3	203	0.9	65	108	0.4	52	0.2
30	312	1.3	281	1.3	66	39	0.2	24	0.1
31	283	1.1	185	0.9	67	57	0.2	40	0.2
32	318	1.3	218	1.0	68	68	0.3	34	0.2
33	265	1.1	178	0.8	69	76	0.3	32	0.1
34	287	1.2	174	0.8	70+	565	2.3	413	1.9
35	278	1.1	196	0.9	Don't know/ missing	4	0.0	4	0.0
					Total	24,727	100.0	21,762	100.0

Table C.2.1 Age distribution of eligible and interviewed women

De facto household population of women age 10-54, interviewed women age 15-49, and percentage of eligible women who were interviewed (weighted), by five-year age groups, Rwanda 2005

Age group	Household population of women 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed
		Number	Percent	
10-14	3,232	na	na	na
15-19	2,647	2,562	22.8	96.8
20-24	2,382	2,330	20.8	97.8
25-29	1,759	1,727	15.4	98.2
30-34	1,464	1,449	12.9	99.0
25-39	1,141	1,129	10.1	99.0
40-44	1,136	1,125	10.0	99.1
45-49	921	904	8.1	98.1
50-54	762	na	na	na
15-49	11,449	11,226	100.0	98.1

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household schedule.
na = Not applicable

Table C.2.2 Age distribution of eligible and interviewed men

De facto household population of men age 10-59, interviewed men age 15-54, and percentage of eligible men who were interviewed (weighted), by five-year age groups, Rwanda 2005

Age group	Household population of men 10-64	Interviewed men age 15-59		Percentage of eligible men interviewed
		Number	Percent	
10-14	1,543	na	na	na
15-19	1,124	1,088	22.8	96.8
20-24	960	937	19.7	97.7
25-29	643	624	13.1	97.0
30-34	521	503	10.6	96.5
25-39	444	433	9.1	97.5
40-44	416	401	8.4	96.3
45-49	381	376	7.9	98.8
50-54	260	258	5.4	99.2
55-59	148	145	3.0	98.2
60-64	109	na	na	na
15-59	4,896	4,764	100.0	97.3

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of men and interviewed men are household weights. Age is based on the household schedule.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Rwanda 2005

Subject	Reference group	Percentage with missing information	Number of cases
Birth date	Births in the 15 years preceding the survey		
Month only		2.4	22,458
Month and year		0.1	22,458
Age at death	Deceased children born in the 15 years preceding the survey	0.2	4,114
Age/date at first union [1]	Ever-married women age 15-49	0.1	7,058
Respondent's education	All women age 15-49	0.1	11,321
Diarrhea in past 2 weeks	Living children age 0-59 months	1.5	7,797
Anthropometry [2]	Living children age 0-59 months (from the household questionnaire)		
Height		1.2	4,099
Weight		1.7	4,099
Height or weight		1.8	4,099
Anemia [3]			
Anemia – children	Living children age 6-59 months (from the household questionnaire)	3.1	3,649
Anemia – women	All women age 15-49 (from the household questionnaire)	3.3	5,818

[1] Both year and age missing
[2] Child not measured
[3] Not tested

Table C.4 Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living, dead, and total children (weighted), Rwanda 2005

	Number of births			Percentage with a complete birth date [1]			Sex ratio at birth [2]			Calendar year ratio [3]		
Year	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total	Living	Dead	Total
2005	743	36	779	100.0	100.0	100.0	109.2	93.0	108.4	na	na	na
2004	1,711	129	1,840	100.0	100.0	100.0	90.8	74.6	89.5	na	na	na
2003	1,595	184	1,779	100.0	99.5	99.9	89.8	128.8	93.2	92.3	101.3	93.1
2002	1,746	234	1,980	100.0	99.0	99.9	101.0	83.3	98.7	122.4	125.4	122.7
2001	1,259	190	1,448	100.0	97.8	99.7	104.1	97.2	103.2	79.1	75.4	78.6
2000	1,437	268	1,705	100.0	98.7	99.8	96.1	106.4	97.7	108.3	100.9	107.0
1999	1,395	342	1,737	98.5	92.9	97.4	99.6	89.7	97.6	110.9	113.1	111.4
1998	1,078	337	1,414	97.6	92.4	96.3	92.0	84.5	90.1	83.0	100.2	86.5
1997	1,201	330	1,531	97.4	92.4	96.3	99.6	71.4	92.8	102.0	92.7	99.9
1996	1,277	375	1,652	97.7	92.9	96.6	93.6	97.1	94.4	112.5	110.1	112.0
2001-2005	7,053	773	7,827	100.0	99.1	99.9	97.1	94.7	96.9	na	na	na
1996-2000	6,388	1,651	8,039	98.3	93.7	97.4	96.3	88.7	94.7	na	na	na
1991-1994	4,483	1,513	5,996	96.4	90.0	94.8	101.8	90.2	98.8	na	na	na
1986-1990	3,475	1,069	4,544	94.0	89.4	92.9	103.0	92.4	100.4	na	na	na
< 1986	2,839	1,132	3,971	92.1	86.7	90.5	105.9	81.3	98.2	na	na	na
Total	24,237	6,139	30,376	97.1	91.4	96.0	99.6	89.0	97.4	na	na	na

[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
na = Not applicable

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 age 0-6 days, for five-year periods preceding the survey (weighted), Rwanda 2005

Age at death in days	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1	135	165	118	77	495
1	25	36	28	9	98
2	21	25	25	11	82
3	21	31	34	9	96
4	10	11	10	3	35
5	9	11	6	8	34
6	6	9	8	7	29
7	33	53	33	27	146
8	4	9	12	5	29
9	3	6	2	1	12
10	1	6	4	3	13
11	1	1	0	2	4
12	1	4	1	0	5
13	1	1	1	0	3
14	20	12	26	7	65
15	10	10	6	2	29
16	0	0	0	1	1
18	1	3	1	0	4
19	0	0	0	1	1
20	5	6	1	1	13
21	2	5	3	4	13
23	1	0	1	0	2
24	0	1	2	0	3
25	0	1	1	1	2
26	2	0	0	0	2
27	1	0	0	1	2
28	1	2	2	1	5
29	0	2	0	0	2
30	6	3	10	6	25
Missing	0	0	1	0	1
Total 0-30	321	413	333	185	1 252
Percent early neonatal[1]	71.1	69.7	68.8	66.7	69.4

[1] 0-6 days/0-30 days

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 age under one month, for five-year periods preceding the survey, Rwanda 2005

Age at death in months	Number of years preceding the survey				Total 0-19
	0-4	5-9	10-14	15-19	
<1 month[1]	321	413	333	185	1,253
1	56	60	36	15	166
2	51	70	51	28	200
3	27	57	43	23	151
4	28	46	38	14	127
5	24	46	27	5	103
6	27	45	45	16	133
7	35	56	30	7	128
8	24	36	20	14	95
9	53	91	37	24	206
10	15	10	16	3	43
11	19	31	15	15	80
12	41	108	75	41	265
13	18	17	14	9	59
14	14	19	18	6	58
15	10	22	21	3	55
16	13	8	4	4	29
17	2	13	12	8	34
18	21	55	33	21	129
19	8	14	8	1	31
20	4	8	7	4	24
21	5	4	1	3	14
22	2	6	2	1	11
23	1	3	3	1	8
24 or more	0	0	1	0	1
1 year	2	2	2	3	9
Total 0-11	681	961	691	350	2,683
Percent neonatal[2]	47.2	42.9	48.3	52.9	46.7

[1] Includes deaths under one month reported in days
[2] Under one month/under one year

RESULTS ACCORDING TO OLD PROVINCES

APPENDIX D

Table D.2.3 Educational attainment of household population

Percent distribution of the de facto household population age six and over by highest level of education attended or completed, according to old province, Rwanda 2005

Old province	No education	Primary	Primary complete[1]	Secondary incomplete	Secondary complete[2]	Superior	Total	Number
				WOMEN				
Kigali	14.7	45.9	11.7	16.0	6.4	4.0	100.0	1,298
Kigali Ngali	28.0	57.9	9.3	3.8	0.8	0.0	100.0	1,885
Gitarama	23.0	61.3	9.7	4.0	1.4	0.1	100.0	2,164
Butare	29.4	57.9	7.4	3.6	1.2	0.1	100.0	1,870
Gikongoro	31.6	58.6	5.6	3.0	0.5	0.1	100.0	1,227
Cyangugu	29.8	58.4	6.6	2.7	0.9	0.0	100.0	1,512
Kibuye	30.1	59.8	7.4	1.9	0.5	0.0	100.0	1,175
Gisenyi	33.9	57.9	4.2	2.9	0.7	0.3	100.0	2,218
Ruhengeri	31.2	58.2	5.4	3.6	1.2	0.1	100.0	2,131
Byumba	31.1	62.2	1.7	4.1	0.7	0.0	100.0	1,586
Umutara	40.5	49.5	6.2	2.7	0.7	0.1	100.0	1,001
Kibungo	28.1	61.9	6.1	2.9	0.5	0.0	100.0	1,860
				MEN				
Kigali	13.3	42.6	11.5	18.3	6.5	5.8	100.0	1,211
Kigali Ngali	20.1	62.3	11.8	4.2	0.7	0.3	100.0	1,584
Gitarama	17.5	65.3	10.1	5.1	1.2	0.6	100.0	1,856
Butare	23.7	65.1	5.6	4.3	0.8	0.3	100.0	1,568
Gikongoro	22.1	64.5	8.2	3.6	1.0	0.3	100.0	1,013
Cyangugu	20.7	63.9	9.7	3.1	1.3	0.4	100.0	1,288
Kibuye	23.3	63.5	8.3	3.5	1.1	0.1	100.0	959
Gisenyi	22.5	63.1	6.2	5.3	1.7	0.7	100.0	1,745
Ruhengeri	20.1	63.9	7.1	5.9	1.7	0.4	100.0	1,726
Byumba	23.3	67.9	2.5	5.0	1.0	0.2	100.0	1,429
Umutara	32.8	53.4	8.4	4.5	0.6	0.0	100.0	947
Kibungo	22.4	65.8	7.7	3.2	0.6	0.1	100.0	1,565

[1] Completed 6 grades at the primary level
[2] Completed 6 grades at the secondary level

Table D.2.4 School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de jure household population by level of schooling and sex, according to old province, Rwanda 2005

Old province	Net attendance ratio[1]			Gross attendance ratio[2]			Gender parity index[3]
	Male	Female	Total	Male	Female	Total	
PRIMARY SCHOOL							
Kigali	81.2	81.7	81.4	132.7	130.1	131.5	0.98
Kigali Ngali	74.2	77.1	75.7	134.2	140.8	137.5	1.05
Gitarama	79.6	82.1	80.8	141.3	142.6	142.0	1.01
Butare	64.7	70.0	67.3	116.1	122.2	119.0	1.05
Gikongoro	74.8	72.7	73.8	128.9	131.1	130.0	1.02
Cyangugu	71.4	70.0	70.7	140.1	135.7	137.9	0.97
Kibuye	71.0	78.5	74.7	133.0	150.1	141.4	1.13
Gisenyi	76.5	78.6	77.6	134.6	141.1	138.0	1.05
Ruhengeri	78.0	80.9	79.4	138.3	139.1	138.7	1.01
Byumba	72.5	76.2	74.3	115.3	120.6	117.9	1.05
Umutara	67.2	73.7	70.4	134.0	131.9	133.0	0.98
Kibungo	71.9	74.7	73.3	145.6	158.1	151.8	1.09
SECONDARY SCHOOL							
Kigali	16.2	16.9	16.6	29.7	30.2	30.0	1.02
Kigali Ngali	3.6	3.2	3.4	5.1	5.2	5.2	1.02
Gitarama	2.2	3.5	2.8	4.0	5.9	4.9	1.46
Butare	4.3	4.8	4.6	6.9	6.1	6.5	0.88
Gikongoro	2.1	1.5	1.8	3.0	2.9	3.0	0.96
Cyangugu	2.5	1.3	1.9	5.1	3.2	4.2	0.62
Kibuye	2.7	1.6	2.1	4.8	2.7	3.7	0.56
Gisenyi	3.8	2.9	3.3	9.5	4.4	6.7	0.47
Ruhengeri	5.6	3.7	4.6	8.8	4.7	6.6	0.53
Byumba	5.3	2.8	4.1	9.8	4.0	6.9	0.40
Umutara	4.4	3.0	3.7	6.0	4.8	5.4	0.81
Kibungo	3.7	2.3	3.0	5.6	4.9	5.2	0.87

[1] The NAR for primary school is the percentage of the primary-school-age (6-11 years) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school-age (12-18 years) population that is attending secondary school. By definition the NAR cannot exceed 100 percent.
[2] The GAR for primary school is the total number of primary school students, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of over-age and underage students at a given level of schooling, the GAR can exceed 100 percent.
[3] The Gender Parity Index for primary school is the ratio of the primary school GAR for females to the GAR for males. The Gender Parity Index for secondary school is the ratio of the secondary school GAR for females to the GAR for males.

Table D.2.7 Wealth quintiles

Percent distribution of households by wealth quintiles, according to old province, Rwanda 2005

Old province	Wealth quintile					Total	Number
	Lowest	Second	Middle	Fourth	Highest		
Kigali	3.0	2.6	4.9	6.5	83.0	100.0	664
Kigali Ngali	21.3	20.1	28.5	16.6	13.6	100.0	1,023
Gitarama	15.4	20.5	20.3	23.3	20.6	100.0	1,100
Butare	22.6	20.3	19.1	21.7	16.4	100.0	988
Gikongoro	29.9	22.2	16.5	21.9	9.5	100.0	633
Cyangugu	22.0	8.7	20.7	31.1	17.5	100.0	726
Kibuye	28.3	20.4	21.7	19.1	10.6	100.0	598
Gisenyi	21.3	17.2	22.2	22.3	16.9	100.0	1,071
Ruhengeri	25.6	15.5	22.0	24.0	12.8	100.0	1,081
Byumba	30.4	24.9	22.9	13.2	8.6	100.0	867
Umutara	14.0	19.5	17.1	30.8	18.6	100.0	550
Kibungo	23.0	26.5	23.7	16.5	10.3	100.0	970

Table D.2.8 Birth registration of children under age five

Percentage of de jure children under five years of age whose births are registered with the civil authorities, according to old province, Rwanda 2005

Old province	Percentage of children whose births are registered: Had a birth certificate	Did not have a birth certificate	Total registered	Number of children
Kigali	72.3	6.2	78.5	457
Kigali Ngali	79.9	2.7	82.6	745
Gitarama	82.2	1.0	83.2	740
Butare	77.9	4.6	82.5	758
Gikongoro	86.5	4.2	90.7	516
Cyangugu	73.1	2.7	75.7	593
Kibuye	82.9	1.4	84.3	474
Gisenyi	69.4	8.2	77.6	980
Ruhengeri	82.1	6.2	88.3	958
Byumba	79.2	5.4	84.5	728
Umutara	67.6	2.9	70.5	446
Kibungo	80.3	5.5	85.8	727

Table D.3.3 Educational attainment

Percent distribution of women and men by highest level of schooling attended or completed, according to old province, Rwanda 2005

Old province	Highest level of schooling attended or completed: No education	Primary	Secondary	More than secondary	Total	Number
			WOMEN			
Kigali	8.8	55.5	30.6	5.1	100.0	900
Kigali Ngali	22.2	70.5	7.3	0.0	100.0	1,118
Gitarama	17.3	73.9	8.5	0.3	100.0	1,219
Butare	21.1	70.0	8.5	0.4	100.0	1,090
Gikongoro	24.7	68.9	6.3	0.1	100.0	650
Cyangugu	23.3	70.3	6.4	0.0	100.0	852
Kibuye	24.5	71.3	4.0	0.1	100.0	649
Gisenyi	32.8	60.2	6.4	0.6	100.0	1,179
Ruhengeri	28.1	63.5	8.2	0.2	100.0	1,180
Byumba	27.4	63.7	8.8	0.0	100.0	873
Umutara	30.1	63.7	5.9	0.2	100.0	554
Kibungo	22.1	72.1	5.8	0.0	100.0	1,057
			MEN			
Kigali	8.9	52.2	29.9	8.9	100.0	426
Kigali Ngali	18.4	73.6	7.6	0.4	100.0	449
Gitarama	12.2	74.2	12.7	0.9	100.0	522
Butare	19.5	72.5	7.5	0.5	100.0	452
Gikongoro	19.1	72.3	8.3	0.3	100.0	275
Cyangugu	17.4	73.6	7.9	1.1	100.0	386
Kibuye	14.3	77.4	8.1	0.3	100.0	244
Gisenyi	21.4	66.2	11.6	0.8	100.0	488
Ruhengeri	16.4	72.0	10.5	1.1	100.0	478
Byumba	20.8	70.0	8.6	0.5	100.0	395
Umutara	21.1	70.9	7.7	0.3	100.0	271
Kibungo	20.5	72.3	6.7	0.4	100.0	433

Table D.3.4 Literacy

Percent distribution of women and men by level of schooling attended and by level of literacy, and percent literate, according to old province, Rwanda 2005

Old province	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	Total[1]	Number	Percent literate[2]
			WOMEN				
Kigali	35.7	46.2	6.6	11.0	100.0	900	88.6
Kigali Ngali	7.3	52.6	10.8	29.3	100.0	1,118	70.7
Gitarama	8.8	61.8	9.5	19.7	100.0	1,219	80.1
Butare	8.9	50.7	9.4	30.1	100.0	1,090	69.1
Gikongoro	6.4	53.5	5.6	34.5	100.0	650	65.5
Cyangugu	6.4	51.9	9.0	32.0	100.0	852	67.2
Kibuye	4.1	51.8	14.9	29.2	100.0	649	70.8
Gisenyi	6.9	41.4	14.1	37.3	100.0	1,179	62.4
Ruhengeri	8.4	39.9	17.9	33.5	100.0	1,180	66.2
Byumba	8.9	48.5	10.5	31.9	100.0	873	67.9
Umutara	6.2	50.6	9.5	33.6	100.0	554	66.2
Kibungo	5.8	48.5	12.9	31.9	100.0	1,057	67.2
			MEN				
Kigali	38.8	43.6	6.7	10.3	100.0	426	89.2
Kigali Ngali	8.0	52.5	14.9	24.3	100.0	449	75.4
Gitarama	13.6	53.9	9.5	22.1	100.0	522	77.0
Butare	8.0	54.2	11.3	26.2	100.0	452	73.5
Gikongoro	8.6	52.6	10.6	28.0	100.0	275	71.7
Cyangugu	8.9	58.9	10.2	21.2	100.0	386	78.0
Kibuye	8.4	58.3	10.9	21.9	100.0	244	77.6
Gisenyi	12.4	51.4	10.9	25.0	100.0	488	74.7
Ruhengeri	11.6	57.2	12.6	18.3	100.0	478	81.4
Byumba	9.2	53.8	11.7	25.2	100.0	395	74.8
Umutara	8.0	56.8	12.6	22.4	100.0	271	77.3
Kibungo	7.1	64.3	6.7	21.7	100.0	433	78.1

[1] Includes those with missing information
[2] Refers to women and men who attended secondary school or higher and women who can read a whole sentence or part of a sentence.

Table D.3.5 Exposure to mass media

Percentage of women and men who usually read a newspaper at least once a week, watch television at least once a week, and listen to the radio at least once a week, by old province, Rwanda 2005

Old province	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	All three media	No media	Number
			WOMEN			
Kigali	17.2	36.8	81.8	9.2	14.0	900
Kigali Ngali	4.9	1.8	49.6	0.4	49.2	1,118
Gitarama	14.6	3.1	56.5	1.6	40.9	1,219
Butare	5.5	3.0	62.7	1.2	36.4	1,090
Gikongoro	3.0	1.9	50.6	0.4	48.4	650
Cyangugu	16.7	3.4	50.5	1.0	43.3	852
Kibuye	4.4	1.2	38.3	0.5	60.0	649
Gisenyi	9.4	3.2	39.5	1.2	57.2	1,179
Ruhengeri	7.7	3.7	50.6	1.1	47.0	1,180
Byumba	7.8	1.2	45.7	0.1	52.0	873
Umutara	2.3	1.0	57.3	0.0	42.3	554
Kibungo	1.9	1.8	64.1	0.2	34.9	1,057
			MEN			
Kigali	39.5	56.9	90.7	30.8	7.8	426
Kigali Ngali	4.9	4.6	79.1	1.2	18.9	449
Gitarama	7.3	10.1	77.4	3.2	22.6	522
Butare	5.2	6.2	84.4	1.5	15.3	452
Gikongoro	5.4	4.3	61.0	0.7	36.7	275
Cyangugu	9.7	9.2	75.9	2.8	22.1	386
Kibuye	11.2	3.2	77.5	0.3	19.9	244
Gisenyi	6.2	4.8	69.3	1.1	30.2	488
Ruhengeri	9.9	7.1	84.2	2.4	15.7	478
Byumba	3.6	4.3	79.7	1.5	18.9	395
Umutara	18.2	10.6	66.7	4.7	30.6	271
Kibungo	3.1	4.5	98.1	0.5	1.0	433

Table D.3.6 Employment status

Percent distribution of women and men by employment status, according to old province, Rwanda 2005

Old province	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number
	Currently employed	Not currently employed			
			WOMEN		
Kigali	45.5	12.0	42.2	100.0	900
Kigali Ngali	61.3	1.9	36.8	100.0	1,118
Gitarama	54.9	26.5	18.3	100.0	1,219
Butare	79.8	0.9	19.3	100.0	1,090
Gikongoro	89.9	0.8	9.3	100.0	650
Cyangugu	41.9	7.2	51.0	100.0	852
Kibuye	76.1	7.7	16.2	100.0	649
Gisenyi	62.4	7.3	30.3	100.0	1,179
Ruhengeri	49.9	18.3	31.8	100.0	1,180
Byumba	71.4	0.4	28.3	100.0	873
Umutara	61.3	21.1	17.6	100.0	554
Kibungo	85.4	0.7	13.9	100.0	1,057
			MEN		
Kigali	62.1	11.3	26.4	100.0	426
Kigali Ngali	25.1	5.0	69.6	100.0	449
Gitarama	35.4	10.5	53.9	100.0	522
Butare	63.7	3.6	32.4	100.0	452
Gikongoro	23.4	2.3	74.3	100.0	275
Cyangugu	37.8	6.0	56.2	100.0	386
Kibuye	57.2	7.3	35.2	100.0	244
Gisenyi	64.5	9.9	25.1	100.0	488
Ruhengeri	37.9	2.3	59.6	100.0	478
Byumba	84.8	0.4	13.9	100.0	395
Umutara	33.7	3.6	62.2	100.0	271
Kibungo	84.9	0.6	14.3	100.0	433

Table D.3.6 Occupation

Percent distribution of women and men employed in the 12 months preceding the survey by occupation, according to old province, Rwanda 2005

Old province	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agri-culture	Missing	Total	Number
				WOMEN					
Kigali	16.1	6.1	20.9	5.5	31.0	17.4	3.1	100.0	518
Kigali Ngali	1.6	0.5	1.4	0.7	2.5	92.9	0.3	100.0	707
Gitarama	2.4	0.6	3.1	0.9	3.1	89.4	0.5	100.0	992
Butare	1.7	0.5	2.0	0.8	3.1	91.8	0.1	100.0	879
Gikongoro	1.3	0.3	0.8	0.8	1.4	93.5	1.9	100.0	589
Cyangugu	2.6	0.4	13.5	0.7	3.8	77.0	1.9	100.0	418
Kibuye	1.0	0.1	1.4	0.1	0.8	96.2	0.4	100.0	544
Gisenyi	2.0	0.2	7.0	1.0	4.0	85.8	0.0	100.0	822
Ruhengeri	2.8	0.6	6.1	1.5	2.6	86.3	0.2	100.0	805
Byumba	1.7	0.1	3.7	0.7	4.3	89.0	0.5	100.0	626
Umutara	1.4	0.1	3.5	0.8	1.6	92.4	0.1	100.0	457
Kibungo	1.8	0.3	2.1	0.4	1.6	93.6	0.3	100.0	910
				MEN					
Kigali	18.0	3.6	13.0	26.9	31.2	4.5	2.9	100.0	313
Kigali Ngali	3.7	0.9	6.4	10.5	24.7	52.8	1.0	100.0	135
Gitarama	6.9	0.4	11.4	13.4	14.1	52.0	1.8	100.0	240
Butare	2.5	0.0	1.1	10.4	6.8	78.1	1.1	100.0	304
Gikongoro	7.9	1.1	5.4	9.8	35.6	40.2	0.0	100.0	71
Cyangugu	9.5	1.3	6.8	10.1	15.2	56.6	0.5	100.0	169
Kibuye	5.1	0.0	10.3	12.1	3.8	67.3	1.4	100.0	158
Gisenyi	3.8	0.4	3.4	6.1	10.1	76.1	0.0	100.0	363
Ruhengeri	9.7	0.7	6.6	23.7	20.6	37.9	0.7	100.0	192
Byumba	1.7	0.3	2.1	4.7	6.6	84.7	0.0	100.0	336
Umutara	4.6	0.0	3.2	7.5	27.5	56.4	0.8	100.0	101
Kibungo	1.8	0.7	2.9	2.0	4.7	87.2	0.6	100.0	369

Table D.4.2 Fertility by old province

Total fertility rate for the three years preceding the survey, percentage of women 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by old province, Rwanda 2005

Old province	Total fertility rate[1]	Percentage currently pregnant[1]	Mean number of children ever born to women age 40-49
Kigali	4.0	6.0	5.5
Kigali Ngali	5.3	7.4	6.3
Gitarama	4.8	6.8	6.2
Butare	5.9	7.2	5.9
Gikongoro	6.8	9.8	6.3
Cyangugu	6.2	7.8	7.1
Kibuye	6.3	7.6	6.4
Gisenyi	7.1	7.9	7.7
Ruhengeri	6.9	8.4	7.1
Byumba	7.1	9.5	6.4
Umutara	6.8	9.3	6.8
Kibungo	6.2	9.2	6.6

[1] Women age 15-49 years

Table D.4.6 Birth Intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, by old province, Rwanda 2005

Old province	Months since preceding birth					Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48+			
Kigali	13.5	16.2	30.9	15.3	24.0	100.0	371	29.8
Kigali Ngali	7.3	14.1	40.2	21.4	16.9	100.0	643	32.5
Gitarama	5.6	14.1	39.4	22.4	18.5	100.0	618	33.6
Butare	8.6	15.5	38.5	19.1	18.2	100.0	637	31.9
Gikongoro	6.3	15.0	39.5	22.2	17.0	100.0	453	31.5
Cyangugu	10.8	17.5	40.3	16.9	14.5	100.0	502	29.2
Kibuye	4.9	14.0	43.9	23.1	14.1	100.0	394	31.8
Gisenyi	7.1	17.5	40.8	19.3	15.3	100.0	869	30.2
Ruhengeri	8.3	14.4	47.6	16.5	13.2	100.0	869	30.4
Byumba	7.0	15.2	43.2	17.9	16.7	100.0	654	31.5
Umutara	8.1	14.8	42.1	15.9	19.1	100.0	398	30.2
Kibungo	10.4	13.4	36.8	21.7	17.7	100.0	666	31.9

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

Table D.4.8 Median age at first birth

Median age at first birth among women age 25-49 years, by current age and old province, Rwanda 2005

Old province	Current age					Women age 25-49
	25-29	30-34	35-39	40-44	45-49	
Kigali	22.4	22.7	23.7	21.7	21.1	22.5
Kigali Ngali	22.0	21.9	22.1	22.1	20.8	21.8
Gitarama	23.9	23.4	22.9	22.0	21.8	22.8
Butare	23.6	23.0	24.1	23.6	23.0	23.5
Gikongoro	21.2	22.3	23.0	22.7	23.3	22.5
Cyangugu	22.6	22.6	21.8	21.5	21.1	22.0
Kibuye	21.8	22.5	21.8	21.5	22.6	22.0
Gisenyi	20.4	21.6	21.2	21.6	22.7	21.3
Ruhengeri	20.7	21.2	21.1	21.2	21.4	21.1
Byumba	21.0	21.7	22.6	22.1	23.0	21.9
Umutara	21.0	21.6	21.2	21.4	21.4	21.3
Kibungo	21.0	21.0	21.2	21.6	21.1	21.2

Table D.4.9 Teenage pregnancy and motherhood

Percentage of women age 15-19 who are mothers or pregnant with their first child, by old province, Rwanda 2005

Old province	Percentage who are:		Percentage who have begun childbearing	Number of women
	Mothers	Pregnant with first child		
Kigali	5.3	0.7	6.0	226
Kigali Ngali	4.8	0.7	5.5	225
Gitarama	3.3	0.9	4.2	258
Butare	0.5	1.9	2.4	242
Gikongoro	4.7	0.5	5.2	147
Cyangugu	2.8	0.4	3.3	202
Kibuye	3.4	0.5	3.9	155
Gisenyi	2.8	1.4	4.2	300
Ruhengeri	1.9	0.5	2.3	291
Byumba	2.5	0.9	3.4	171
Umutara	4.3	2.3	6.6	106
Kibungo	4.6	0.0	4.6	262

Table D.5.4 Current use of contraception by background characteristics

Percent distribution of currently married women by contraceptive method currently used, by old province, Rwanda 2005

Old province	Any method	Any modern method	Modern method							Any traditional method	Traditional method		Not currently using	Total	Number
			Female sterilization	Pill	Injectables	Male condom	LAM	Standard days method/ beads	Other modern methods		Periodic abstinence	Withdrawal			
Kigali	42.3	28.0	1.1	5.0	7.9	6.3	3.0	1.7	2.9	14.3	9.6	4.7	57.7	100.0	309
Kigali Ngali	13.9	8.2	0.4	2.5	4.4	0.7	0.0	0.0	0.2	5.7	3.6	2.1	86.1	100.0	532
Gitarama	19.0	12.9	0.3	3.5	5.7	0.9	1.0	1.0	0.5	6.1	3.2	2.9	81.0	100.0	540
Butare	13.2	6.4	0.9	0.7	3.5	0.3	0.2	0.7	0.2	6.7	4.4	2.4	86.8	100.0	513
Gikongoro	10.9	4.3	0.0	0.3	1.9	1.0	0.6	0.1	0.3	6.6	2.4	4.2	89.1	100.0	358
Cyangugu	17.4	13.1	2.6	1.7	8.1	0.5	0.0	0.0	0.2	4.2	2.3	2.0	82.6	100.0	413
Kibuye	9.7	8.2	0.2	2.4	5.0	0.3	0.0	0.0	0.2	1.6	0.7	0.9	90.3	100.0	319
Gisenyi	15.2	10.1	0.1	2.2	2.9	0.4	2.9	1.2	0.3	5.1	3.2	1.9	84.8	100.0	622
Ruhengeri	13.9	8.7	0.4	2.4	4.6	0.4	0.1	0.5	0.3	5.3	2.0	3.3	86.1	100.0	597
Byumba	15.9	9.6	0.2	4.3	4.4	0.5	0.0	0.0	0.3	6.3	3.5	2.8	84.1	100.0	494
Umutara	15.2	8.2	0.4	0.8	5.0	0.2	1.4	0.2	0.1	7.0	3.9	3.1	84.8	100.0	298
Kibungo	27.2	10.0	0.2	3.1	4.5	0.8	0.7	0.0	0.6	17.2	11.4	5.7	72.8	100.0	515

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method

Table D.5.11 Exposure to family planning messages

Percentage of women and men who heard or saw a family planning message on the radio or television, or in a newspaper/magazine in the past few months, by old province, Rwanda 2005

Old province	Radio	Television	Newspaper/magazine	None of these three media sources	Number
			WOMEN		
Kigali	65.5	19.8	16.9	33.4	900
Kigali Ngali	21.4	1.3	1.6	78.5	1,118
Gitarama	32.6	3.8	7.4	67.1	1,219
Butare	41.0	2.1	3.8	58.8	1,090
Gikongoro	40.8	1.1	2.1	59.1	650
Cyangugu	36.4	6.8	8.6	63.0	852
Kibuye	32.6	1.1	2.7	67.2	649
Gisenyi	28.1	1.8	2.3	71.7	1,179
Ruhengeri	52.3	1.8	3.4	47.5	1,180
Byumba	49.5	0.8	2.0	50.2	873
Umutara	44.2	1.4	1.8	55.8	554
Kibungo	50.3	1.1	1.9	49.6	1,057
			MEN		
Kigali	77.8	31.5	33.0	20.4	426
Kigali Ngali	68.1	3.4	8.1	31.4	449
Gitarama	50.2	4.5	7.6	49.4	522
Butare	81.5	6.7	17.6	18.3	452
Gikongoro	52.4	2.7	9.1	47.5	275
Cyangugu	63.9	3.3	11.4	35.4	386
Kibuye	49.2	3.0	12.1	49.3	244
Gisenyi	41.8	2.2	6.7	58.0	488
Ruhengeri	64.6	5.4	12.3	35.4	478
Byumba	57.0	1.7	9.7	43.0	395
Umutara	71.1	10.3	23.2	27.7	271
Kibungo	50.4	1.4	1.3	49.6	433

Table D.6.2 Number of co-wives and wives

Percent distribution of currently married women by number of co-wives and percent distribution of currently married men by number of wives, by old province, Rwanda 2005

Old province	Women					Men				
	0	1	2+	Total	Number	1	2	3+	Total	Number
Kigali	90.1	0.9	9.0	100.0	309	95.8	3.7	0.0	100.0	155
Kigali Ngali	90.2	0.0	9.8	100.0	532	93.7	5.7	0.5	100.0	236
Gitarama	92.4	0.0	7.3	100.0	540	98.3	1.7	0.0	100.0	238
Butare	87.7	0.2	12.0	100.0	513	96.8	3.2	0.0	100.0	239
Gikongoro	85.8	0.2	14.0	100.0	358	93.2	4.1	2.7	100.0	154
Cyangugu	91.7	0.0	8.1	100.0	413	94.9	4.8	0.0	100.0	201
Kibuye	91.9	0.0	7.6	100.0	319	94.0	6.0	0.0	100.0	142
Gisenyi	80.9	0.0	18.9	100.0	622	91.9	8.1	0.0	100.0	288
Ruhengeri	86.9	0.2	12.9	100.0	597	96.9	3.1	0.0	100.0	277
Byumba	92.5	0.0	7.5	100.0	494	93.6	6.0	0.0	100.0	213
Umutara	87.1	0.0	12.9	100.0	298	92.1	6.5	1.4	100.0	139
Kibungo	84.1	0.0	15.0	100.0	515	93.0	6.5	0.6	100.0	217

Table D.6.4 Median age at first marriage

Median age at first marriage among women age 25-49 and men age 30-59, by current age and old province, Rwanda 2005

Old province	Current age					Women 25-49	Men 30-59
	25-29	30-34	35-39	40-44	45-49		
Kigali	22.9	22.5	23.2	20.3	20.1	21.9	27.7
Kigali Ngali	20.5	21.4	21.2	20.6	19.5	20.7	24.7
Gitarama	23.1	22.3	22.1	20.7	20.4	21.7	25.5
Butare	22.4	22.3	22.6	22.1	21.4	22.2	25.5
Gikongoro	20.1	21.1	21.9	21.0	21.7	21.1	24.7
Cyangugu	21.5	21.4	20.7	20.0	19.6	20.6	24.0
Kibuye	21.1	21.8	20.9	20.2	20.6	21.0	23.7
Gisenyi	18.9	20.3	20.1	20.5	21.0	20.0	22.8
Ruhengeri	19.6	20.0	19.3	19.5	19.6	19.6	23.5
Byumba	19.9	20.6	20.6	20.9	21.2	20.5	24.5
Umutara	19.9	20.3	20.4	19.9	20.1	20.1	24.5
Kibungo	19.8	19.8	20.0	19.9	19.2	19.8	24.0

Table D.6.6 Median age at first sexual intercourse

Median age at first sexual intercourse among women age 25-49 and men age 25-59, by current age and old province, Rwanda 2005

Old province	Current age					Women 25-49	Men 30-59
	25-29	30-34	35-39	40-44	45-49		
Kigali	20.4	21.6	22.7	20.5	20.2	20.9	20.6
Kigali Ngali	20.2	20.6	20.4	20.1	19.2	20.2	21.4
Gitarama	21.7	21.4	21.0	20.4	20.3	21.0	21.1
Butare	21.7	21.8	21.7	21.5	20.8	21.5	21.1
Gikongoro	19.7	20.7	21.3	20.9	21.5	20.7	22.0
Cyangugu	20.9	20.9	20.0	19.7	19.6	20.2	21.0
Kibuye	20.5	21.3	20.6	19.9	21.0	20.7	20.5
Gisenyi	18.7	19.9	19.8	20.2	20.3	19.5	20.0
Ruhengeri	19.3	20.2	19.6	19.0	19.6	19.5	20.9
Byumba	19.7	20.2	20.2	20.7	21.0	20.2	21.4
Umutara	19.7	20.0	20.2	19.9	20.2	19.9	20.4
Kibungo	19.3	19.3	19.4	19.6	18.8	19.3	19.3

Table D.6.7 Recent sexual activity

Percent distribution of women and men by timing of last sexual intercourse, by old province, Rwanda 2005

Old province	Timing of last sexual intercourse: Within the past 4 weeks	Within 1 year[1]	One or more years	Missing	Never had sexual intercourse	Total	Number
			WOMEN				
Kigali	29.9	11.0	20.0	3.4	35.7	100.0	900
Kigali Ngali	42.9	7.5	16.2	2.6	30.9	100.0	1,118
Gitarama	39.0	6.9	20.4	2.7	31.0	100.0	1,219
Butare	40.2	8.9	16.2	3.2	31.5	100.0	1,090
Gikongoro	49.4	7.8	12.1	1.0	29.7	100.0	650
Cyangugu	43.4	6.4	13.8	2.4	34.0	100.0	852
Kibuye	45.3	6.6	11.3	2.7	34.1	100.0	649
Gisenyi	49.3	6.8	10.6	1.6	31.8	100.0	1,179
Ruhengeri	45.9	8.2	13.1	3.5	29.3	100.0	1,180
Byumba	53.4	7.8	11.7	1.7	25.3	100.0	873
Umutara	49.1	7.9	13.8	2.5	26.8	100.0	554
Kibungo	42.0	11.2	14.3	2.0	30.5	100.0	1,057
			MEN				
Kigali	31.0	20.9	25.7	0.2	22.2	100.0	426
Kigali Ngali	48.0	8.2	7.9	0.0	35.8	100.0	449
Gitarama	42.3	10.5	21.7	0.0	25.5	100.0	522
Butare	49.4	8.3	13.5	0.0	28.9	100.0	452
Gikongoro	50.8	7.5	7.7	0.0	34.1	100.0	275
Cyangugu	49.1	7.9	12.1	0.2	30.6	100.0	386
Kibuye	53.9	9.7	13.1	0.0	23.3	100.0	244
Gisenyi	57.1	4.2	11.0	0.0	27.7	100.0	488
Ruhengeri	50.8	11.1	11.8	0.0	26.3	100.0	478
Byumba	49.1	11.2	7.5	0.3	31.9	100.0	395
Umutara	46.3	9.7	16.9	0.0	27.1	100.0	271
Kibungo	46.7	9.3	18.3	0.0	25.7	100.0	433

[1] Excludes women and men who had sexual intercourse within the past 4 weeks

Table D.6.9 Median duration of postpartum insusceptibility by background characteristics

Median number of months of postpartum amenorrhea, postpartum abstinence, and postpartum insusceptibility following births in the three years preceding the survey, by old province, Rwanda 2005

Old province	Postpartum amenorrhea	Postpartum abstinence	Postpartum insusceptibility	Number of births
Kigali	8.8	2.4	10.0	310
Kigali Ngali	13.5	0.6	16.5	517
Gitarama	16.0	0.7	17.5	477
Butare	15.2	0.6	16.6	485
Gikongoro	16.4	0.6	16.4	344
Cyangugu	14.9	0.6	15.1	396
Kibuye	16.2	0.6	17.1	310
Gisenyi	16.4	0.6	16.9	644
Ruhengeri	13.5	0.5	14.0	645
Byumba	13.4	0.6	15.0	517
Umutara	12.3	1.1	13.1	305
Kibungo	13.1	0.6	13.7	519

Note: Medians are based on current status.

Table D.7.2 Desire to limit childbearing

Percentage of currently married women who want no more children, by number of living children and the percentage of currently married women and currently married men who want no more children by old province, Rwanda 2005

Old province	Number of living children[1]							Women	Men
	0	1	2	3	4	5	6+		
Kigali	*	15.1	34.2	57.8	78.2	(88.7)	(92.4)	52.3	52.5
Kigali Ngali	(0.0)	4.7	22.8	41.0	54.5	(60.7)	88.9	40.9	37.8
Gitarama	*	4.0	19.6	46.1	60.7	73.4	92.3	47.2	49.8
Butare	*	1.1	18.1	27.1	60.6	(74.3)	91.6	37.4	34.9
Gikongoro	(0.0)	1.6	8.8	25.4	40.3	66.1	79.6	35.7	41.1
Cyangugu	*	7.1	14.1	39.0	68.3	61.9	73.3	46.7	52.2
Kibuye	*	9.7	28.7	26.2	55.8	(58.5)	74.6	41.8	44.7
Gisenyi	*	1.5	20.1	23.0	46.2	46.9	64.7	34.7	39.8
Ruhengeri	*	7.7	26.8	25.3	47.8	(44.8)	79.9	41.6	44.3
Byumba	*	1.4	23.2	41.4	58.9	72.0	90.8	45.3	48.5
Umutara	*	6.8	26.8	40.7	56.4	61.3	82.0	44.6	44.6
Kibungo	*	15.9	18.3	39.2	68.8	83.5	92.7	49.1	39.3

Note: Women and men who have been sterilized are considered to want no more children. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.
[1] Includes current pregnancy

Table D.7.3 Need for family planning among currently married women

Percentage of currently married women with unmet need for family planning, and with met need for family planning, and the total demand for family planning, by old province, Rwanda 2005

Old province	Unmet need for family planning			Met need for family planning (currently using)			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Kigali	17.2	12.0	29.2	16.5	25.8	42.3	33.8	37.7	71.5	59.1	309
Kigali Ngali	21.0	14.8	35.8	5.9	8.0	13.9	26.8	22.8	49.6	27.9	532
Gitarama	20.8	15.5	36.3	7.7	11.3	19.0	28.4	26.9	55.3	34.4	540
Butare	28.1	10.2	38.2	6.2	7.0	13.2	34.2	17.2	51.4	25.6	513
Gikongoro	25.2	13.2	38.5	6.6	4.3	10.9	31.8	17.5	49.3	22.1	358
Cyangugu	23.2	15.0	38.1	7.0	10.4	17.4	30.2	25.4	55.5	31.3	413
Kibuye	23.5	15.6	39.2	4.0	5.7	9.7	27.6	21.3	48.9	19.9	319
Gisenyi	26.8	11.5	38.3	8.1	7.0	15.2	34.9	18.6	53.5	28.4	622
Ruhengeri	32.1	12.2	44.2	6.5	7.5	13.9	38.5	19.6	58.2	24.0	597
Byumba	22.8	14.0	36.8	6.1	9.8	15.9	28.9	23.8	52.7	30.1	494
Umutara	21.8	18.5	40.3	5.1	10.1	15.2	26.9	28.7	55.5	27.4	298
Kibungo	25.5	11.5	37.0	10.8	16.4	27.2	36.3	27.9	64.2	42.4	515

Table D.7.5 Mean ideal number of children

Mean ideal number of children for all women and men, by age and background characteristics, Rwanda 2005

Old province	Age							All women	All men
	15-19	20-24	25-29	30-34	35-39	40-44	45-49		
Kigali	3.6	3.5	3.4	3.7	3.7	4.3	(4.0)	3.6	3.5
Kigali Ngali	4.0	3.9	4.0	4.1	4.4	4.4	4.4	4.1	2.8
Gitarama	4.0	3.7	3.6	4.1	4.0	4.0	4.5	4.0	3.9
Butare	4.3	4.5	4.1	4.3	4.4	4.3	4.3	4.3	4.4
Gikongoro	4.8	4.7	4.7	4.6	4.7	5.0	5.2	4.8	4.3
Cyangugu	4.5	4.5	4.3	4.1	4.4	4.3	3.8	4.3	4.2
Kibuye	4.4	4.5	4.3	4.6	4.5	4.5	5.1	4.5	4.2
Gisenyi	4.7	4.5	4.6	5.1	5.1	5.3	5.4	4.8	4.6
Ruhengeri	4.6	4.3	4.4	4.5	4.7	5.1	4.7	4.6	4.2
Byumba	4.1	3.9	4.0	4.1	4.4	4.4	4.9	4.1	3.9
Umutara	4.1	4.0	4.2	4.1	4.2	4.3	4.0	4.1	3.8
Kibungo	4.2	4.3	4.2	4.5	4.2	4.1	4.1	4.3	3.9

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

Table D.7.7 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by old province, Rwanda 2005

Old province	Total wanted fertility rate	Total fertility rate
Kigali	3.2	4.0
Kigali Ngali	4.2	5.3
Gitarama	3.6	4.8
Butare	4.7	5.9
Gikongoro	5.6	6.8
Cyangugu	4.2	6.2
Kibuye	4.8	6.3
Gisenyi	5.4	7.1
Ruhengeri	5.4	6.9
Byumba	5.1	7.1
Umutara	4.5	6.8
Kibungo	4.7	6.2

Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in table D.4.2.

Table D.8.1 Antenatal care

Percent distribution of women who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent birth, according to old province, Rwanda 2005

Old province	Doctor	Nurse/midwife/ auxiliary nurse/ midwife/trained traditional birth attendant	Trained personnel	Untrained traditional birth attendant/other	No one	Total[1]	Number
Kigali	23.4	68.8	92.2	0.3	7.5	100.0	329
Kigali Ngali	2.4	89.2	91.5	0.0	8.5	100.0	507
Gitarama	1.4	95.3	96.8	0.0	3.2	100.0	528
Butare	14.5	79.7	94.2	0.0	5.8	100.0	490
Gikongoro	3.4	89.9	93.4	0.0	6.6	100.0	339
Cyangugu	5.5	87.1	92.6	0.0	6.9	100.0	392
Kibuye	30.2	63.4	93.6	0.0	6.4	100.0	309
Gisenyi	2.3	90.6	93.0	0.1	6.7	100.0	616
Ruhengeri	1.3	94.4	95.7	0.0	2.9	100.0	602
Byumba	1.6	94.3	95.9	0.0	4.1	100.0	505
Umutara	2.0	93.8	95.9	0.0	4.1	100.0	303
Kibungo	8.0	89.1	97.1	0.0	2.9	100.0	504

[1] Includes those with missing information

Note: If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered in this tabulation.

Table D.8.3 Components of antenatal care

Percentage of women with a live birth in the five years preceding the survey who received antenatal care for the most recent birth, by content of antenatal care, and percentage of women with a live birth in the five years preceding the survey who received iron tablets or syrup or anti-malarial drugs for the most recent birth, according to old province, Rwanda 2005

Old province	Among women who received antenatal care						Number of women who received antenatal care	Received iron tablets or syrup	Received anti-malarial drugs	Number of women
	Informed of signs of pregnancy complications	Weight measured	Height measured	Blood pressure measured	Urine sample taken	Blood sample taken				
Kigali	10.4	96.3	61.9	92.9	33.2	73.9	304	38.2	9.9	329
Kigali Ngali	2.8	97.0	51.8	64.3	4.9	16.0	464	13.6	5.1	507
Gitarama	7.1	96.1	61.4	84.8	10.7	24.1	511	32.5	12.5	528
Butare	6.3	95.6	66.6	90.0	7.1	21.6	462	44.9	9.0	490
Gikongoro	8.7	97.1	64.7	83.1	3.1	27.8	316	29.1	0.8	339
Cyangugu	9.7	91.6	65.1	71.4	14.3	35.8	363	40.7	6.1	392
Kibuye	4.5	94.9	55.7	74.7	2.2	28.8	289	44.6	2.9	309
Gisenyi	9.2	90.3	36.5	61.1	4.7	22.4	573	23.0	3.5	616
Ruhengeri	3.7	91.5	39.5	61.1	3.8	17.5	577	26.3	3.3	602
Byumba	4.2	95.2	51.7	55.8	2.4	14.8	484	13.8	0.9	505
Umutara	5.5	90.9	73.5	79.3	9.5	17.3	291	29.3	13.9	303
Kibungo	4.0	90.4	59.0	57.3	4.5	17.2	489	17.2	4.3	504

Table D.8.4 Tetanus toxoid injections

Percent distribution of women who had a live birth in the five years preceding the survey by number of tetanus toxoid injections received during pregnancy for the most recent birth, according to background characteristics, Rwanda 2005

Old province	None	One injection	Two or more injections	Don't know/missing	Total	Number
Kigali	20.4	41.6	35.3	2.8	100.0	329
Kigali Ngali	37.8	45.6	15.3	1.3	100.0	507
Gitarama	38.1	44.2	17.2	0.5	100.0	528
Butare	32.5	50.1	17.0	0.4	100.0	490
Gikongoro	34.4	44.6	20.5	0.6	100.0	339
Cyangugu	38.3	37.2	22.6	2.0	100.0	392
Kibuye	31.5	48.5	19.3	0.7	100.0	309
Gisenyi	42.6	35.3	20.0	2.0	100.0	616
Ruhengeri	37.2	38.6	23.0	1.2	100.0	602
Byumba	39.0	36.6	23.9	0.5	100.0	505
Umutara	42.3	32.9	24.8	0.0	100.0	303
Kibungo	26.9	40.3	32.6	0.2	100.0	504

Table D.8.5 Place of delivery

Percent distribution of live births in the five years preceding the survey by place of delivery, according to old province, Rwanda 2005

Old province	Health facility		Home	Total[1]	Number of births
	Public sector	Private sector			
Kigali	56.1	9,4	33,4	100,0	500
Kigali Ngali	25.4	1,1	72,8	100,0	809
Gitarama	37.9	0,9	60,0	100,0	776
Butare	27.2	0,8	70,6	100,0	802
Gikongoro	13.0	0,3	86,0	100,0	544
Cyangugu	36.0	0,1	61,6	100,0	632
Kibuye	25.7	0,0	72,9	100,0	489
Gisenyi	17.4	1,0	79,3	100,0	1,029
Ruhengeri	27.6	1,4	69,8	100,0	1,032
Byumba	22.9	1,4	74,7	100,0	798
Umutara	28.3	0,5	70,9	100,0	488
Kibungo	17.2	0,2	80,8	100,0	816

[1] Includes those with missing information

Table D.8.6 Assistance during delivery

Percent distribution of live births in the five years preceding the survey by person providing assistance during delivery, according to old province, Rwanda 2005

Old province	Doctor	Nurse/midwife/ auxiliary midwife/trained traditional birth attendant	Trained personnel	Untrained traditional birth attendant	Relative/other	No one	Total[1]	Number of births
Kigali	19.5	50.9	70.3	21.0	1.6	6.7	100.0	500
Kigali Ngali	0.9	30.3	31.2	46.0	0.0	22.6	100.0	809
Gitarama	7.6	41.0	48.7	36.2	0.2	15.0	100.0	776
Butare	7.6	38.3	45.9	36.9	0.2	16.6	100.0	802
Gikongoro	2.7	15.9	18.6	61.5	0.0	19.9	100.0	544
Cyangugu	5.3	47.3	52.6	39.4	0.1	7.6	100.0	632
Kibuye	11.4	17.3	28.8	50.8	2.1	18.2	100.0	489
Gisenyi	2.8	25.8	28.6	43.3	0.2	27.1	100.0	1,029
Ruhengeri	2.3	30.0	32.3	50.1	1.0	16.4	100.0	1,032
Byumba	1.9	28.7	30.6	59.4	0.4	9.4	100.0	798
Umutara	2.8	37.6	40.4	37.7	0.1	21.8	100.0	488
Kibungo	3.3	42.7	46.0	32.7	0.0	21.0	100.0	816

[1] Includes those with missing information
Note: If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation.

Table D.8.7 Delivery characteristics

Percentage of live births in the five years preceding the survey delivered by caesarean section, and percent distribution by birth weight and by mother's estimate of baby's size at birth, according to old province, Rwanda 2005

Old province	Delivery by C-section	Not weighed	Birth weight			Size of child at birth				Number of births
			Less than 2.5 kg	2.5 kg or more	Total[1]	Very small	Smaller than average	Average or larger	Total[1]	
Kigali	11.5	23.2	3.6	70.6	100.0	4.1	8.6	86.6	100.0	500
Kigali Ngali	0.8	72.4	1.8	25.0	100.0	3.0	10.0	86.5	100.0	809
Gitarama	5.3	58.8	2.7	37.0	100.0	4.9	11.7	83.4	100.0	776
Butare	2.6	71.0	1.8	25.9	100.0	4.7	7.4	87.8	100.0	802
Gikongoro	1.7	87.6	1.1	10.4	100.0	4.3	8.7	87.0	100.0	544
Cyangugu	5.3	64.4	1.5	30.5	100.0	4.4	9.9	85.6	100.0	632
Kibuye	2.0	74.7	0.9	23.6	100.0	3.4	11.7	84.9	100.0	489
Gisenyi	1.8	78.8	0.7	18.5	100.0	1.0	9.6	88.2	100.0	1,029
Ruhengeri	1.7	67.2	1.0	29.5	100.0	3.1	10.6	85.8	100.0	1,032
Byumba	1.7	75.4	1.2	21.4	100.0	2.2	4.4	92.8	100.0	798
Umutara	2.1	67.9	1.4	29.7	100.0	2.4	7.6	89.5	100.0	488
Kibungo	2.2	63.7	3.0	31.8	100.0	3.9	13.7	81.9	100.0	816

[1] Includes those with missing information

Table D.8.8 Postnatal care

Percentage of live births in the five years preceding the survey for which the mother delivered in a health facility and percent distribution of women whose last live birth in the five years preceding the survey occurred outside a health facility by timing of postnatal care, according to old province, Rwanda 2005

Old province	Delivered in a health facility	Number of births	Timing of first postnatal checkup for births occurring outside a health facility					Total	Number of births occurring outside a health facility
			0-2 days after delivery	3-6 days after delivery	7-41 days after delivery	Don't know/ missing	Did not receive postnatal checkup[1]		
Kigali	65.7	329	8.3	1.4	1.5	1.0	87.8	100.0	113
Kigali Ngali	26.8	507	1.6	0.0	0.0	0.3	98.0	100.0	371
Gitarama	38.3	528	7.8	0.4	1.3	0.4	90.0	100.0	325
Butare	29.6	490	2.1	0.0	0.0	0.2	97.6	100.0	345
Gikongoro	14.1	339	1.7	0.0	0.2	0.0	98.1	100.0	291
Cyangugu	37.8	392	3.7	0.0	0.7	0.0	95.6	100.0	244
Kibuye	25.2	309	0.8	0.0	0.0	0.0	99.2	100.0	231
Gisenyi	20.0	616	6.9	0.5	0.8	0.9	91.0	100.0	493
Ruhengeri	29.7	602	2.0	0.9	0.0	1.0	96.1	100.0	424
Byumba	26.7	505	5.2	0.0	1.4	0.0	93.4	100.0	370
Umutara	29.7	303	4.1	0.3	0.1	0.0	95.4	100.0	213
Kibungo	17.5	504	1.8	0.0	0.4	0.0	97.8	100.0	416

[1] Includes women who received the first postnatal checkup after 41 days

Table D.8.10 Vaccinations

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by old province, Rwanda 2005

Old province	BCG	DPT			Polio[1]				Measles	All[2]	No vaccinations	Percentage with a vaccination card seen	Number of children
		1	2	3	0	1	2	3					
Kigali	96.8	95.2	86.8	80.0	85.9	97.9	92.0	74.8	85.5	58.6	2.1	64.7	82
Kigali Ngali	91.0	90.3	89.5	83.4	78.5	90.3	88.0	81.1	80.7	73.9	9.0	76.1	145
Gitarama	98.9	97.8	97.8	90.6	67.9	97.9	94.7	88.8	94.0	83.9	1.1	69.1	131
Butare	98.3	98.6	96.2	92.2	81.8	97.4	93.7	87.1	94.9	83.7	0.9	78.7	148
Gikongoro	97.6	97.6	96.5	95.0	68.4	97.9	96.2	90.9	93.0	85.6	1.3	81.8	114
Cyangugu	97.7	97.7	95.7	79.8	84.9	96.5	88.1	73.4	87.5	70.0	2.3	72.5	122
Kibuye	99.0	99.5	97.2	96.3	82.5	99.5	97.1	95.5	92.4	89.6	0.5	94.0	94
Gisenyi	94.5	98.1	87.6	79.5	59.6	96.0	90.8	79.9	74.4	63.4	1.9	71.9	198
Ruhengeri	98.2	98.3	96.0	93.1	71.1	98.0	98.0	88.8	93.0	83.9	0.4	69.9	196
Byumba	95.9	95.6	91.9	81.5	80.0	95.9	93.2	80.2	85.7	73.7	4.1	76.9	161
Umutara	93.6	93.2	91.8	89.7	56.7	93.2	91.9	87.8	74.6	71.4	5.1	80.7	95
Kibungo	96.9	97.8	94.7	85.6	77.1	97.8	92.3	84.9	73.9	64.2	2.2	81.3	139

[1] Polio 0 is the polio vaccination given at birth.
[2] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

Table D.8.11 Prevalence and treatment of symptoms of ARI and fever

Percentage of children under five years who had a cough accompanied by short, rapid breathing (symptoms of ARI), and percentage of children who had fever in the two weeks preceding the survey, and percentage of children with symptoms of ARI and/or fever for whom treatment was sought from a health facility or provider, by old province, Rwanda 2005

Old province	Percentage of children with symptoms of ARI	Percentage of children with fever	Number of children	Among children with symptoms of ARI and/or fever, percentage for whom treatment was sought from a health facility/provider[1]	Number of children
Kigali	20.4	26.6	467	46.7	158
Kigali Ngali	6.1	13.9	722	26.8	119
Gitarama	13.1	22.1	709	39.1	180
Butare	21.3	37.9	707	28.5	308
Gikongoro	19.2	28.0	493	15.3	164
Cyangugu	21.0	28.0	562	20.5	207
Kibuye	8.8	12.5	448	17.6	65
Gisenyi	14.9	26.2	944	20.0	282
Ruhengeri	13.4	27.7	938	29.2	293
Byumba	24.9	22.2	701	31.4	228
Umutara	16.6	28.6	430	23.8	148
Kibungo	27.3	38.5	675	22.5	299

[1] Excludes pharmacy, shop, and traditional practitioner

Table D.8.12 Prevalence of diarrhea

Percentage of children under five years with diarrhea in the two weeks preceding the survey, by old province, Rwanda 2005

Old province	Diarrhea in the two weeks preceding the survey	Number of children
Kigali	12.3	467
Kigali Ngali	7.5	722
Gitarama	7.2	709
Butare	19.7	707
Gikongoro	17.6	493
Cyangugu	16.9	562
Kibuye	7.5	448
Gisenyi	13.8	944
Ruhengeri	16.6	938
Byumba	16.2	701
Umutara	14.5	430
Kibungo	18.5	675

Table D.8.13 Knowledge of ORS packets

Percentage of mothers with births in the five years preceding the survey who know about ORS packets for treatment of diarrhea, by old province, Rwanda 2005

Old province	Percentage of mothers who know about ORS packets	Number of mothers
Kigali	88.9	329
Kigali Ngali	86.3	507
Gitarama	94.3	528
Butare	92.6	490
Gikongoro	70.8	339
Cyangugu	74.2	392
Kibuye	90.9	309
Gisenyi	84.3	616
Ruhengeri	86.6	602
Byumba	93.4	505
Umutara	89.8	303
Kibungo	85.9	504

ORS = Oral rehydration salts

Table D.8.14 Diarrhea treatment

Percentage of children under five years who had diarrhea in the two weeks preceding the survey taken for treatment to a health provider, percentage who received oral rehydration therapy (ORT), and percentage given other treatments, according to old province, Rwanda 2005

Old province	Percentage taken to a health provider[1]	Oral rehydration therapy (ORT)					Other treatments			No treatment	Number of children
		ORS packets	RHF	Either ORS or RHF	Increased fluids	ORS, RHF, or increased fluids	Pill/syrup	Injection	Home remedy/ other		
Kigali	20.3	23.4	10.3	31.8	27.8	44.1	23.5	1.5	26.2	28.9	57
Kigali Ngali	(17.0)	(11.6)	(5.9)	(17.5)	(16.9)	(28.5)	(32.9)	(0.0)	(30.4)	(24.9)	54
Gitarama	(19.0)	(2.4)	(18.4)	(18.4)	(24.2)	(40.2)	(16.3)	(0.0)	(21.8)	(40.5)	51
Butare	8.7	6.7	15.4	22.1	19.7	33.7	13.8	1.3	30.1	32.7	139
Gikongoro	9.7	9.0	2.2	10.3	32.9	36.9	14.2	0.4	31.3	35.6	87
Cyangugu	8.7	16.1	4.7	19.2	15.3	31.7	15.9	0.0	14.5	47.1	95
Kibuye	(14.0)	(13.9)	(23.1)	(25.8)	(20.6)	(34.8)	(7.1)	(0.0)	(33.1)	(40.3)	34
Gisenyi	16.7	18.3	7.7	25.1	13.1	33.8	23.0	1.9	34.1	28.3	130
Ruhengeri	18.8	16.5	4.6	19.8	12.1	29.1	20.7	0.0	26.8	36.9	156
Byumba	22.3	12.1	5.9	15.4	15.9	24.6	21.6	1.8	36.8	28.5	114
Umutara	6.7	3.6	2.8	5.8	26.2	30.2	15.2	0.0	46.3	32.9	62
Kibungo	9.1	3.3	11.5	13.5	16.1	27.5	14.4	1.3	50.2	28.0	125

Note: ORT includes solution prepared from oral rehydration salt (ORS) packets, recommended home fluids (RHF), or increased fluids. The figures in parentheses are based on 25-49 unweighted cases. [1] Excludes pharmacy, shop and traditional practitioner

Table D.8.16 Problems in accessing health care

Percentage of women who reported they have big problems in accessing health care for themselves when they are sick, by type of problem and old province, Rwanda 2005

Old province	Problems in accessing health care								Number of women
	Knowing where to go for treatment	Getting permission to go for treatment	Getting money for treatment	Distance to health facility	Having to take transport	Not wanting to go alone	Concern there may not be a female provider	Any of the specified problems	
Kigali	5.7	3.9	55.6	29.0	30.5	17.5	10.0	67.5	900
Kigali Ngali	2.5	1.6	76.0	41.4	36.2	12.9	3.6	79.9	1,118
Gitarama	6.0	4.5	65.5	50.4	50.7	19.0	10.0	81.9	1,219
Butare	1.6	1.4	69.4	41.8	42.6	19.3	5.0	83.4	1,090
Gikongoro	1.9	0.6	82.2	37.2	33.5	10.1	6.4	87.2	650
Cyangugu	5.7	4.7	77.8	40.1	37.2	23.9	9.3	87.7	852
Kibuye	3.1	7.6	88.7	54.2	52.6	19.4	3.7	93.4	649
Gisenyi	5.6	2.9	80.7	40.5	42.4	14.8	19.1	88.7	1,179
Ruhengeri	6.4	1.8	62.0	26.4	30.6	17.2	9.5	71.2	1,180
Byumba	2.0	1.2	60.1	19.9	18.1	5.4	2.1	65.6	873
Umutara	2.5	1.3	75.6	51.9	36.4	10.0	4.4	84.4	554
Kibungo	9.8	5.2	67.6	51.6	52.9	29.1	20.5	84.4	1,057

Table D.9.1 Household possession of mosquito nets

Percentage of households with at least one and more than one mosquito net (treated or untreated), ever treated mosquito net and insecticide treated net[1] (ITN), and the average number of nets per household, by old province, Rwanda 2005

Old province	Any type mosquito net			Ever treated mosquito net[1]			Insecticide treated mosquito nets (ITNs)[2]			Number of households
	Percentage with at least one	Percentage with more than one	Average number per household	Percentage with at least one	Percentage with more than one	Average number per household	Percentage with at least one	Percentage with more than one	Average number per household	
Kigali	49.5	26.3	0.9	48.9	25.7	0.9	39.9	19.8	0.7	664
Kigali Ngali	11.6	4.1	0.2	11.5	4.1	0.2	8.2	3.3	0.1	1,023
Gitarama	23.4	6.0	0.3	23.3	6.0	0.3	19.2	4.2	0.3	1,100
Butare	23.7	5.0	0.3	23.5	5.0	0.3	18.8	3.5	0.2	988
Gikongoro	7.5	1.4	0.1	7.5	1.4	0.1	6.2	1.0	0.1	633
Cyangugu	26.7	8.1	0.4	26.6	8.1	0.4	22.9	6.2	0.3	726
Kibuye	18.4	5.3	0.2	18.3	5.3	0.2	14.7	3.9	0.2	598
Gisenyi	10.4	2.9	0.2	10.3	2.9	0.1	8.8	2.6	0.1	1,071
Ruhengeri	7.3	2.6	0.1	7.0	2.3	0.1	5.5	1.8	0.1	1,081
Byumba	16.9	3.1	0.2	16.9	3.1	0.2	14.1	2.6	0.2	867
Umutara	19.1	4.6	0.2	19.1	4.6	0.2	16.3	3.8	0.2	550
Kibungo	14.6	3.9	0.2	14.2	3.4	0.2	10.7	2.4	0.1	970

[1] An ever-treated net is (1) a pretreated net or (2) a non-pretreated which has subsequently been soaked with insecticide at any time.
[2] An insecticide treated net (ITN) is (1) a factory treated net that does not require any further treatment or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Table D.9.2 Use of mosquito nets by children

Percentage of children under five years of age who slept under a mosquito net (treated or untreated), an ever-treated mosquito net[1], and an insecticide treated net[2] (ITN) the night before the survey, by old province, Rwanda 2005

Old province	Percentage who slept under any net the preceding night	Percentage who slept under an ever-treated net[1] the preceding night	Percentage who slept under an ITN[2] the preceding night	Number of children
Kigali	37.7	36.2	29.2	419
Kigali Ngali	9.3	9.3	7.0	692
Gitarama	24.3	24.3	20.1	682
Butare	27.0	27.0	20.9	692
Gikongoro	4.6	4.6	3.9	490
Cyangugu	24.7	24.7	20.9	557
Kibuye	17.3	17.3	14.7	430
Gisenyi	8.0	8.0	7.5	911
Ruhengeri	5.1	5.1	4.5	894
Byumba	17.2	17.2	15.0	696
Umutara	17.3	17.3	15.4	414
Kibungo	10.7	10.7	8.1	655

[1] An ever-treated net is (1) a pretreated net or (2) a non-pretreated which has subsequently been soaked with insecticide at any time.
[2] An insecticide treated net (ITN) is (1) a factory treated net that does not require any further treatment or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Table D.9.3 Use of mosquito nets by women

Percentage of all women age 15-49 and pregnant women age 15-49 who slept under a mosquito net (treated or untreated), an ever-treated mosquito net[1], and an Insecticide Treated Net[2] (ITN) the night before the survey, by old province, Rwanda 2005

	Percentage of all women age 15-49 who				Percentage of pregnant women age 15-49 who			
Old province	Slept under any net the preceding night	Slept under an ever-treated net[1] the preceding night	Slept under an ITN[2] the preceding night	Number of women	Slept under any net the preceding night	Slept under an ever-treated net[1] the preceding night	Slept under an ITN[2] the preceding night	Number of women
Kigali	30.6	30.4	25.4	879	32.7	32.7	30.4	53
Kigali Ngali	8.7	8.7	6.6	1,116	9.5	9.5	4.9	83
Gitarama	17.3	17.3	13.9	1,211	25.6	25.6	22.7	81
Butare	17.6	17.4	13.8	1,097	31.8	31.8	27.2	79
Gikongoro	4.2	4.2	3.7	652	4.6	4.6	4.6	64
Cyangugu	18.0	17.9	14.9	855	35.4	34.3	31.5	67
Kibuye	12.8	12.8	10.6	645	(14.7)	(14.7)	(13.2)	49
Gisenyi	6.8	6.6	5.9	1,162	10.1	10.1	7.9	92
Ruhengeri	4.4	4.4	3.6	1,168	12.2	12.2	11.3	96
Byumba	13.6	13.6	11.9	876	19.9	19.9	16.3	83
Umutara	13.8	13.8	12.5	560	29.3	29.3	27.0	52
Kibungo	8.4	8.4	6.0	1,059	22.5	22.5	18.7	97

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

Table D.9.4 Use of Intermittent Preventive Treatment by women during pregnancy

Percentages of women who took any antimalarial drugs for prevention, who took SP/Fansidar, and who received Intermittent Preventive Treatment (IPT), during the pregnancy for their last live birth in the five years preceding the survey, by old province, Rwanda 2005

Old province	Percentage of women who took any antimalarial drug to prevent or treat malaria during an ANC visit during the last pregnancy	Percentage of women who received an Intermittent Preventive Treatment during an ANC visit[1]	Number of last-born children born in the five years preceding the survey
Kigali	9.9	1.1	329
Kigali Ngali	5.1	0.0	507
Gitarama	12.5	1.0	528
Butare	9.0	0.0	490
Gikongoro	0.8	0.0	339
Cyangugu	6.1	0.0	392
Kibuye	2.9	0.0	309
Gisenyi	3.5	0.0	616
Ruhengeri	3.3	0.3	602
Byumba	0.9	0.0	505
Umutara	13.9	0.8	303
Kibungo	4.3	0.0	504

[1] Intermittent Preventive Treatment is preventive intermittent treatment with at least two doses of SP/Fansidar during an antenatal care (ANC) visit.

Table D.9.6 Prevalence and prompt treatment of children with fever

Percentage of children under age five with fever in the two weeks preceding the survey, and among children with fever, the percentage who took antimalarial drugs and the percentage who took the drugs the same or next day following the onset of fever, by old province, Rwanda 2005

	Among children under age five:		Among children under age five with fever:		
Old province	Percentage with fever in the two weeks preceding the survey	Number of children	Percentage who took antimalarial drugs	Percentage who took antimalarial drugs same or next day	Number of children
Kigali	26.6	467	9.0	0.6	124
Kigali Ngali	13.9	722	22.1	2.2	100
Gitarama	22.1	709	31.8	5.9	157
Butare	37.9	707	14.1	3.7	268
Gikongoro	28.0	493	2.8	0.0	138
Cyangugu	28.0	562	15.8	2.9	157
Kibuye	12.5	448	1.5	0.0	56
Gisenyi	26.2	944	2.5	1.1	247
Ruhengeri	27.7	938	5.1	1.1	259
Byumba	22.2	701	8.1	2.3	156
Umutara	28.6	430	16.7	3.7	123
Kibungo	38.5	675	18.5	3.9	260

Table D.9.7 Type and timing of antimalarial drugs taken by children with fever

Among children under age five with fever in the two weeks preceding the survey, the percentage who took specific antimalarial drugs and the percentage who took each type of drug the same or next day after developing fever, by old province, Rwanda 2005

	Percentage of children who took drug:			Percentage or children who took drug the same or next day:			Number of children with fever
Old province	SP/Fansidar	Amodiaquine	Quinine	SP/Fansidar	Amodiaquine	Quinine	
Kigali	0.9	3.6	5.4	0.0	0.0	0.6	124
Kigali Ngali	7.6	13.8	7.1	0.0	1.1	1.1	100
Gitarama	12.3	12.0	15.0	4.1	1.8	1.5	157
Butare	0.8	7.8	5.9	0.3	2.4	1.0	268
Gikongoro	0.5	0.5	1.7	0.0	0.0	0.0	138
Cyangugu	6.5	12.4	4.5	0.5	2.1	0.8	157
Kibuye	0.0	0.0	1.5	0.0	0.0	0.0	56
Gisenyi	0.6	0.6	1.4	0.0	0.6	0.5	247
Ruhengeri	1.6	2.5	2.6	0.0	0.0	1.1	259
Byumba	2.7	5.6	3.9	0.7	2.3	0.7	156
Umutara	5.0	6.5	8.8	0.5	1.6	2.2	123
Kibungo	8.6	9.5	6.5	2.7	3.0	0.4	260

Table D.10.1 Initial breastfeeding

Percentage of children born in the five years preceding the survey who were ever breastfed, and for the last children born in the five years preceding the survey ever breastfed, the percentage who started breastfeeding within one hour and within one day of birth and the percentage who received a prelacteal feed, by old province, Rwanda 2005

Old province	Percentage ever breastfed	Number of children	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Percentage who received a prelacteal feed[2]	Number of breastfed children
Kigali	96.3	500	43.9	59.9	25.8	481
Kigali Ngali	97.8	809	50.9	58.7	11.9	792
Gitarama	96.0	776	49.1	64.8	19.4	744
Butare	98.0	802	43.5	58.9	26.6	786
Gikongoro	97.6	544	44.9	56.6	27.4	531
Cyangugu	96.3	632	38.6	56.9	17.0	609
Kibuye	97.3	489	37.7	57.2	20.3	476
Gisenyi	97.7	1,029	33.2	47.0	28.1	1,006
Ruhengeri	96.8	1,032	31.9	45.8	26.3	999
Byumba	97.7	798	47.4	58.9	26.1	780
Umutara	96.9	488	41.4	56.8	26.0	472
Kibungo	96.6	816	34.8	60.3	29.7	788

Note: Table is based on all births whether the children are living or dead at the time of interview.
[1] Includes children who started breastfeeding within one hour of birth.
[2] Children given something other than breast milk during the first three days of life before the mother started breastfeeding regularly.

Table D.10.3 Median duration and frequency of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey, percentage of breastfeeding children under six months of age living with the mother who were breastfed six or more times in the 24 hours preceding the survey, and mean number of feeds (day/night), by old province, Rwanda 2005

	Median duration (months) of breastfeeding				Frequency of breastfeeding among children under six months of age			
Old province	Any breastfeeding	Exclusive breastfeeding	Predominant breastfeeding	Number of children	Percentage breastfed 6+ times in past 24 hours	Mean number of day feeds	Mean number of night feeds	Number of children
Kigali	20.7	3.7	3.9	316	97.6	6.4	6.0	44
Kigali Ngali	26.9	5.8	6.3	524	100.0	8.4	5.4	84
Gitarama	28.4	5.1	5.2	479	98.7	8.0	5.1	70
Butare	26.3	5.8	5.9	497	97.0	8.1	4.2	77
Gikongoro	27.1	6.8	6.9	348	98.6	7.7	4.9	53
Cyangugu	25.3	4.7	5.7	399	98.5	7.3	5.3	59
Kibuye	28.0	6.1	6.3	315	96.8	7.2	6.4	49
Gisenyi	25.3	6.0	6.0	646	97.8	7.2	6.1	115
Ruhengeri	23.5	6.3	6.3	652	98.8	7.7	6.8	111
Byumba	24.8	6.1	6.3	525	98.8	10.5	7.1	80
Umutara	21.8	5.7	5.8	309	94.3	7.9	4.5	59
Kibungo	21.5	5.2	5.4	525	99.0	7.9	7.5	72

Note: Median and mean durations are based on current status.

Table D.10.5 Iodization of household salt

Percent distribution of households with salt tested for iodine content, by level of iodine in salt (parts per million), percentage of households tested, and percentage of households with no salt, according to old province, Rwanda 2005

	Iodine content among households tested							
Old province	None (0 ppm)	Inadequate (<15 ppm)	Adequate (15+ ppm)	Total	Number of households	Percentage of households tested	Percentage of households with no salt	Number of households
Kigali	0.4	12.6	87.0	100.0	540	81.5	8.5	664
Kigali Ngali	0.4	6.4	93.2	100.0	944	92.3	6.4	1,023
Gitarama	0.8	1.6	97.6	100.0	983	89.4	8.2	1,100
Butare	0.1	9.4	90.5	100.0	879	89.0	8.8	988
Gikongoro	0.1	5.2	94.6	100.0	548	86.5	11.8	633
Cyangugu	0.3	67.4	32.4	100.0	622	85.6	11.7	726
Kibuye	8.9	13.4	77.7	100.0	542	90.6	7.1	598
Gisenyi	1.3	5.7	93.0	100.0	866	80.9	13.2	1,071
Ruhengeri	2.0	7.1	90.9	100.0	872	80.7	16.2	1,081
Byumba	0.1	1.5	98.4	100.0	797	91.9	6.9	867
Umutara	1.0	11.0	88.0	100.0	472	85.8	13.5	550
Kibungo	0.4	7.1	92.5	100.0	849	87.5	6.9	970

Table D.10.6 Micronutrient intake among children

Percentage of youngest children under age three living with the mother who consumed fruits and vegetables rich in vitamin A in the seven days preceding the survey, percentage of children age 6-59 months who received vitamin A supplements in the six months preceding the survey, and percentage of children under five living in households using adequately iodized salt, by old province, Rwanda 2005

Old province	Consumed fruits and vegetables rich in vitamin A[1]	Number of children	Consumed vitamin A supplements	Number of children	Living in households using adequately iodized salt[2]	Number of children
Kigali	63,9	240	82,0	422	85,7	416
Kigali Ngali	52,2	423	83,6	637	92,8	696
Gitarama	71,7	392	88,1	639	97,0	665
Butare	55,2	380	87,4	628	91,1	650
Gikongoro	52,4	283	93,3	440	95,3	443
Cyangugu	55,5	310	82,3	500	31,3	520
Kibuye	61,6	251	82,7	398	76,4	420
Gisenyi	54,0	505	67,8	828	93,2	803
Ruhengeri	60,5	507	86,7	826	91,2	766
Byumba	63,7	412	93,7	620	98,1	665
Umutara	47,3	239	82,0	370	88,3	396
Kibungo	57,4	391	84,3	599	91,7	614

Note: Information on vitamin A supplements is based on mother's recall.
na = Not applicable
[1] Includes pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, green leafy vegetables, mango, papaya, and other locally grown fruits and vegetables that are rich in vitamin A
[2] Salt containing 15 ppm of iodine or more. Excludes children in households in which salt was not tested.

Table D.10.7 Micronutrient intake among mothers

Percentage of women with a birth in the five years preceding the survey who received a vitamin A dose in the first two months after delivery, percentage who experienced night blindness during pregnancy, percentage who took iron tablets or syrup for specific numbers of days, and percentage who live in households using adequately iodized salt, by background characteristics, Rwanda 2005

Old province	Received vitamin A dose post-partum[1]	Experienced night blindness during pregnancy		Number of days took iron tablets or syrup during pregnancy					Number of women	Lives in household using adequately iodized salt[3]	Number of women
		Reported	Adjusted[2]	None	<60	60-89	90+	Missing			
Kigali	32.0	9.5	3.0	61.2	29.9	0.2	0.8	7.8	329	85.6	291
Kigali Ngali	19.3	3.5	0.7	86.4	11.2	0.2	0.0	2.1	507	92.3	486
Gitarama	31.3	7.6	1.4	67.2	28.8	0.5	0.0	3.6	528	97.3	497
Butare	48.1	5.0	2.4	55.1	39.9	3.3	1.2	0.6	490	90.3	451
Gikongoro	53.0	6.2	3.1	70.4	24.2	0.4	0.5	4.5	339	95.0	301
Cyangugu	35.7	20.0	2.8	58.9	34.7	1.2	0.5	4.8	392	32.3	360
Kibuye	26.5	5.4	2.4	54.6	41.8	0.0	0.0	3.7	309	76.9	288
Gisenyi	18.6	9.9	4.2	75.3	18.8	0.4	0.5	5.0	616	93.3	518
Ruhengeri	27.6	6.1	3.4	72.3	19.6	0.2	1.2	6.6	602	91.3	491
Byumba	41.6	6.5	1.2	85.9	11.0	0.3	0.4	2.3	505	98.0	480
Umutara	30.4	8.9	0.6	70.1	25.8	0.5	0.3	3.2	303	86.8	278
Kibungo	45.0	7.7	4.5	82.1	16.4	0.2	0.3	0.9	504	92.1	462

Note: For women with two or more live births in the five-year period, data refer to the most recent birth.
[1] In the first two months after delivery
[2] Women who reported night blindness but did not report difficulty with vision during the day
[3] Salt containing 15 ppm of iodine or more. Excludes women in households in which salt was not tested.

Table D.10.8 Prevalence of anemia in children

Percentage of children age 6 to 59 months classified as having anemia, by old province Rwanda 2005

Old province	Any anemia	Anemia status by hemoglobin level			Number of children
		Mild (10.0-10.9 g/dl)	Moderate (7.0-9.9 g/dl)	Severe (< 7.0 g/dl)	
Kigali	66.5	14.0	28.0	24.4	175
Kigali Ngali	71.5	10.6	25.1	35.8	315
Gitarama	39.0	17.6	19.9	1.5	343
Butare	57.3	22.4	31.1	3.8	346
Gikongoro	44.0	22.5	20.0	1.4	218
Cyangugu	48.3	22.6	25.4	0.3	277
Kibuye	69.0	23.5	35.0	10.5	193
Gisenyi	62.2	29.7	31.9	0.7	415
Ruhengeri	55.1	22.6	29.9	2.7	419
Byumba	54.1	15.6	18.0	20.5	322
Umutara	60.9	19.5	36.6	4.8	192
Kibungo	54.0	20.2	29.3	4.5	321

Note: Table is based on children who stayed in the household the night before the interview. Prevalence is adjusted for altitude using CDC formulas (1998).
g/dl = grams per deciliter

Table D.10.9 Prevalence of anemia in women

Percentage of women with anemia, by old province, Rwanda 2005

Old province	Any anemia	Anemia status			Number of women
		Mild anemia	Moderate anemia	Severe anemia	
Kigali	42.7	17,5	20,9	4,3	429
Kigali Ngali	54.0	15,7	25,8	12,5	559
Gitarama	20.5	14,7	5,7	0,1	639
Butare	42.0	31,0	10,0	1,1	558
Gikongoro	18.5	15,5	3,0	0,0	321
Cyangugu	28.4	23,0	5,4	0,0	438
Kibuye	39.3	22,1	12,8	4,4	311
Gisenyi	19.3	14,6	4,5	0,2	579
Ruhengeri	21.2	15,5	5,4	0,3	549
Byumba	36.8	11,0	17,5	8,3	467
Umutara	28.2	20,6	7,1	0,5	286
Kibungo	41.8	30,1	11,0	0,7	523

Note: Table is based on women who stayed in the household the night before the interview. Prevalence is adjusted for altitude and for smoking status if known using formulas in CDC, 1998. Women with <7.0 g/dl of hemoglobin have severe anemia, women with 7.0-9.9 g/dl have moderate anemia, and pregnant women with 10.0-10.9 g/dl and non-pregnant women with 10.0-11.9 g/dl have mild anemia.

Table D.10.11 Prevalence of anemia in men

Percentage of men age 15-59 with anemia, by background characteristics, Rwanda 2005

Old province	Any anemia	Anemia status by hemoglobin level			Number of men
		Mild (12.0-12.9 g/dl)	Moderate (9.0-11.9 g/dl)	Severe (< 9.0 g/dl)	
Kigali	32.3	8.2	17.3	6.8	382
Kigali Ngali	46.5	7.3	23.0	16.2	441
Gitarama	22.8	10.7	10.7	1.4	516
Butare	36.4	14.6	20.2	1.6	446
Gikongoro	16.9	9.5	6.5	0.9	269
Cyangugu	21.4	8.6	11.9	0.9	377
Kibuye	31.1	10.7	14.8	5.6	244
Gisenyi	17.6	7.6	9.7	0.3	475
Ruhengeri	18.4	8.5	8.7	1.2	470
Byumba	34.2	6.7	16.4	11.2	392
Umutara	25.1	10.0	12.9	2.3	271
Kibungo	41.5	17.6	21.6	2.4	422

Note: Table is based on men who stayed in the household the night before the interview. Prevalence is adjusted for altitude using formulas in CDC, 1998.

Table D.10.12 Nutritional status of children

Percentage of children under five years classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by old province, Rwanda 2005

Old province	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]	
Kigali	11.5	28.2	1.2	6.7	3.9	13.3	190
Kigali Ngali	14.2	43.9	1.5	4.3	2.8	18.6	349
Gitarama	17.2	42.8	0.4	4.2	2.8	24.4	370
Butare	21.1	40.2	1.6	5.3	6.2	26.3	384
Gikongoro	29.0	55.8	2.8	5.8	8.4	34.9	233
Cyangugu	13.5	41.5	0.4	4.0	4.5	20.9	290
Kibuye	23.3	53.2	0.7	2.8	3.8	24.1	214
Gisenyi	21.0	47.4	0.6	1.8	2.4	17.5	448
Ruhengeri	24.4	53.4	0.0	2.9	5.2	24.7	462
Byumba	21.7	49.0	0.3	4.2	6.8	24.5	344
Umutara	15.2	38.6	0.6	4.0	3.0	18.8	217
Kibungo	16.3	43.2	1.2	3.4	3.2	20.9	357

[1] Includes children who are below –3 standard deviations (SD) from the International Reference Population median.

Table D.10.13 Nutritional status of women

Among women, mean height, the percentage under 145 cm, mean body mass index (BMI), and the percentage with specific BMI levels, by background characteristics, Rwanda 2005

	Height			BMI (kg/m^2) [1]							
Old province	Mean (in cm)	Percentage < 145 cm	Number of women	Mean Body Mass Index (BMI)	18.5-24.9 (normal)	<18.5 (thin)	17.0-18.4 (mildly thin)	16.0-16.9 (mod-erately thin)	<16.0 (severely thin)	≥25.0 (over-weight/ obese)	Number of women
Kigali	158.7	2.7	422	23.1	65.2	8.8	5.5	2.6	0.8	26.0	389
Kigali Ngali	156.2	3.4	551	21.6	78.8	11.9	10.5	0.5	1.0	9.3	501
Gitarama	157.0	4.7	636	21.3	78.1	12.8	7.9	3.2	1.7	9.0	580
Butare	156.2	4.7	558	21.0	80.1	14.9	10.2	3.8	0.9	5.0	497
Gikongoro	156.3	3.7	320	21.5	82.7	10.6	7.9	1.6	1.2	6.7	290
Cyangugu	154.7	5.7	439	21.4	80.2	12.7	9.5	1.7	1.6	7.1	402
Kibuye	155.5	4.0	309	21.5	82.4	9.9	7.4	2.0	0.5	7.8	283
Gisenyi	156.9	5.1	586	22.5	82.1	3.7	3.1	0.6	0.0	14.2	535
Ruhengeri	157.0	2.7	554	22.6	81.6	3.3	2.7	0.3	0.3	15.1	485
Byumba	156.7	3.5	463	21.9	81.3	6.4	5.5	0.7	0.2	12.3	411
Umutara	157.2	1.9	287	22.2	73.6	8.9	7.1	1.6	0.2	17.6	252
Kibungo	156.4	2.8	537	21.5	76.4	13.5	10.7	1.8	1.0	10.1	476

[1] Excludes pregnant women and women with a birth in the preceding 2 months

Table D.11.2 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by old province, Rwanda 2005

Old province	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Kigali	24	30	54	46	98
Kigali Ngali	44	61	105	91	186
Gitarama	48	48	97	65	155
Butare	46	78	124	101	213
Gikongoro	48	49	97	73	163
Cyangugu	50	72	122	71	184
Kibuye	50	37	86	70	150
Gisenyi	34	59	92	94	178
Ruhengeri	45	57	101	106	196
Byumba	51	46	97	94	182
Umutara	44	67	111	108	207
Kibungo	45	82	127	120	232

[1] Computed as the difference between the infant and neonatal mortality rates

Table D.11.4 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by old province, Rwanda 2005

Old province	Number of stillbirths [1]	Number of early neonatal deaths [2]	Perinatal mortality rate [3]	Number of pregnancies of 7+ months duration
Kigali	7	6	26	506
Kigali Ngali	13	22	43	822
Gitarama	18	14	41	794
Butare	13	16	36	815
Gikongoro	16	13	52	560
Cyangugu	7	24	47	638
Kibuye	9	14	47	498
Gisenyi	16	22	36	1,046
Ruhengeri	19	30	46	1,051
Byumba	10	21	39	806
Umutara	5	12	34	492
Kibungo	27	33	71	843

[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0-6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration.

Table D.13.1 Experience of beatings or physical mistreatment

Percentage of ever-married women who have experienced violence since age 15 and percentage who have experienced violence during the 12 months prior to the survey, by old province, Rwanda 2005

Old province	Percentage who have experienced violence:		
	Since age 15	In past 12 months	Number of women
Kigali	29.9	16.8	316
Kigali Ngali	23.5	15.9	399
Gitarama	27.0	14.5	451
Butare	31.2	20.1	401
Gikongoro	38.9	25.7	229
Cyangugu	31.3	20.3	320
Kibuye	17.0	12.4	222
Gisenyi	29.9	20.8	421
Ruhengeri	33.5	20.8	397
Byumba	30.2	19.0	328
Umutara	33.3	24.4	201
Kibungo	42.1	24.4	381

Table D.13.3 Violence during pregnancy

Percentage of women who have experienced physical violence during pregnancy and percentage of women who have experienced physical violence during pregnancy, by perpetrator among women who have ever been pregnant, according to old province, Rwanda 2005

Old province	Percentage experiencing violence during pregnancy	Number of women ever pregnant	Perpetrator					Number of women who experienced violence during pregnancy
			Husband only	Previous husband only	Husband and others	Person(s) other than husband	Total	
Kigali	10.7	166	*	*	*	*	*	18
Kigali Ngali	4.4	242	*	*	*	*	*	11
Gitarama	11.5	295	(78.1)	(2.7)	(0.0)	(19.2)	(100.0)	34
Butare	17.1	253	(77.6)	(10.2)	(0.0)	(12.2)	(100.0)	43
Gikongoro	19.2	147	(86.4)	(6.0)	(0.0)	(7.6)	(100.0)	28
Cyangugu	9.9	206	*	*	*	*	*	20
Kibuye	4.1	143	*	*	*	*	*	6
Gisenyi	10.3	252	(78.8)	(2.1)	(0.0)	(19.0)	(100.0)	26
Ruhengeri	8.7	284	*	*	*	*	*	25
Byumba	10.6	219	(70.1)	(15.7)	(0.0)	(14.2)	(100.0)	23
Umutara	7.7	136	*	*	*	*	*	11
Kibungo	8.0	249	*	*	*	*	*	20

Note: An asterisk indicates that the figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.

Table D.13.5 Marital violence

Percentage of currently married, divorced or separated women who have ever suffered emotional, physical, or sexual violence by their husband, by old province, Rwanda 2005

Old province	Type of violence									Number of women
	Emotional violence	Less severe physical violence	More severe physical violence	Physical violence – severity unknown	Physical violence - total	Sexual violence	Physical or sexual violence	Emotional, physical or sexual violence	Emotional, physical and sexual violence	
Kigali	20.7	22.2	6.6	1.9	30.7	21.9	33.7	35.3	11.7	129
Kigali Ngali	10.4	25.5	1.2	0.0	26.7	12.0	27.6	28.2	3.4	226
Gitarama	8.5	24.1	3.4	0.4	27.9	13.8	28.9	30.4	4.1	245
Butare	15.6	26.8	3.0	2.0	31.8	14.8	36.3	37.9	6.3	225
Gikongoro	13.6	37.6	3.3	1.8	42.6	16.1	46.1	46.5	6.2	144
Cyangugu	19.3	26.3	4.9	1.9	33.0	12.6	37.7	39.9	3.5	191
Kibuye	6.0	13.3	0.4	0.9	14.6	7.9	19.1	20.3	1.2	123
Gisenyi	7.9	27.2	2.3	0.0	29.5	10.8	31.2	32.4	3.8	240
Ruhengeri	7.8	27.6	2.8	3.3	33.7	8.6	35.6	37.0	2.9	255
Byumba	8.6	29.0	2.6	1.4	33.0	7.6	34.4	34.4	2.3	199
Umutara	13.0	27.2	3.1	0.8	31.2	8.3	33.7	37.4	2.4	128
Kibungo	17.2	25.7	3.4	2.0	31.1	21.1	40.1	43.0	6.0	232

Table D.13.6 Frequency of spousal violence

Percent distribution of currently married, divorced or separated women who reported physical or sexual violence by their husband by frequency of any form of such violence in the 12 months prior to the survey, according to background characteristics, Rwanda 2005

Old province	Frequency of any type of physical or sexual violence in the 12 months prior to the survey					Total	Number of women
	0 times	1-2 times	3-5 times	More than 5 times	Don't know/ missing		
Kigali	20.1	22.5	11.3	36.2	9.9	100.0	44
Kigali Ngali	28.3	21.7	21.7	28.3	0.0	100.0	62
Gitarama	16.2	32.8	15.5	32.9	2.6	100.0	71
Butare	7.9	35.1	27.6	20.4	9.1	100.0	81
Gikongoro	27.6	45.5	8.1	14.2	4.7	100.0	66
Cyangugu	20.7	42.7	13.7	17.0	5.8	100.0	72
Kibuye	(7.9)	(24.3)	(36.3)	(29.2)	(2.3)	(100.0)	24
Gisenyi	16.6	37.1	25.6	9.2	11.4	100.0	75
Ruhengeri	22.7	43.0	7.2	17.4	9.6	100.0	91
Byumba	18.6	42.9	8.9	25.6	4.0	100.0	69
Umutara	17.9	42.3	11.9	24.3	3.6	100.0	43
Kibungo	26.6	29.6	10.3	26.7	6.8	100.0	93

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

Table D.14.1 Knowledge of AIDS

Percentage of women and men age 15-49 who have heard of AIDS by old province, Rwanda 2005

Old province	Women		Men	
	Has heard of AIDS	Number of women	Has heard of AIDS	Number of men
Kigali	99.9	900	100.0	404
Kigali Ngali	99.7	1,118	100.0	414
Gitarama	99.9	1,219	100.0	475
Butare	100.0	1,090	99.7	412
Gikongoro	100.0	650	100.0	251
Cyangugu	100.0	852	100.0	342
Kibuye	99.9	649	99.7	220
Gisenyi	99.8	1,179	100.0	437
Ruhengeri	99.7	1,180	99.9	447
Byumba	100.0	873	100.0	360
Umutara	100.0	554	100.0	247
Kibungo	99.9	1,057	100.0	402

Table D.14.2 Knowledge of HIV prevention methods

Percentage of women and men age 15-49 who, in response to a prompted question, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, by having one sex partner who is not infected and has no other partners, and by abstaining from sexual intercourse, by old province, Rwanda 2005

Old province	Women					Men				
	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms, and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of women	Using condoms	Limiting sexual intercourse to one uninfected partner	Using condoms, and limiting sexual intercourse to one uninfected partner	Abstaining from sexual intercourse	Number of men
Kigali	84.8	87.9	75.7	84.2	900	86.2	78.6	68.7	81.9	404
Kigali Ngali	89.0	92.5	86.5	90.2	1,118	95.0	88.4	84.5	90.5	414
Gitarama	82.4	86.4	75.9	80.3	1,219	83.4	85.3	76.1	90.4	475
Butare	87.4	92.0	81.8	91.1	1,090	95.0	95.6	91.6	96.3	412
Gikongoro	78.8	96.2	76.7	93.3	650	89.6	92.4	83.6	85.5	251
Cyangugu	72.1	75.7	56.4	76.3	852	87.7	63.6	59.2	87.1	342
Kibuye	78.0	86.7	70.2	75.1	649	86.4	86.7	77.2	82.1	220
Gisenyi	68.5	81.0	60.3	79.8	1,179	79.2	89.1	73.0	81.8	437
Ruhengeri	67.1	82.8	59.0	64.4	1,180	96.2	93.3	90.2	94.4	447
Byumba	79.5	82.8	70.9	75.4	873	95.8	95.3	92.3	93.2	360
Umutara	88.3	82.9	74.5	91.2	554	86.0	72.2	61.4	81.1	247
Kibungo	87.7	93.9	83.8	86.4	1,057	94.1	96.2	92.1	85.6	402

Table D.14.3 Comprehensive knowledge about AIDS

Percentage of women and men age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by old province, Rwanda 2005

Old province	Percentage who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	AIDS cannot be transmitted by supernatural means	A person cannot become infected by sharing food with a person who has AIDS	Percentage who say that a healthy-looking person can have the AIDS virus and who reject the two most common local misconceptions [1]	Percentage with a comprehensive knowledge about AIDS [2]	Number
			WOMEN				
Kigali	96.2	90.0	95.6	96.7	85.0	65.8	900
Kigali Ngali	89.0	91.0	94.6	94.2	81.0	74.4	1,118
Gitarama	90.9	88.7	93.3	93.4	79.1	61.7	1,219
Butare	82.7	84.2	95.4	91.6	68.6	58.8	1,090
Gikongoro	83.0	87.7	94.5	90.9	72.7	58.9	650
Cyangugu	80.2	79.7	91.9	88.7	60.8	37.3	852
Kibuye	83.6	87.0	92.4	92.1	70.1	51.7	649
Gisenyi	69.3	68.1	88.1	77.1	49.2	36.2	1,179
Ruhengeri	78.3	69.2	83.0	82.6	54.0	38.4	1,180
Byumba	85.5	78.9	95.4	91.2	68.9	54.2	873
Umutara	89.7	80.2	88.8	88.7	69.8	54.7	554
Kibungo	82.4	75.8	92.4	88.7	59.5	52.7	1,057
			MEN				
Kigali	97.4	91.3	96.3	95.8	86.2	61.1	404
Kigali Ngali	90.0	81.5	94.7	91.9	71.3	62.6	414
Gitarama	95.6	80.4	92.0	93.7	76.5	60.5	475
Butare	99.0	89.3	97.2	96.5	86.6	81.5	412
Gikongoro	89.6	72.2	91.7	87.2	61.5	53.9	251
Cyangugu	89.2	77.4	91.8	89.4	66.3	42.0	342
Kibuye	91.9	77.2	87.6	88.5	67.3	54.5	220
Gisenyi	84.1	70.6	87.3	86.2	57.7	45.6	437
Ruhengeri	89.9	64.8	85.1	91.6	58.4	54.6	447
Byumba	86.4	77.4	91.7	92.4	66.2	62.1	360
Umutara	89.8	76.8	91.6	87.8	63.6	39.1	247
Kibungo	94.5	70.1	96.1	94.5	65.0	60.6	402

[1] Two most common local misconceptions: transmission by mosquito bites and sharing food with an infected person.
[2] Comprehensive knowledge means knowing that use of condom and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

Table D.14.4 Knowledge of prevention of mother to child transmission of HIV

Percentage of women and men age 15-49 who know that HIV can be transmitted from mother to child by breastfeeding and that risk of mother to child transmission (MTCT) of HIV can be reduced by mother taking special drugs during pregnancy, by old province, Rwanda 2005

Old province	Women who know that: HIV can be transmitted by breastfeeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of women	Men who know that: HIV can be transmitted by breast-feeding	Risk of MTCT can be reduced by mother taking special drugs during pregnancy	HIV can be transmitted by breastfeeding and risk of MTCT can be reduced by mother taking special drugs during pregnancy	Number of men
Kigali	90.4	90.8	84.0	900	87.7	88.8	80.8	404
Kigali Ngali	77.8	71.5	65.1	1,118	89.6	80.5	74.4	414
Gitarama	70.7	85.1	64.6	1,219	89.3	83.7	78.1	475
Butare	88.2	75.4	69.3	1,090	84.2	86.2	74.4	412
Gikongoro	85.8	64.3	58.5	650	85.3	71.1	60.7	251
Cyangugu	87.2	67.6	62.6	852	86.5	77.4	69.0	342
Kibuye	82.2	84.3	74.2	649	86.2	77.2	68.5	220
Gisenyi	71.2	54.5	45.8	1,179	73.9	58.6	48.1	437
Ruhengeri	75.4	64.2	54.2	1,180	61.6	84.4	55.5	447
Byumba	78.0	72.7	65.3	873	78.2	82.6	70.7	360
Umutara	75.8	76.1	67.8	554	76.9	84.8	68.1	247
Kibungo	80.7	74.8	62.9	1,057	89.8	85.5	77.3	402

Table D.14.5 Accepting attitudes toward those living with HIV/AIDS

Among women and men age 15-49 who have heard of AIDS, percentage expressing specific accepting attitudes toward people with AIDS, by old province, Rwanda 2005

Old province	Percentage who: Are willing to care for a family member with the AIDS virus in the respondent's home	Would buy fresh vegetables from shopkeeper who has the AIDS virus	Say that a female teacher with the AIDS virus and is not sick should be allowed to continue teaching	Would not want to keep secret that a family member got infected with the AIDS virus	Percentage expressing accepting attitudes on all four indicators	Number who have heard of AIDS
			WOMEN			
Kigali	97.6	91.7	93.2	76.1	66.4	899
Kigali Ngali	94.8	64.6	68.1	68.2	38.3	1,114
Gitarama	97.7	83.4	90.6	68.6	56.7	1,218
Butare	97.2	73.8	79.9	91.1	62.2	1,090
Gikongoro	93.9	60.7	68.3	87.5	43.5	650
Cyangugu	93.5	64.1	65.5	80.4	40.5	852
Kibuye	97.5	66.0	90.5	88.1	53.1	649
Gisenyi	81.3	55.9	57.2	60.8	21.0	1,177
Ruhengeri	91.6	60.2	72.8	74.4	36.8	1,176
Byumba	95.8	74.3	72.9	87.5	53.9	873
Umutara	90.9	71.6	69.4	68.6	42.9	554
Kibungo	92.3	60.9	66.3	84.2	43.2	1,056
			MEN			
Kigali	97.3	92.3	91.3	30.5	23.4	404
Kigali Ngali	97.7	78.0	75.1	82.8	53.6	414
Gitarama	91.8	85.2	83.3	82.7	63.6	475
Butare	98.8	82.8	86.6	84.1	67.0	411
Gikongoro	97.0	77.7	85.8	85.5	58.7	251
Cyangugu	95.3	75.7	74.8	78.5	50.6	342
Kibuye	95.8	77.2	77.1	20.9	14.4	219
Gisenyi	87.4	67.9	69.9	83.6	48.9	437
Ruhengeri	98.8	69.6	77.3	70.6	44.6	446
Byumba	95.8	83.7	74.2	88.4	62.0	360
Umutara	96.7	85.0	90.9	54.8	43.5	247
Kibungo	98.8	83.8	72.7	91.3	64.7	402

Table D.14.6 Attitudes toward negotiating safer sexual relations with husband

Percentage of women age 15-49 who believe that, if a husband has a sexually transmitted disease, his wife is justified in refusing to have sexual relations with him or asking that they use a condom, by old province Rwanda 2005

Old province	Refusing to have sexual relations	Asking that they use a condom	Refusing sexual relations or asking that they use a condom	Number of women
Kigali	91.8	92.8	98.9	900
Kigali Ngali	94.2	92.4	97.0	1,118
Gitarama	94.7	91.7	97.5	1,219
Butare	96.6	89.1	98.8	1,090
Gikongoro	88.6	69.6	93.0	650
Cyangugu	84.3	76.2	93.5	852
Kibuye	94.4	93.0	97.6	649
Gisenyi	90.2	84.2	93.7	1,179
Ruhengeri	82.4	75.0	87.7	1,180
Byumba	93.6	89.4	95.8	873
Umutara	94.3	91.7	98.5	554
Kibungo	91.8	86.3	96.3	1,057

Table D.14.7 Adult support of education about condom use to prevent AIDS

Percentage of women and men age 18-49 who agree that children age 12-14 years should be taught about using a condom to avoid AIDS, by old province, Rwanda 2005

Old province	Women		Men	
	Percentage	Number	Percentage	Number
Kigali	87.3	776	86.9	372
Kigali Ngali	73.1	971	87.9	343
Gitarama	85.8	1,065	82.5	386
Butare	82.8	946	78.7	344
Gikongoro	70.9	556	79.4	210
Cyangugu	82.2	724	76.8	271
Kibuye	89.7	549	82.0	191
Gisenyi	70.3	980	73.3	370
Ruhengeri	68.7	977	81.5	364
Byumba	86.3	760	78.7	306
Umutara	85.2	494	91.3	206
Kibungo	86.2	885	90.5	348

Table D.14.8 Multiple sexual partners and higher-risk sexual intercourse in the past 12 months

Among women and men age 15-49 who had sexual intercourse in the past 12 months, the percentage who had intercourse with more than one partner and the percentage who had higher-risk sexual intercourse[1] in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, and the mean number of sexual partners during her lifetime for women and men who ever had sexual intercourse, by old province, Rwanda 2005

Old province	Among women and men who had sexual intercourse in the past 12 months:			Among women and men who had higher-risk intercourse[1] in the past 12 months:		Among women and men who ever had sexual intercourse:	
	Percentage who had 2+ partners in the past 12 months	Percentage who had higher-risk intercourse[1] in the past 12 months	Number	Percentage who reported using a condom at last higher-risk intercourse[1]	Number	Mean number of sexual partners in lifetime	Number
				WOMEN			
Kigali	2.1	18.7	374	44.3	70	1.5	579
Kigali Ngali	0.0	7.5	564	(12.6)	42	1.5	772
Gitarama	0.8	8.2	555	(22.9)	45	1.5	841
Butare	0.6	7.3	533	(11.6)	39	1.4	747
Gikongoro	0.0	4.5	368	*	17	1.5	457
Cyangugu	0.6	5.7	428	(10.8)	25	1.4	563
Kibuye	0.8	9.6	336	(10.5)	32	1.3	428
Gisenyi	0.4	5.1	662	(23.0)	34	1.5	804
Ruhengeri	0.8	6.4	647	(19.2)	42	1.3	834
Byumba	0.5	8.3	539	8.7	45	1.4	652
Umutara	0.8	5.0	317	(7.3)	16	1.3	406
Kibungo	0.2	12.3	564	20.9	69	1.7	734
				MEN			
Kigali	6.9	38.3	203	67.2	78	5.1	310
Kigali Ngali	3.5	9.0	221	*	20	2.3	253
Gitarama	1.8	18.0	236	(37.8)	43	2.4	342
Butare	5.4	10.7	222	*	24	2.6	282
Gikongoro	3.5	4.8	136	*	6	2.4	157
Cyangugu	3.9	10.6	182	*	19	2.5	225
Kibuye	11.0	15.6	132	(43.9)	21	3.1	163
Gisenyi	3.3	4.6	251	*	12	2.5	302
Ruhengeri	7.1	10.1	267	*	27	2.7	321
Byumba	1.9	12.1	205	(25.9)	25	3.1	234
Umutara	3.7	13.2	131	(27.2)	17	3.3	174
Kibungo	9.8	16.3	214	(30.1)	35	3.5	291

Note: An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed. Figures in parentheses are based on 25-49 unweighted cases.
[1] Sexual intercourse with a partner who neither was a spouse nor who lived with the respondent

Table D.14.9 Coverage of prior HIV testing

Percent distribution of women and men by whether tested for HIV and by whether received the results of the last test, and the percentage who received their test results the last time they were tested for HIV in the past 12 months, according to old province, Rwanda 2005

Old province	Ever tested: Received results	Ever tested: Did not receive results	Never tested	Total[1]	Percentage who received results from last HIV test taken in the past 12 months	Number
			WOMEN			
Kigali	49.3	3.7	46.7	100.0	27.2	900
Kigali Ngali	23.2	2.4	74.0	100.0	12.0	1,118
Gitarama	19.5	2.6	77.7	100.0	9.6	1,219
Butare	20.4	3.7	75.8	100.0	10.3	1,090
Gikongoro	12.5	3.7	83.8	100.0	6.3	650
Cyangugu	23.7	4.5	71.6	100.0	15.0	852
Kibuye	17.6	2.3	80.0	100.0	10.1	649
Gisenyi	13.7	2.5	83.3	100.0	7.2	1,179
Ruhengeri	17.8	2.2	79.6	100.0	10.3	1,180
Byumba	19.4	2.0	78.2	100.0	10.1	873
Umutara	20.9	3.5	75.6	100.0	10.7	554
Kibungo	17.3	1.0	81.4	100.0	10.7	1,057
			MEN			
Kigali	42.9	1.8	55.2	100.0	25.0	404
Kigali Ngali	24.5	0.7	74.8	100.0	14.2	414
Gitarama	19.0	0.6	80.4	100.0	8.1	475
Butare	21.9	1.8	76.0	100.0	9.4	412
Gikongoro	8.9	2.7	88.4	100.0	4.1	251
Cyangugu	23.9	1.0	75.1	100.0	14.4	342
Kibuye	17.6	2.4	79.7	100.0	8.1	220
Gisenyi	10.8	2.4	86.8	100.0	7.1	437
Ruhengeri	16.9	1.1	81.9	100.0	11.2	447
Byumba	18.1	0.7	81.2	100.0	11.7	360
Umutara	15.4	6.6	78.0	100.0	8.9	247
Kibungo	15.4	1.4	83.2	100.0	6.2	402

[1] Includes women and men with missing information

Table D.14.10 Pregnant women counseled and tested for HIV

Among all women who gave birth in the two years preceding the survey, the percentage who received HIV counseling during antenatal care for their most recent birth, and percentage who accepted an offer of HIV testing by whether they received their test results, according to old province, Rwanda 2005

Old province	Percentage who received HIV counseling during antenatal care	Percentage who were offered and accepted an HIV test during antenatal care and who: Received results	Percentage who were offered and accepted an HIV test during antenatal care and who: Did not receive results	Percentage who were counseled, were offered and who accepted an HIV test, and who received results	Number of women who gave birth in the past 2 years
Kigali	76.3	69,4	7,8	63,1	183
Kigali Ngali	61.9	25,9	1,7	23,0	321
Gitarama	59.2	27,0	3,5	24,3	287
Butare	49.9	16,7	3,5	16,1	317
Gikongoro	57.6	13,7	4,7	12,9	215
Cyangugu	59.5	32,8	5,4	30,6	247
Kibuye	58.0	20,6	4,7	19,1	201
Gisenyi	54.2	21,3	3,0	19,5	417
Ruhengeri	48.5	18,1	3,1	17,4	402
Byumba	55.5	18,1	2,3	17,4	327
Umutara	63.6	19,5	3,1	16,6	207
Kibungo	41.1	15,1	1,1	14,2	311

Table D.14.11 Self-reported prevalence of sexually-transmitted infections (STIs) and STI symptoms

Among women and men age 15-49 who ever had sexual intercourse, the percentage reporting having an STI and/or symptoms of an STI in the past 12 months, by old province, Rwanda 2005

	Percentage of women who reported having in the past 12 months:					Percentage of men who reported having in the past 12 months:				
Old province	STI	Bad smelling/ abnormal genital discharge	Genital sore or ulcer	STI/genital discharge/ sore or ulcer	Number of women who ever had sexual intercourse	STI	Bad smelling/ abnormal genital discharge	Genital sore or ulcer	STI/genital discharge/ sore or ulcer	Number of men who ever had sexual intercourse
Kigali	1.1	6.5	3.1	8.4	579	1.3	1.5	2.4	3.3	310
Kigali Ngali	0.8	1.7	1.3	2.2	772	0.0	0.5	0.5	1.0	253
Gitarama	1.6	2.1	2.0	3.1	841	0.7	1.1	1.1	1.5	342
Butare	1.3	5.2	3.5	7.0	747	0.6	0.0	0.3	0.6	282
Gikongoro	0.2	0.6	0.3	1.0	457	1.0	2.3	2.7	6.0	157
Cyangugu	3.2	9.1	8.4	12.8	563	1.9	1.4	3.4	5.1	225
Kibuye	1.0	1.7	0.6	2.1	428	0.9	2.2	1.8	4.5	163
Gisenyi	0.7	3.7	1.6	4.4	804	0.5	0.7	1.0	1.4	302
Ruhengeri	0.7	1.5	2.1	2.7	834	1.2	3.5	1.7	4.4	321
Byumba	1.6	2.5	2.0	3.1	652	2.0	1.1	0.3	2.0	234
Umutara	0.9	2.5	4.3	5.3	406	2.2	1.1	1.7	2.6	174
Kibungo	1.4	6.9	3.4	8.5	734	0.0	0.9	1.8	2.7	291

Table D.14.12 Prevalence of injections

Percentage of women and men age 15-49 who received at least one injection from a health worker in the past 12 months, the average number of medical injections per person and, among those who received an injection, the percentage whose health worker took the syringe and needle from a new and unopened package for the last injection, by old province, Rwanda 2005

	Women					Men				
Old province	Percentage who received an injection from a health worker in the past 12 months	Average number of medical injections per year	Number of women	Last injection, syringe & needle taken from newly opened package	Number of women receiving injections from a health worker in the past 12 months	Percentage who received an injection from a health worker in the past 12 months	Average number of medical injections per year	Number of men	Last injection, syringe & needle taken from newly opened package	Number of men receiving injections from a health worker in the past 12 months
Kigali	17.2	2.7	900	94.0	155	15.6	3.6	404	95.3	63
Kigali Ngali	7.9	2.1	1,118	97.2	88	13.1	2.6	414	86.4	54
Gitarama	10.6	1.9	1,219	95.8	129	12.7	2.1	475	79.2	61
Butare	11.0	2.4	1,090	96.2	120	8.2	2.5	412	(100.0)	34
Gikongoro	11.5	1.7	650	95.7	74	5.1	3.3	251	*	13
Cyangugu	15.2	2.7	852	91.0	129	12.5	3.4	342	(88.6)	43
Kibuye	10.4	2.0	649	90.6	67	10.6	4.3	220	*	23
Gisenyi	11.0	2.3	1,179	92.2	129	5.9	2.1	437	(82.5)	26
Ruhengeri	9.7	1.7	1,180	96.3	115	8.2	1.4	447	(87.7)	36
Byumba	13.3	2.5	873	96.8	116	7.0	5.4	360	(93.0)	25
Umutara	16.5	2.3	554	95.9	91	3.4	2.2	247	*	9
Kibungo	8.4	2.4	1,057	94.4	89	6.2	2.7	402	(91.0)	25

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table D.14.13 Comprehensive knowledge about AIDS and of a source of condoms among youth

Percentage of young women and young men age 15-24 with comprehensive knowledge about AIDS and percentage with knowledge of a source of condoms, by old province, Rwanda 2005

	Women 15-24			Men 15-24		
Old province	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source	Number of women	Percentage with comprehensive knowledge of AIDS[1]	Percentage who know a condom source	Number of men
Kigali	67.0	69.6	453	56.3	93.3	170
Kigali Ngali	71.1	30.0	468	55.5	72.9	185
Gitarama	60.4	38.5	510	51.9	77.4	227
Butare	53.7	44.3	454	78.8	75.5	205
Gikongoro	55.1	21.7	267	52.9	56.4	115
Cyangugu	34.7	31.1	387	41.8	68.2	162
Kibuye	45.8	37.2	278	45.4	61.0	94
Gisenyi	33.5	23.9	550	46.2	50.0	208
Ruhengeri	38.7	29.0	516	49.6	72.4	211
Byumba	51.1	39.5	358	56.6	78.5	161
Umutara	50.4	45.2	221	35.0	76.4	115
Kibungo	50.1	35.8	477	59.8	86.4	193

[1]Comprehensive knowledge means knowing that use of condom and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

Table D.14.14 Age at first sexual intercourse among youth

Percentage of young women and of young men age 15-24 who had sexual intercourse before age 15 and percentage of young women and of young men age 18-24 who had sexual intercourse before age 18, by old province, Rwanda 2005

	Women				Men			
Old province	Percentage who have had sexual intercourse before age 15	Number of women age 15-24	Percentage who have had sexual intercourse before age 18	Number of women age 18-24	Percentage who have had sexual intercourse before age 15	Number of men age 15-24	Percentage who have had sexual intercourse before age 18	Number of men age 18-24
Kigali	5.3	453	18.7	330	10.0	170	24.9	138
Kigali Ngali	2.5	468	19.0	322	4.5	185	14.4	113
Gitarama	6.1	510	10.8	356	24.8	227	37.8	138
Butare	3.1	454	15.3	311	14.4	205	26.7	137
Gikongoro	2.5	267	19.8	173	6.8	115	21.1	74
Cyangugu	5.2	387	13.5	259	11.2	162	26.8	90
Kibuye	2.2	278	14.2	178	18.4	94	32.6	65
Gisenyi	1.7	550	18.1	351	14.6	208	26.0	141
Ruhengeri	3.3	516	20.6	316	16.1	211	30.0	129
Byumba	4.0	358	15.7	244	5.8	161	18.1	107
Umutara	4.0	221	23.5	160	11.2	115	27.4	75
Kibungo	6.5	477	23.8	304	15.0	193	36.2	139

Table D.14.16 Premarital sexual intercourse and condom use during premarital sexual intercourse among youth

Among never-married women and men age 15-24, the percentage who have never had sexual intercourse, the percentage who have had sexual intercourse in the past 12 months, and, among those who have had premarital sexual intercourse in the past 12 months, the percentage who used a condom at the last sexual intercourse, by old province, Rwanda 2005

	Women					Men				
Old province	Percentage who have never had sexual intercourse	Percentage who have had sexual intercourse in the past 12 months	Number of never-married women	Percentage who used a condom at last sexual intercourse	Number of never-married women who have had sexual intercourse in the past 12 months	Percentage who have never had sexual intercourse	Percentage who have had sexual intercourse in the past 12 months	Number of never-married men	Percentage who used a condom at last sexual intercourse	Number of never-married men who have had sexual intercourse in the past 12 months
Kigali	75.4	9.7	387	(47.2)	37	49.5	19.6	162	(74.9)	32
Kigali Ngali	87.7	6.1	345	*	21	83.1	6.8	166	*	11
Gitarama	81.3	4.3	422	*	18	55.7	10.8	219	*	24
Butare	86.9	3.4	366	*	12	68.7	8.3	180	*	15
Gikongoro	91.5	2.0	201	*	4	80.0	3.1	101	*	3
Cyangugu	85.9	4.5	312	*	14	70.0	7.5	149	*	11
Kibuye	90.9	2.3	220	*	5	62.4	10.2	86	*	9
Gisenyi	91.0	2.0	399	*	8	71.9	4.7	180	*	9
Ruhengeri	90.2	3.2	367	*	12	66.5	6.6	183	*	12
Byumba	86.7	6.6	242	*	16	76.2	8.0	155	*	12
Umutara	90.4	2.4	149	*	4	66.2	8.0	102	*	8
Kibungo	83.8	7.0	354	*	25	60.4	8.9	179	*	16

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table D.14.17 Higher-risk sexual intercourse among youth and condom use at last higher-risk intercourse in the past 12 months

Among young women and men age 15-24 who had sexual intercourse in the past 12 months, the percentage who had higher-risk sexual intercourse in the past 12 months, and among those having higher-risk intercourse in the past 12 months, the percentage reporting that a condom was used at last higher-risk intercourse, by old province, Rwanda 2005

	Women 15-24				Men 15-24			
Old province	Percentage who had higher-risk intercourse in the past 12 months	Number of women who have had sexual intercourse in the past 12 months	Percentage who reported using a condom at last higher-risk intercourse	Number of women who have had higher-risk intercourse in the past 12 months	Percentage who had higher-risk intercourse in the past 12 months	Number of men who have had sexual intercourse in the past 12 months	Percentage who reported using a condom at last higher-risk intercourse	Number of men who have had higher-risk intercourse in the past 12 months
Kigali	39.0	101	(48.0)	40	(81.4)	39	(74.9)	32
Kigali Ngali	18.0	132	*	24	(42.4)	30	*	13
Gitarama	20.0	103	*	21	*	32	*	24
Butare	14.0	96	*	14	(39.2)	38	*	15
Gikongoro	6.0	67	*	4	*	18	*	3
Cyangugu	17.0	86	*	15	(46.9)	24	*	11
Kibuye	10.0	60	*	6	*	17	*	9
Gisenyi	8.0	151	*	13	(24.5)	36	*	9
Ruhengeri	9.0	153	*	14	(29.8)	40	*	12
Byumba	13.0	125	*	16	*	19	*	12
Umutara	9.0	72	*	6	(43.0)	21	*	9
Kibungo	17.0	143	*	25	(53.9)	30	*	16

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table D.14.19 Drunkenness during sexual intercourse among youth

Among young women and men age 15-24 who had sexual intercourse in the past 12 months, the percentages who had sexual intercourse in the past 12 months while being drunk, by old province, Rwanda 2005

	Women 15-24			Men 15-24		
Old province	Percentage who had sexual intercourse in the past 12 months when drunk	Percentage who had sexual intercourse in the past 12 months when drunk or with a partner who was drunk	Number of women who had sexual intercourse in the past 12 months	Percentage who had sexual intercourse in the past 12 months when drunk	Percentage who had sexual intercourse in the past 12 months when drunk or with a partner who was drunk	Number of men who had sexual intercourse in the past 12 months
Kigali	0.0	5.2	101	(6.1)	(6.1)	39
Kigali Ngali	0.0	2.0	132	(11.4)	(11.4)	30
Gitarama	1.3	5.6	103	*	*	32
Butare	0.0	4.5	96	(31.5)	(31.5)	38
Gikongoro	0.0	3.6	67	*	*	18
Cyangugu	1.8	5.5	86	(10.8)	(10.8)	24
Kibuye	3.6	4.8	60	*	*	17
Gisenyi	1.8	7.9	151	(3.6)	(3.6)	36
Ruhengeri	1.4	6.5	153	(11.3)	(11.3)	40
Byumba	0.0	3.0	125	*	*	19
Umutara	0.5	13.8	72	(1.8)	(1.8)	21
Kibungo	0.0	8.1	143	(7.8)	(7.8)	30

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table D.15.4 HIV prevalence

Percentage HIV positive among women and men age 15-49 who were tested, by old province, Rwanda 2005

	Women		Men		Total	
Old province	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Kigali	9.5	439	5.6	399	7.7	838
Kigali Ngali	2.6	552	2.7	410	2.7	962
Gitarama	3.8	629	2.6	471	3.3	1,100
Butare	3.1	552	1.6	407	2.4	960
Gikongoro	1.9	319	1.7	248	1.8	567
Cyangugu	4.0	436	2.7	338	3.4	774
Kibuye	4.5	308	2.5	217	3.6	525
Gisenyi	3.6	591	2.6	433	3.2	1,025
Ruhengeri	2.7	558	1.5	441	2.2	999
Byumba	2.4	458	0.9	356	1.8	814
Umutara	1.7	283	1.5	244	1.6	527
Kibungo	3.4	529	1.5	397	2.6	926

Table D.15.8 HIV prevalence among young people

Percentage HIV positive among women and men age 15-24 who were tested for HIV, by old province, Rwanda 2005

	Women		Men		Total	
Old province	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Kigali	5.4	213	1.0	174	3.4	387
Kigali Ngali	0.9	242	0.7	181	0.8	423
Gitarama	0.4	260	0.0	227	0.2	487
Butare	0.7	219	0.0	203	0.4	422
Gikongoro	0.6	138	0.0	114	0.3	252
Cyangugu	2.5	203	0.5	160	1.6	362
Kibuye	2.0	131	0.4	93	1.3	224
Gisenyi	2.2	292	0.5	203	1.5	495
Ruhengeri	1.0	228	1.8	207	1.4	435
Byumba	0.6	192	0.0	160	0.3	353
Umutara	0.0	110	0.0	114	0.0	224
Kibungo	1.0	231	0.0	190	0.5	421

Table D.15.12 HIV prevalence among couples

Percent distribution of couples living in the same household, both of whom were tested for HIV, by the HIV status, by old province, Rwanda 2005

Old province	Both HIV positive	Man HIV positive, woman HIV negative	Woman HIV positive, man HIV negative	Both HIV negative	Total	Number
Kigali	5.1	5.1	2.5	87.3	100.0	111
Kigali Ngali	1.6	2.0	1.7	94.7	100.0	209
Gitarama	2.6	1.7	0.0	95.7	100.0	215
Butare	1.4	1.3	1.2	96.1	100.0	211
Gikongoro	1.9	0.6	0.0	97.6	100.0	144
Cyangugu	3.5	1.3	0.4	94.8	100.0	183
Kibuye	2.0	1.1	1.1	95.9	100.0	120
Gisenyi	1.6	1.9	0.9	95.6	100.0	261
Ruhengeri	1.0	0.0	0.0	99.0	100.0	252
Byumba	0.5	0.5	0.3	98.6	100.0	197
Umutara	0.5	2.2	0.7	96.6	100.0	125
Kibungo	0.7	0.8	2.1	96.3	100.0	204

Table D.16.1 Children's living arrangements and orphanhood

Percent distribution of de jure children under age 18 by children's living arrangements and survival status of parents, and the percentage of children with one or both parents dead, according to old province, Rwanda 2005

		Living with mother but not with father		Living with father but not with mother		Not living with either parent				Missing information on father or mother		Percentage with one or both parents dead	Number of children
Old province	Living with both parents	Father alive	Father dead	Mother alive	Mother dead	Both alive	Only father alive	Only mother alive	Both dead		Total		
Kigali	51.5	12.0	14.3	1.4	1.2	6.5	1.7	3.3	5.7	2.6	100.0	26.3	1,348
Kigali Ngali	54.3	14.5	13.2	1.6	1.1	6.3	1.5	2.5	3.8	1.1	100.0	22.2	2,244
Gitarama	54.3	14.7	11.0	1.2	2.1	6.4	1.5	2.4	4.2	2.2	100.0	21.6	2,513
Butare	54.2	14.8	12.7	1.1	2.2	5.0	1.5	1.9	4.6	2.1	100.0	23.1	2,231
Gikongoro	60.8	11.9	9.1	1.0	1.9	7.3	2.0	2.0	2.4	1.6	100.0	17.5	1,599
Cyangugu	66.2	11.0	7.9	1.0	1.2	3.9	1.9	2.1	3.1	1.9	100.0	16.2	1,934
Kibuye	58.5	13.3	9.8	0.5	1.7	5.9	2.2	2.1	3.7	2.4	100.0	19.8	1,484
Gisenyi	65.1	6.8	11.0	0.8	1.4	4.6	1.3	2.0	5.2	1.9	100.0	21.1	2,929
Ruhengeri	63.2	8.0	13.7	0.8	1.7	4.7	1.3	1.6	3.5	1.4	100.0	22.1	2,872
Byumba	66.0	10.1	10.1	0.7	1.4	5.4	0.9	2.1	2.3	0.9	100.0	17.2	2,121
Umutara	57.9	13.6	9.6	1.1	1.5	8.1	2.0	2.3	3.2	0.7	100.0	18.7	1,328
Kibungo	57.3	14.1	10.1	1.7	1.9	5.7	1.5	2.5	3.6	1.8	100.0	19.5	2,264

Table D.16.2 Orphans and vulnerable children (OVC)

Percentage of children under age 18 years who are orphans or made vulnerable due to illness among adult household members, according to old province, Rwanda 2005

Old province	Percentage of children with one or both parents dead (orphans)	Percentage of children who are vulnerable due to: Having a chronically ill parent[1]	Living in a household where at least 1 adult[2] was chronically ill in the past 12 months	Living in a household where at least 1 adult[2] died in the past 12 months and had been chronically ill before he/she died	Having a chronically ill parent OR living in a household where an adult was chronically ill OR died in the past 12 months (vulnerable)	Percentage of children who are orphans and/or vulnerable (OVC)	Number of children
Kigali	26.3	9.9	11.1	1.4	13.6	35.2	1,348
Kigali Ngali	22.2	4.7	5.4	0.3	6.3	26.4	2,244
Gitarama	21.6	7.6	8.2	0.8	10.0	29.2	2,513
Butare	23.1	12.8	15.6	0.2	16.9	34.8	2,231
Gikongoro	17.5	8.2	9.3	0.2	10.1	25.0	1,599
Cyangugu	16.2	10.4	11.5	1.0	12.5	26.9	1,934
Kibuye	19.8	5.8	7.1	0.3	8.0	26.6	1,484
Gisenyi	21.1	7.1	8.3	0.4	9.5	27.9	2,929
Ruhengeri	22.1	9.5	10.9	0.8	11.9	30.5	2,872
Byumba	17.2	2.8	3.6	0.6	4.4	20.0	2,121
Umutara	18.7	10.7	11.6	0.6	12.5	28.2	1,328
Kibungo	19.5	12.0	12.7	0.7	14.7	31.8	2,264

Note: Table is based on de jure household members, i.e., usual household members. Chronically ill means person was too sick to work or do normal activities.
[1] Whether or not lives in same household as child.
[2] Person age 18 to 59 years.

Table D.16.3 School attendance by survivorship of parents and by OVC status

For children 10-14 years of age, the percentage attending school by parental survival and by OVC status and the ratios of the percentages attending, by parental survival and OVC status, according to old province, Rwanda 2005

Old province	Percentage attending school by survivorship of parents: Both parents deceased	Number	Both parents alive and living with at least one parent	Number	Ratio[1]	Percentage attending school by OVC status: OVC	Number	Non OVC	Number	Ratio[2]
Kigali	(80.5)	36	97.9	127	(0.82)	83.1	180	91.0	141	0.91
Kigali Ngali	(64.9)	42	94.9	297	(0.68)	79.9	243	93.1	321	0.86
Gitarama	(82.4)	59	91.6	355	(0.90)	82.8	287	87.9	377	0.94
Butare	63.8	57	84.8	268	0.75	74.3	279	80.7	271	0.92
Gikongoro	(62.3)	20	91.2	225	(0.68)	77.9	165	88.2	244	0.88
Cyangugu	(81.9)	32	91.2	334	(0.90)	85.8	179	89.6	325	0.96
Kibuye	(83.4)	26	92.5	225	(0.90)	83.6	162	92.9	242	0.90
Gisenyi	66.7	70	92.6	437	0.72	79.1	310	92.5	445	0.85
Ruhengeri	(88.6)	38	90.0	403	(0.98)	87.6	325	89.6	388	0.98
Byumba	(70.4)	26	89.9	303	(0.78)	79.2	183	86.0	322	0.92
Umutara	(84.5)	19	88.6	201	(0.95)	89.6	139	84.4	215	1.06
Kibungo	(76.7)	44	91.2	337	(0.84)	87.2	273	91.1	323	0.96

Note: Table is based on de jure household members, i.e., usual household members. Figures in parentheses are based on 25-49 unweighted cases.
[1] Ratio of the percentage with both parents deceased to the percentage with both parents alive and living with a parent
[2] Ratio of the percentage for OVC to the percentage for not OVC

Table D.16.4 Underweight orphans and vulnerable children

Percentage of de facto children under age five years who are underweight, total and by OVC status, according to old province, Rwanda 2005

Old province	Children under age 5 years		OVC		Non OVC		Ratio[2]
	Percentage underweight[1]	Number of children	Percentage underweight[1]	Number of OVC	Percentage underweight[1]	Number of non OVC	
Kigali	13.1	186	(14.3)	39	12.8	147	(1.12)
Kigali Ngali	18.9	344	(16.4)	28	19.1	316	(0.86)
Gitarama	24.3	366	(20.2)	48	24.9	318	(0.81)
Butare	26.0	376	23.7	67	26.5	308	0.89
Gikongoro	34.9	230	(23.7)	36	37.0	194	(0.64)
Cyangugu	20.5	288	20.5	59	20.5	229	1.00
Kibuye	24.1	214	(27.1)	21	23.8	192	(1.14)
Gisenyi	17.6	446	(17.1)	38	17.6	408	(0.97)
Ruhengeri	24.8	460	(17.8)	34	25.4	426	(0.70)
Byumba	24.6	343	(33.9)	24	23.9	319	(1.42)
Umutara	18.5	213	21.6	35	17.9	178	1.21
Kibungo	20.6	349	(17.3)	34	21.0	315	(0.82)

Note: Table is based on de facto household members, persons who slept in household the night preceding the interview. Figures in parentheses are based on 25-49 unweighted cases.
[1] Further than two standard deviations below mean on WHO/CDC/NCHS reference standard for weight for age.
[2] Ratio of the percentage for OVC to the percentage for not OVC

Table D.16.6 Succession planning

Percentage of de facto women and men age 15-49 who are the primary caregivers of children under age 18 years, and among the primary caregivers, the percentage who have made arrangements for someone else to care for the children in the event of their own inability to do so due to illness or death, by old province, Rwanda 2005

Old province	Percentage of women and men who are primary caregivers	Number of women and men age 15-49	Percentage of caregivers who have made succession arrangements	Number of primary caregivers
Kigali	14.7	1,305	18.3	192
Kigali Ngali	6.6	1,532	31.9	101
Gitarama	5.8	1,694	17.8	98
Butare	11.0	1,502	13.0	165
Gikongoro	10.3	901	18.3	93
Cyangugu	9.3	1,194	14.2	111
Kibuye	7.8	869	13.4	68
Gisenyi	8.5	1,616	17.8	137
Ruhengeri	6.8	1,626	31.9	110
Byumba	6.1	1,233	31.0	75
Umutara	7.7	801	20.7	62
Kibungo	6.9	1,459	10.7	101

Table D.16.7 Widows dispossessed of property

Percentage of de facto women age 15-49 who have been widowed, and the percentage of widowed women who have been dispossessed of property, by old province, Rwanda 2005

Old province	Percentage of ever-widowed women	Number of women	Percentage who were dispossessed of property[1]	Number of ever-widowed women
Kigali	8.5	900	37.7	76
Kigali Ngali	6.6	1,118	27.2	74
Gitarama	7.3	1,219	27.5	89
Butare	8.6	1,090	41.6	94
Gikongoro	7.0	650	43.5	45
Cyangugu	4.4	852	(34.8)	37
Kibuye	7.7	649	30.5	50
Gisenyi	8.4	1,179	40.1	99
Ruhengeri	7.5	1,180	19.3	89
Byumba	6.4	873	29.7	56
Umutara	8.3	554	31.4	46
Kibungo	5.6	1,057	(37.6)	59

Note: Table is based on de facto household members, persons who slept in household the night preceding the interview. Figures in parentheses are based on 25-49 unweighted cases.
[1] Dispossessed of property indicates that most of late husband's property went to another wife, to the husband's family (not including respondent or children), or to another person.

Table D.16.8 External support for chronically ill persons

For persons age 18 to 59 chronically ill for at least 3 of the past 12 months or who died within the past 12 months after being chronically ill for at least 3 months, the percentage whose household received certain free basic external support to care for them in the past year, by old province, Rwanda 2005

	Percentage of chronically ill persons whose households received:						
Old province	Medical support at least once a month during illness	Emotional support[1] in the past 30 days[3]	Social/ material, support[2] in the past 30 days[3]	At least one type of support in the past 30 days[3]	All three types of support in the past 30 days[3]	None of the three types of support	Number of persons
Kigali	5.9	8.5	1.0	15.4	0.0	84.6	89
Kigali Ngali	0.0	2.6	1.9	4.5	0.0	95.5	65
Gitarama	6.7	7.8	2.4	14.6	0.0	85.4	99
Butare	1.9	1.7	1.4	4.1	0.0	95.9	155
Gikongoro	4.9	12.1	3.6	15.8	1.1	84.2	67
Cyangugu	2.6	17.1	1.6	19.7	0.0	80.3	102
Kibuye	2.7	8.1	4.1	10.8	0.0	89.2	51
Gisenyi	2.3	8.5	9.3	15.5	0.0	84.5	105
Ruhengeri	2.1	16.2	1.2	17.2	0.0	82.8	128
Byumba	(5.4)	(10.0)	(5.3)	(16.4)	(1.4)	(83.6)	43
Umutara	5.7	9.9	3.4	15.1	0.7	84.9	72
Kibungo	3.2	1.7	0.0	5.0	0.0	95.0	137

Note: Table is based on de jure household members, i.e., usual household members, who were chronically ill in the past 12 months or who died of a chronic illness in the past 12 months. Figures in parentheses are based on 25-49 unweighted cases.
[1] Support such as companionship, counseling from a trained counselor or spiritual support for which there was no payment
[2] Support such as help with household work, training for a caregiver, legal services, clothing, food, or financial support for which there was no payment.
[3] In the past 30 for living persons and in the 30 days preceding death for deceased persons

Table D.16.9 External support for orphans and vulnerable children

Percentage of orphans and vulnerable children under age 18 years whose household received certain free basic external support to care for the child in the past 12 months, by old province, Rwanda 2005

	Percentage of orphans and vulnerable children whose households received:							
Old province	Medical support[1] in the past 12 months	Emotional support[2] in the past 3 months	Social/material support[3] in the past 3 months	School-related assistance[4] in the past 12 months	At least one type of support[5]	All of the types of support[5]	None of the types of support	Number of OVC
Kigali	5,2	4,3	1,6	7,7	13,4	0,5	86,6	474
Kigali Ngali	1,4	0,8	1,7	4,3	6,0	0,2	94,0	574
Gitarama	2,2	1,2	1,1	7,9	9,6	0,0	90,4	732
Butare	4,5	0,6	2,6	6,4	10,0	0,0	90,0	771
Gikongoro	9,5	2,3	2,4	9,8	14,3	0,4	85,7	394
Cyangugu	3,1	6,0	0,2	11,7	18,3	0,0	81,7	501
Kibuye	6,2	2,2	3,6	18,7	23,9	0,3	76,1	383
Gisenyi	1,2	1,1	0,8	14,8	16,7	0,0	83,3	798
Ruhengeri	1,3	2,0	3,1	7,4	10,5	0,2	89,5	832
Byumba	7,5	2,2	3,8	12,0	19,1	0,2	80,9	420
Umutara	2,7	5,2	5,2	6,9	11,7	0,7	88,3	361
Kibungo	2,0	0,8	0,5	4,1	6,4	0,0	93,6	695

Note: Table is based on de jure household members, i.e., usual household members.
[1] Medical care, supplies or medicine
[2] Companionship, counseling from a trained counselor, or spiritual support for which there was no payment.
[3] Help with household work, training for a caregiver, legal services, clothing, food, or financial support for which there was no payment.
[4] Allowance, free admission, books, or supplies for which there as no payment. Percentage calculated for ages 5-17 years.
[5] Four types of support for those age 5-17, three types of support (i.e. excluding school support) received by those age 0-4.

SURVEY PERSONNEL

APPENDIX E

SUCCESSIVE NATIONAL DIRECTORS

Ruzibuka J. Bosco
Gafishi N. Philippe
Dr Ir Munyakazi Louis

HEAD OF STEERING COMMITTEE

Dr Binagwaho Agnès

TECHNICAL DIRECTORS

Mukanyonga Apolline
Kabagwira Athanasie

OTHER MEMBERS OF THE TECHNICAL TEAM

Rwabikumba Dévote
Muhoza Ananie
Kalinda Charles
Rwakayiro Ignace
Karara Esther
Semucyo Pascal
Mukayina Emma Marie
Ruhigura Jackson
Dr Kayirangwa Eugénie
Kabeja Adeline
Kayibanda Françoise
Sifa Séraphine
Taratibu Japhet
Kamwisige Justus
Katangulia François
Bahizi Francis

COORDINATOR – ANALYSIS TEAM

Gatarayiha J. Philippe

OTHER MEMBERS OF THE ANALYSIS TEAM

Kabagwira Athanasie
Mukanyonga Apolline
Rwabikumba Dévote
Muhoza Ananie
Gafishi G. Philippe
Kalinda Charles
Rwakayiro Ignace
Dr Kayirangwa Eugénie
Rukundo Alphonse
Kabeja Adeline
Kayibanda Françoise

MEMBERS OF THE TEAM OF REVIEWERS

Dr Hakiba Solange
Dr Nizeyimana Vianney
Dr Jeff Hanson

CARTOGRAPHERS AND ENUMERATORS

BAKAZAYIRE Léa
NZABIHIMANA J. Chrisostome
NYIRANSABIMANA Espérance
KABAYIZA François Xavier
MUTABAZI David
ULINZWENIMANA Timothée
NZAYINAMBAHO BWASISI S.
NYIRAMASHURI Louise
DUSABE V.de Paul
TUMWESIGE Beltilde
KAWERA Josine
MBARUSHIMANA JMV
RURANGWA MUGISHA
HABYARIMANA Jean de Dieu
RUHIGULA Jackson
GAFULEKA
UMUZIGASONI Aimée Ariane
KAYIJUKA Gilbert
UMULISA Yseult
MUNYANEZA Thacien
SHAUKU HABYARA
NYIRABAGANDE Spéçiose
HARERIMANA Pierre
UWINEZA Gilbert
BAHIZI Francis
KALINDA Charles
SEMUCYO Pascal
MURENGEZI Omar
MUHOZA Ananie
MUKAYINA Emma Marie
ICYITEGETSE JMV
GASORE Apollinaire
KWIZERA Innocent
BITANGISHA Sixbert
MUSHIMIYIMANA Alfred
SAMVURA J.Népomuscème
MUSHIMIYIMANA J.D'Arc
NKUNDABATWARE Aimée
MURIHANO Joseph
UWAMAHORO Germaine
HAVUGIMANA Jean Bosco
NYAMURANGWA Sylvain
NYIRAHABIMANA Thérèse
ZIMULINDA Tharcisse
RWAKAYIRO Ignace
KAJABIKA André

PRETEST

NDIKUBWIMANA André
MUKANDEKEZI Dorothée
INGABIRE Jeanne Pauline
NYIRANSENGIYUMVA Judith
GASHURI Ndumanga
MUKANYEMAZI Annonciata
MUKASONI M. Jeanne
MANIRABONA Violette
MUHIRE Richard
MUKAMANA Marceline
MUKANKUSI Jeanine
KAYITARE Assumpta
MURASIRA Albert
UWAMAHORO Eugénie
UWAMWEZI Berthilde
KANAKUZE Clairette
NKURIKIYINKA Ernest
UWINEZA Aninick
UWAMBAJE Christine
MUNYANSHONGORE
Musanga
MUKANTWARI Angélique
SINAMENYE Isabelle
MUGABE Gady
KAYITESI Chantal
NIWEMUKOMBWA Solange
UMUMARARUNGU M. Grâce
INGABIRE Laurence
UDAHEMUKA Serge
INGABIRE Nadine
UMUGWANEZA Stella
UWAMAHORO Vestine
KAMODOKA Olivier
ITETERO M. Chantal
UMULISA Laetitia
DUSABEYEZU Domina
BASEKERINTARE Clémentine
NTIGURA Osée
BAYIZERE Claire
MUKAMWIZA Illuminée
MUHIMPUNDU Clotilde
NYIRAMANA Monique
NIYITEGEKA M. Ange
DUSABIKIZA Félicien
RUTIJANWA N. Antoinette
KABATESI Charlotte
NIRERE M.Grâce
SEBAHIZI Athanase
BAGWERA Emilienne
NIBAGWIRE Françoise
BIRORI TOTO Micheline
NIYONGABO Denis
BAKARERE Bibiane
NZABAMWITA Lilian
NAREMEZO Deborah
NIYIGENA Emile
KATUSHABE Peace
NDABARUTA Emma
GISAGARA Omer Modest
NSHUTI INGABIRE Yvonne
MUKAMWEZI Hellène

MAIN SURVEY

Supervisors

KALINDA Charles	RWAKAYIRO Ignace	KABEJA Adeline
RWABIKUMBA Dévote	Dr KAYIRANGWA Eugénie	BUTERA Jean de Dieu
SEMUCYO Pascal		

Team Leaders

MBANGUTSE Olivier	SEMITALI John	KANEZA Clémentine
UWIMBABAZI Peace	UMUTESI Salama	KABALISA Crispin
BAHIZI Francis	KWIKIRIZA Asaph	MUKAZIGAMA Hyacinthe
NABAGIZE Justine	KABATAYI Knight Eugénie	RUSHAKU J. Paul
MUHOZA Ananie	NAMBAJE Elias	BUTERA Béatrice
MBABAZI Jeanne	MUMUKUNDE Loritha	MUSHINZIMANA Emmanuel
RUTUNGIRWA Amon	KAJABIKA André	MUTABAZI Scholastique
UWASE R. Médiatrice	UWIZEYIMANA M. Claire	BIZIMUNGU Louis
SEBATUTSI Amon	KABASHA Ruty Innocent	NTAGUNGIRA Adrienne
HABIYAREMYE François Xavier	KANTARAMA Clermont Christine	

Female Technicians

INGABIRE Jeanne Pauline	UMUMARARUNGU M. Grâce	KANAKUZE Clairette
MUKANYEMAZI Annonciata	INGABIRE Nadine	UWINEZA Aninick
MUKAMANA Marceline	ITETERO M. Chantal	

Male Technicians

NDIKUBWIMANA André	MUGABE Gady	DUSABIKIZA Félicien
GASHURI Ndumanga	UDAHEMUKA Serge	SEBAHIZI Athanase
MUHIRE Richard	KAMODOKA Olivier	NIYONGABO Denis
MURASIRA Albert	GISAGARA Omer Modest	NIYIGENA Emile
NKURIKIYINKA Ernest	NTIGURA Osée	SINAMENYE Isabelle
MUNYANSHONGORE Musanga		

Interviewers

MUKANDEKEZI Dorothée	BIRORI TOTO Micheline	UWAMBAJE Christine
NYIRANSENGIYUMVA Judith	BAKARERE Bibiane	MUKAMWEZI Hellène
MUKASONI M. Jeanne	NZABAMWITA Lilian	MUHIMPUNDU Clotilde
MANIRABONA Violette	NAREMEZO Deborah	INGABIRE Laurence
MUKANKUSI Jeanine	KATUSHABE Peace	UMUGWANEZA Stella
KAYITARE Assumpta	NDABARUTA Emma	UWAMAHORO Vestine
UWAMAHORO Eugénie	UMULISA Laetitia	NYIRAMANA Monique
UWAMWEZI Berthilde	DUSABEYEZU Domina	NIYITEGEKA M. Ange
RUTIJANWA N. Antoinette	NSHUTI INGABIRE Yvonne	MUKANTWARI Angélique
KABATESI Charlotte	MUKAMWIZA Illuminée	SINAMENYE Isabelle
NIRERE M.Grâce	NIBAGWIRE Françoise	KAYITESI Chantal
NIWEMUKOMBWA Solange		

DATA PROCESSING

Data processing supervisor
Twagirumukiza Augustin

Assistant supervisor
Murengezi Omar

Office editors

KAYITESI M. Fidès
MWAMAKARE Elie
UWAMAHORO M. Agathe
MANIZABAYO Laurent
HARELIMANA Innocent

Data entry

GATERA Céline
NIYONGERE Sylvie
KAMULETI Rose
UWIMANA Jeanne
MUYOMBANO Constance
UWANYIRIGIRA M.Claire
UWAMAHORO Colette
KWERERE Vestine
BAZIZERIMANA Antoine
BAHATI Eugénie
TWAMBAZIMANA M.Louise
KAJABIKA André

NATIONAL LABORATORY FOR HIV SEROLOGY

Coordinator
Rusanganwa Emmanuel

Data manager
Rugimbanya Pierre

Technicians

Butera Jean de Dieu
Uwimana J.M. Vianney
Uwimana Chantal
Munyangeyo Augustin
Nyirabaritonda Gilberte
Mbabazi Lydie

ADMINISTRATION

GATETE Claver (Administrative and financial support)
Mary NYAMURINDA (Storage of survey materials)

SECRETARIAT

NYIRANDAGIJIMANA Pélagie

SUPPORT STAFF

Sibomana Aimable
Rubangisa John
Habineza Faustin
Muhumuza Iddi
Hakizimana Abdallah
Rwantambara Mwima Bobo
Tuyisenge Elias
Hakizimana Abdallah

ORC MACRO STAFF

Fern Greenwell	Project director	Harouna Koché	Data processing
Noah Bartlett	Technical advisor	Keith Purvis	Data processing
Mohamed Ayad	Coordinator	Monique Barrère	Analysis/editing
Ruilin Ren	Sampling	Erica Nybro	Dissemination
Housni El Arbi	Training	Kaye Mitchell	Report production
Rebecca Stallings	Training	Sidney Moore	Editing
		Pamela Gilbert-Snyder	Translation
		Jill MacDougall	Translation

QUESTIONNAIRES

Appendix ***F***

DEMOGRAPHIC AND HEALTH SURVEY III -- RWANDA 2005
HOUSEHOLD QUESTIONNAIRE

MINECOFIN /
DEPARTMENT OF STATISTICS

REPUBLIC OF RWANDA

IDENTIFICATION

PLACE NAME _____

NAME HOUSEHOLD HEAD _____

PROVINCE _____

DISTRICT .....

CLUSTER NUMBER .....

STRUCTURE NUMBER .....

HOUSEHOLD NUMBER .....

URBAN/RURAL (URBAN=1, RURAL=2) .....

KIGALI CITY / OTHER TOWNS/ RURAL .....
(KIGALI =1, Other towns =2, Rural =3)

HOUSEHOLD SELECTED FOR MALE INTERVIEW, HOUSEHOLD RELATIONS (SECTION X WOMEN)/HIV/ANEMIA TEST/ANTHROPOMETRIC MEASUREMENTS (YES=1, NO = 2) ..... = 1

HOUSEHOLD NOT SELECTED FOR MALE INTERVIEW, ETC. ..... = 2

INTERVIEWER VISITS

	1	2	3	VISITE FINALE
DATE				DAY / MONTHS / YEAR 2 0 0
INTERVIEWER'S NAME				CODE
RESULT*				RESULT
NEXT VISIT : DATE				TOTAL NBR OF VISITS
HOUR				

*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 OF TIME
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD

TOTAL ELIGIBLE WOMEN

TOTAL ELIGIBLE MEN

LINE NO. OF RESP. TO HOUSEHOLD QUEST.

TEAM LEADER	FIELD CONTROLLER	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

HOUSEHOLD SCHEDULE

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	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	CHRONIC ILLNESS	ELIGIBILITY		
	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?*	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF LESS THAN ONE YEAR, RECORD '00' IF 95 YEARS OR MORE RECORD '95'.	IF AGE 18-59 YEARS IF COL(5)=2GO TO COL (8) Has (NAME) been very ill for at least 3 months in the last 12 months ? By 'very sick' I mean has (NAME) been too sick to work or to carry out his/her normal activities at home?	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CHECK IF THE HOUSEHOLD IS SELECTED FOR MALE INTERVIEW: CIRCLE LINE NUMBER OF ALL CHILDREN UNDER AGE 6	 CIRCLE LINE NUMBER OF ALL MALES AGED 15-59
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(7a)	(8)	(9)	(9a)
01			M 1 F 2	YES 1 NO 2	YES 1 NO 2	IN YEARS	YES 1 NO 2	01	01	01
02			1 2	1 2	1 2		1 2	02	02	02
03			1 2	1 2	1 2		1 2	03	03	03
04			1 2	1 2	1 2		1 2	04	04	04
05			1 2	1 2	1 2		1 2	05	05	05
06			1 2	1 2	1 2		1 2	06	06	06
07			1 2	1 2	1 2		1 2	07	07	07
08			1 2	1 2	1 2		1 2	08	08	08
09			1 2	1 2	1 2		1 2	09	09	09
10			1 2	1 2	1 2		1 2	10	10	10

* 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 = STEPCHILD
12 = ADOPTED/FOSTER
13 = NOT RELATED
98 = DON'T KNOW

LINE NO.	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 18 YEARS OLD**						IF AGED 0-4 YEARS	
	Is (NAME)'s natural mother alive? IF NO OR DK, GO TO Q 12	IF ALIVE Does (NAME)'s natural mother live in this house-hold? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER THEN GO TO Q 12	IF MOTHER DOES NOT LIVE IN HOUSEHOLD Has (NAME)'s mother been very sick for at least three months during the past 12 months? By very sick, I mean that she was too sick to work or do normal activities around the house for at least three of the past 12 months.	Is (NAME)'s natural father alive? IF NO OR DK, GO TO Q 13B	IF ALIVE Does (NAME)'s natural father live in this house-hold? IF YES: What is his name? RECORD FATHER'S LINE NUMBER THEN GO TO Q 13B	IF FATHER DOES NOT LIVE IN HOUSEHOLD Has (NAME)'s father been very sick for at least three months during the past 12 months? By very sick, I mean that he was too sick to work or do normal activities around the house for at least three of the past 12 months.	BIRTH REGISTRATION Does[NAME] have a birth certificate? IF YES GO TO Q14	Was the birth of [NAME] declared with the vital statistics office?
	(10)	(11)	(11A)	(12)	(13)	(13A)	(13B)	(13C)
01	YES NO DK 1 2 8		YES NO DK 1 2 8	YES NO DK 1 2 8		YES NO DK 1 2 8	YES NO DK 1 2 8	YES NO DK 1 2 8
02	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
03	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
04	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
05	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
06	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
07	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
08	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
09	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8
10	1 2 8		1 2 8	1 2 8		1 2 8	1 2 8	1 2 8

** Q. 10 TO Q.13A

THESE QUESTIONS CONCERN BIOLOGICAL PARENTS OF THE CHILD.

IN Q.11 AND Q.13, RECORD '00' IF THE PARENTS ARE NOT MEMBERS OF THE HOUSEHOLD.

EDUCATION

LINE NO.	IF AGE 3 YEARS OR OLDER				IF AGE 3-24 YEARS		
	Has (NAME) ever attended school	What is the highest level of school (NAME) has attended?*** What is the highest grade (NAME) completed at that level?***	Is (NAME) currently attending school?	During the current school year (2005), did (NAME) attend school at any time ?	During the current school year (2005), what level and grade [is/was] (NAME) attending ?***	During the previous school year (2003-2004), did (NAME) attend school at any time ?	During the school year (2003-2004), what level and grade did (NAME) attend ?***
	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	YES NO	LEVEL GRADE	YES NO	YES NO	LEVEL GRADE	YES NO	LEVEL GRADE
01	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
02	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
03	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
04	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
05	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
06	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
07	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
08	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
09	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐
10	1 2 NEXT LINE ↲	☐ ☐	1 2 ↳ GO TO 18	1 2 GO TO 19 ↲	☐ ☐	1 2 NEXT LINE ↲	☐ ☐

***CODES POUR Q.15, 18 ET 20
EDUCATION LEVEL :
0 = NURSERY
1 = ANCIENT PRIMARY OR NEW SYSTEM (6YEARS)
2= REFORMED PRIMARY (8 YEARS)
3 = POST-PRIMAIRY /CERAR /FAMILIAL /CERAI
4 = SECONDARY
5 = TERTIARY
8 = DON'T KNOW

EDUCATION GRADE:
0 = LESS THAN 1 YEAR COMPLETED
8 = DON'T KNOW

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	CHRONIC ILLNESS	ELIGIBILITY		
	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?*	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF LESS THAN ONE YEAR, RECORD '00' IF 95 YEARS OR MORE RECORD '95'.	IF AGE 18-59 YEARS IF COL(5)=2GO TO COL (8) Has (NAME) been very ill for at least 3 months in the last 12 months ? By 'very sick' I mean has (NAME) been too sick to work or to carry out his/her normal activities at home?	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	CHECK IF THE HOUSEHOLD IS SELECTED FOR MALE INTERVIEW: CIRCLE LINE NUMBER OF ALL CHILDREN UNDER AGE 6	CIRCLE LINE NUMBER OF ALL MALES AGED 15-59
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(7a)	(8)	(9)	(9a)
11			H F 1 2	YES NO 1 2	YES NO 1 2	IN YEARS	YES NO 1 2	11	11	11
12			1 2	1 2	1 2		1 2	12	12	12
13			1 2	1 2	1 2		1 2	13	13	13
14			1 2	1 2	1 2		1 2	14	14	14
15			1 2	1 2	1 2		1 2	15	15	15
16			1 2	1 2	1 2		1 2	16	16	16
17			1 2	1 2	1 2		1 2	17	17	17
18			1 2	1 2	1 2		1 2	18	18	18
19			1 2	1 2	1 2		1 2	19	19	19
20			1 2	1 2	1 2		1 2	20	20	20

* 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
10 = OTHER RELATIVE
11 = ADOPTED/FOSTER/ STEPCHILD
12 = NOT RELATED
13 = NO PARENTS
98 = DON'T KNOW

N^{O}. LINE	PARENTAL SURVIVORSHIP AND RESIDENCE FOR PERSONS LESS THAN 18 YEARS OLD**						IF AGED 0-4 YEARS	
	Is (NAME)'s natural mother alive? IF NO OR DK GO TO Q 12	IF ALIVE: Does (NAME)'s natural mother live in this house-hold? IF YES: What is her name? RECORD MOTHER'S LINE NUMBER THEN GO TO Q 12	IF MOTHER DOES NOT LIVE IN HOUSEHOLD: Has (NAME)'s mother been very sick for at least three months during the past 12 months? By very sick, I mean that she was too sick to work or do normal activities around the house for at least three of the past 12 months.	Is (NAME)'s natural father alive? IF NO OR DK GO TO Q 13B	IF ALIVE: Does (NAME)'s natural father live in this house-hold? IF YES: What is his name? RECORD FATHER'S LINE NUMBER THEN GO TO 13B	IF FATHER DOES NOT LIVE IN HOUSEHOLD: Has (NAME)'s father been very sick for at least three months during the past 12 months? By very sick, I mean that he was too sick to work or do normal activities around the house for at least three of the past 12 months.	BIRTH REGISTRATION: Does[NAME] have a birth certificate? IF YES GO TO Q14	Was the birth of [NAME] declared with the vital statistics office?
	(10)	(11)	(11A)	(12)	(13)	(13A)	(13B)	(13C)
01	YES NO DK 1 2 8	☐☐	YES NO DK 1 2 8	YES NO DK 1 2 8	☐☐	YES NO DK 1 2 8	YES NO DK 1 2 8	YES NO DK 1 2 8
02	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
03	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
04	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
05	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
06	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
07	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
08	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
09	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8
10	1 2 8	☐☐	1 2 8	1 2 8	☐☐	1 2 8	1 2 8	1 2 8

** Q. 10 TO Q.13A

THESE QUESTIONS CONCERN BIOLOGICAL PARENTS OF THE CHILD.

IN Q.11 AND Q.13, RECORD '00' IF THE PARENTS ARE NOT MEMBERS OF THE HOUSEHOLD.

INSTRUCTION							
LINE N°.	IF AGE 3 YEARS OR OLDER			IF AGE 3-24 YEARS			
	Has (NAME) ever attended school	What is the highest level of school (NAME) has attended?*** What is the highest grade (NAME) completed at that level?***	Is (NAME) currently attending school?	During the current school year (2004-2005), did (NAME) attend school at any time ?	During the current school year (2004-2005), what level and grade [is/was] (NAME) attending ?***	During the previous school year (2003-2004), did (NAME) attend school at any time ?	During the school year (2003-2004), what level and grade did (NAME) attend ?***
	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	YES NO	LEVEL GRADE	YES NO	YES NO	LEVEL GRADE	YES NO	LEVEL GRADE
11	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
12	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
13	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
14	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
15	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
16	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
17	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
18	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
19	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐
20	1 2 NEXT LINE	☐ ☐	1 2 GO TO 18	1 2 GO TO 19	☐ ☐	1 2 NEXT LINE	☐ ☐

***CODES POUR Q.15, 18 ET 20
EDUCATION LEVEL :
0 = NURSERY
1 = ANCIENT PRIMARY OR NEW SYSTEM (6YEARS)
2= REFORMED PRIMARY (8 YEARS)
3 = POST-PRIMAIRY /CERAR /FAMILIAL /CERAI
4 = SECONDARY
5 = TERTIARY
8 = DON'T KNOW

EDUCATION GRADE:
0 = LESS THAN 1 YEAR COMPLETED
8 = DON'T KNOW

TICK HERE IF CONTINUATION SHEET USED ☐

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, who have not been listed? YES ☐ → ENTER EACH IN TABLE NO ☐

	QUESTIONS AND FILTERS	CODES	ALLER À
21	What is the main source of drinking water for members of your household?	PIPED WATER PIPED INTO DWELLING ..... 11 PIPED INTO YARD/PLOT ..... 12 PUBLIC TAP ..... 13 WATER FROM OPEN WELL OPEN WELL IN DWELLING ..... 21 OPEN WELL IN YARD/PLOT ..... 22 OPEN PUBLIC WELL ..... 23 WATER FROM COVERED WELL OR BOREHOLE PROTECTED WELL IN DWELLING ... 31 PROTECTED WELL IN YARD/PLOT 32 PROTECTED PUBLIC WELL ..... 33 SURFACE WATER SPRING ..... 41 RIVER/STREAM ..... 42 POND/LAKE ..... 43 DAM ..... 44 RAINWATER ..... 51 TANKER TRUCK ..... 61 BOTTLED WATER ..... 71 OTHER _____ 96 (SPECIFY)	—► 23 —► 23 —► 23 —► 23 —► 23 —► 23 ►23
22	How long does it take you to go there, get water, and come back?	MINUTES ..... ☐☐☐ ON PREMISES 996	
23	What kind of toilet facilities does your household have?	FLUSH TOILET ..... 11 PIT TOILET/LATRINE TRADITIONAL PIT TOILET ..... 21 VENTILATED IMPROVED PIT (VIP) LATRINE ..... 22 NO FACILITY/BUSH/FIELD ..... 31 OTHER _____ 96 (SPECIFY)	—► 25
24	Do you share these facilities with other households?	YES ..... 1 NO 2	
25	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	
26	What type of fuel does your household mainly use for cooking?	ELECTRICITY ..... 01 LPG/NATURAL GAS ..... 02 BIOGAS ..... 03 KEROSENE ..... 04 COAL, LIGNITE ..... 05 CHARCOAL ..... 06 FIREWOOD, STRAW ..... 07 DUNG ..... 08 OTHER _____ 96 (SPECIFY)	

	QUESTIONS AND FILTERS	CODES	ALLER À
27	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	NATURAL FLOOR EARTH/SAND ..... 11 DUNG ..... 12 RUDIMENTARY FLOOR WOOD PLANKS ..... 21 PALM/BAMBOO ..... 22 FINISHED FLOOR PARQUET OR POLISHED WOOD .... 31 VINYL OR ASPHALT STRIPS..... 32 CERAMIC TILES ..... 33 CEMENT..... 34 CARPET ..... 35 OTHER _____ 96 (SPECIFY)	
28	Does any member of your household own: A bicycle? A motorcycle or motor scooter? A car or truck? A mobile telephone?	YES NO BICYCLE..... 1 2 MOTORCYCLE/SCOOTER..... 1 2 CAR/TRUCK..... 1 2 MOBILE TELEPHONE..... 1 2	
Now I would like to ask you some questions concerning the mosquito nets.			
29	Does your household have any bednets that can be used while sleeping?	YES..... 1 NO..... 2	–► 35
29A	How many mosquito nets does your household have?	NUMBER OF NETS..... ☐☐	

		NET #1	NET #2	NET #3	NET #4
30	ASK RESPONDENT TO SHOW YOU THE NET(S) IN THE HOUSEHOLD. IF MORE THAN 4 NETS, USE AN ADDITIONAL QUESTIONNAIRE.	OBSERVED .....1 NOT OBSERVED 2	OBSERVED ..... NOT OBSERVED	OBSERVED .....1 NOT OBSERVED 2	OBSERVED .....1 NOT OBSERVED 2
31	How long ago did your household obtain the mosquito net? IF LESS THAN ONE MONTH REGISTER '00'	MOS..... ☐☐ AGO MORE THAN 3 YEARS AGO..... 96	MOS ..... ☐☐ AGO MORE THAN 3 YEARS AGO ..	MOS ..... ☐☐ AGO MORE THAN 3 YEARS AGO 96	MOS..... ☐☐ AGO MORE THAN 3 YEARS AGO..... 96
31A	CHECK Q. 31 BEDNET OBTAINED WITH IN LAST 6 MONTHS.	YES..... 1 NO ..... 2 SKIP TO 32◄┘	YES ..... NO ..... SKIP TO	YES .....1 NO .....2 SKIP TO 32◄┘	YES..... 1 NO ..... 2 SKIP TO 32◄┘

		NET #1	NET #2	NET #3	NET #4
31**B**	How or from where did you get your mosquito net ?	PUBLIC SECTOR GOV HOSPITAL.....11 GOV. HEALTH CENTER.....12 FIELD WORKER.....13 OTHER PUBLIC _____16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC.21 PHARMACY.....22 PRIVATE DOCTOR23 ARBEF CLINIC .....24 INFIRMARY.....25 OTHER PRIVATE MEDICAL _____26 (SPECIFY) OTHER SOURCE BOUTIQUE/KIOSKS /MARKET .....31 CHURCH.....32 PARENTS/FRIEND 33 OTHER _____96 (SPECIFY)	PUBLIC SECTOR ..... 11 ..... 12 ..... 13 OTHER PUBLIC _____16 (SPECIFY) PRIVATE MEDICAL SECTOR ..... 21 ..... 22 ..... 23 .....24 .....25 OTHER PRIVATE MEDICAL _____26 (SPECIFY) OTHER SOURCE .....31 .....32 ..... 33 OTHER _____96 (SPECIFY)	PUBLIC SECTOR ..... 11 ..... 12 ..... 13 OTHER PUBLIC _____16 (SPECIFY) PRIVATE MEDICAL SECTOR ..... 21 ..... 22 ..... 23 .....24 .....25 OTHER PRIVATE MEDICAL _____26 (SPECIFY) OTHER SOURCE ..... 31 ..... 32 ..... 33 OTHER _____96 (SPECIFY)	PUBLIC SECTOR .....11 .....12 .....13 OTHER PUBLIC _____16 (SPECIFY) PRIVATE MEDICAL SECTOR .....21 .....22 .....23 .....24 .....25 OTHER PRIVATE MEDICAL _____26 (SPECIFY) OTHER SOURCE .....31 .....32 .....33 OTHER _____96 (SPECIFY)
31C	How much did you pay for this mosquito net ?	PRICE : ☐☐☐☐ FREE..... 9996 DK 9998	PRICE : ☐☐☐☐ FREE ..... 9996 DK..... 9998	PRICE : ☐☐☐☐ FREE .....9996 DK.....9998	PRICE : ☐☐☐☐ FREE .....9996 DK 9998
32	OBSERVE OR ASK THE BRAND OF MOSQUITO NET.	**PERMANENTLY TREATED BEDNET** [1] TUZANET ..... 11 MAMANET ..... 12 OTHER ..... 16 DK BRAND ..... 18 (SKIP TO 32C) **TREATED BEDNET** [2] SUPANET.....21 OTHER .....22 DK BRAND .....28 **OTHER** .....31 DK/NOT SURE 98	**PERMANENTLY TREATED BEDNET** TUZANET..... 11 MAMANET .....12 OTHER..... 16 DK BRAND..... 18 (SKIP TO 32C) **TREATED BEDNET** SUPANET ..... 21 OTHER..... 22 DK BRAND..... 28 **OTHER**..... 31 DK/NOT SURE..... 98	**PERMANENTLY TREATED BEDNET** TUZANET.....11 MAMANET .....12 OTHER.....16 DK BRAND.....18 (SKIP TO 32C) **TREATED BEDNET** SUPANET ..... 21 OTHER..... 22 DK BRAND..... 28 **OTHER**..... 31 DK/NOT SURE..... 98	**PERMANENTLY TREATED BEDNET** TUZANET ..... 11 MAMANET..... 12 OTHER ..... 16 DK BRAND ..... 18 (SKIP TO 32C) **TREATED BEDNET** SUPANET.....21 OTHER .....22 DK BRAND .....28 **OTHER** .....31 DK/NOT SURE 98

[1] "Permanent" is a pretreated net that does not require any further treatment.
[2] "Pretreated" is a net that has been pretreated, but requires further treatment after 6-12 months

32A	Since you got the mosquito net, was it treated with a liquid to repel mosquitoes or bugs?	YES.....1 NO .....2 NOT SURE 8	YES .....1 NO .....2 NOT SURE.....8	YES .....1 NO .....2 NOT SURE.....8	YES.....1 NO .....2 NOT SURE 8
32B	Since you got the mosquito net, was it ever soaked or dipped in a liquid to repel mosquitoes or bugs?	YES.....1 NO .....2 (GO TO 32D) NOT SURE 8	YES .....1 NO .....2 (GO TO 32D) NOT SURE.....8	YES .....1 NO .....2 (GO TO 32D) NOT SURE.....8	YES.....1 NO .....2 (GO TO 32D) NOT SURE 8
32C	How long ago was the net last soaked or dipped? IF LESS THAN 1 MONTH, RECORD '00'.	MONTHS .. ☐☐ MORE THAN 3 YEARS AGO..... 96 NOT SURE 98	MONTHS... ☐☐ MORE THAN 3 YEARS AGO .....96 NOT SURE.....98	MONTHS... ☐☐ MORE THAN 3 YEARS AGO .....96 NOT SURE.....98	MONTHS .. ☐☐ MORE THAN 3 YEARS AGO..... 96 NOT SURE 98
32D	Did anyone sleep under this mosquito net last night?	YES.....1 NO .....2 (SKIP TO 32F) NOT SURE 8	YES .....1 NO .....2 (SKIP TO 32F) NOT SURE.....8	YES .....1 NO .....2 (SKIP TO 32F) NOT SURE.....8	YES.....1 NO .....2 (SKIP TO 32F) NOT SURE 8
32E	Who slept under this mosquito net last night? RECORD THE RESPECTIVE LINE NUMBER FROM THE HOUSEHOLD SCHEDULE.	NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐	NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐	NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐ NAME _____ LINE No .... ☐☐	NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐ NAME _____ LINE No..... ☐☐
32F		GO BACK TO 30 FOR NEXT NET; OR, IF NO MORE NETS, GO TO 35. IF THERE ARE MORE THAN 4, USE AN ADDITIONAL QUESTIONNAIRE.			
35	ASK THE RESPONDENT FOR A TEASPOONFUL OF SALT NORMALLY USED IN THE HOUSEHOLD, THEN TEST THE SALT TO VERIFY THE PRÉSENCE OF IODINE. RECORD RESULTS IN PPM (PARTS PER MILLION).	0 PPM (NO COLOR) ..... 1 7 PPM ..... 2 15 PPM ..... 3 30 PPM OR MORE (VERY DARK COLOR) ..... 4 NO SALT IN THE HOUSEHOLD ..... 5 SALT NOT TESTED ..... 6 (IF NO SALT WAS TESTED, GIVE THE REASON: _____)			

C1. SUPPORT FOR CHRONICALLY ILL PERSONS.

101	CHECK COLUMN 7 IN THE HOUSEHOLD SCHEDULE: NUMBER OF SICK PEOPLE AGE 18-59 . . . . . ☐☐ AT LEAST ONE ☐ ↓ NONE ☐ → 201			
102	ENTER IN THE TABLE THE LINE NUMBER AND NAME OF EACH SICK HOUSEHOLD MEMBER AGE 18-59, BEGINNING WITH THE FIRST SICK MEMBER LISTED IN THE HOUSEHOLD SCHEDULE. ASK THE QUESTIONS ABOUT ALL OF THESE PEOPLE. IF THERE ARE MORE THAN 3 SICK PEOPLE, USE ADDITIONAL QUESTIONNAIRE(S).			
103	RECORD LINE NUMBER AND NAME OF THE SICK MEMBER IN THE HOUSEHOLD SCHEDULE	1st SICK PERS. NAME _____ LINE NO. ☐☐	2nd SICK PERS. NAME _____ LINE NO. ☐☐	3rd SICK PERS. NAME _____ LINE NO. ☐☐
104	You said to me that in your household, (NAME OF EACH SICK PERSON TO Q103) was very sick during atleast 3 months during the last 12 months. I would like to ask you questions in connection with any type of assistance or organized support that your household could have received for [this/any of these] patient(s) and for which you did not pay. By assistance or organized support, I want to say a help or I want to say a help or support provided by somebody who works for a program, that it is governmental, private sector, religiuos, a charity organization or a Community based program.			
105	Now I would like to ask you some questions about the help or support that your household may have received from anyone besides your relatives, friends or neighbors because of (NAME)'s illness. In the last 12 months, has your household received any medical care for (NAME) for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIPTO 107) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 107) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 107) ← DK 8
106	Your household recieved any of these supports at least once per month when (name) was ill?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
107	In the last 12 months, has your household received any companionship, emotional or spiritual support in your home, because of (NAME)'s situation, for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIPTO 109) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 109) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 109) ← DK 8
108	Did your household recieve this support during the last 30 days?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
109	In the last 12 months. Did your household recieve material support for (NAME) like clothing food or financial support for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIPTO 111) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 111) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 111) ← DK 8
110	Did your household recieve this support in the last 30 days?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
111	In the last 12 months. Did your household recieve any social social because of (NAME)'s illness like household work training of caregiver or assistance for legal service for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIPTO 113) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 113) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIPTO 113) ← DK 8
112	Did your household recieve this support in the last 30 days	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
113	In the last 30 days, has [NAME] had severe pain, mild pain, or no pain at all?	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 115) ←	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 115) ←	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 115) ←
114	When (NAME) was in pain, was he/she able to reduce or stop the pain most of the time, some of the time, or not at all?	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3
115	In the last 30 days, did (NAME) suffer from nausea, coughing, diarrhea, or constipation? IF YES: Did (NAME) suffer severely or mildly?	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 117) ←	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 117) ←	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 117) ←
116	Was (NAME) able to reduce or stop the (nausea/coughing/ diarrhea/constipation) most of the time, some of the time, or not at all?	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3
117		RETURN TO 105 FOR THE NEXT COLUMN OR IF THERE ARE SICK PEOPLE. GO TO 201.		

C2. SUPPORT FOR PERSONS WHO HAVE DIED

No.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
201	Now I would like to ask you a few more questions about your household. Think back over the past 12 months. Has anyone who lived in this household died in the last 12 months	YES . . . . . 1 NO . . . . . 2 DK 8	→ 301 → 301
202	How many household members died in the last 12 months?	NBR, OF PERSONS	
203	POSE 204-221 FOR EACH PERSON, ONE AFTER ANOTHER. IF MORE THAN 3, USE ADDITIONAL QUESTIONNAIRE.		

		NAME 1st PERS. DEAD	NAME 1st PERS. DEAD	NAME 1st PERS. DEAD
204	What was the name of the person who died (most recently)/(before him/her)?	_____	_____	_____
205	Was (NAME) male or female?	MALE . . . 1 FEMALE 2	MALE . . . 1 FEMALE 2	MALE . . . 1 FEMALE 2
206	How old was (NAME) when (s)he died?	AGE ☐☐	AGE ☐☐	AGE ☐☐
207	Was (NAME) very sick for at least three of the 12 months before s(he)died? By very sick, I want to say too sick to work or to ensure normal activities the house for 3 months in the last 12 months?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 222) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 222) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 222) ← DK 8
208	CHECK 206: AGE OF THE DEAD PERSON	<18/60+ ☐ (SKIP TO 222) ← 18-59 ☐ ↓	<18/60+ ☐ (SKIP TO 222) ← 18-59 ☐ ↓	<18/60+ ☐ (SKIP TO 222) ← 18-59 ☐ ↓
209	I would like to ask you questions in connection with any type of assistance or organized support that your household could have received for [NAME] before his death and for which you did not pay. By assistance or organized support I want to say help or support provided by somebody who works for a program, that it is governmental, of the private sector, religious, charity organization or a Community based program			
210	In the last 12 months, has your household received any medical care for (NAME) for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 212) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 212) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 212) ← DK 8
211	Your household recieved any of these supports during the last 30 days preceding the death of (NAME)?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
212	In the last 12 months, has your household received any companionship, emotional or spiritual support in you home, because of (NAME)'s situation, for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 214) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 214) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 214) ← DK 8
213	Your household recieved any of these supports during the last 30 days preceding the death of (NAME)?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
214	In the last 12 months. Did your household recieve material support for (NAME) like clothing food or financial support for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 216) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 216) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 216) ← DK 8
215	Your household recieved any of these supports during the last 30 days preceding the death of (NAME)?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
216	In the last 12 months. Did your household recieve any socia assistance because of (NAME)'s illness like household work training of caregiver or assistance for legal service for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 218) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 218) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 218) ← DK 8
217	Your household recieved any of these supports during the last 30 days preceding the death of (NAME)?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8

		NAME 1st PERS. DEAD _____	NAME 1st PERS. DEAD _____	NAME 1st PERS. DEAD _____
218	In the 30 days before (NAME) died, did he/she have severe pain, mild pain, or no pain at all?	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 220) ◄┤	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 220) ◄┤	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 220) ◄┤
219	When (NAME) was in pain, was he/she able to reduce or stop the pain most of the time, some of the time, or not at all?	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3
220	In the 30 days before (NAME) died, did he/she suffer from nausea, coughing, diarrhea, or constipation? IF YES: Did (NAME) suffer severely or mildly?	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 222) ◄┤	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 222) ◄┤	SEVERE. . . . . 1 MILD. . . . . 2 NOT AT ALL. . . . 3 (SKIP TO 222) ◄┤
221	Was (NAME) able to reduce or stop the (nausea/coughing/ diarrhea/constipation) most of the time, some of the time or not at all?	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3	MOST TIME. . . . . 1 SOME TIME. . . . . 2 NOT AT ALL. 3
222		RETURN TO 204 FOR THE NEXT COLUMN OR THERE ARE MORE PERSONS WHO DIED, GO TO 301.		

C3. SUPPORT FOR ORPHANS AND VULNERABLE CHILDREN

No	QUESTIONS ET FILTRES	CODES	SKIP TO
301	CHECK COLUMN 7 OF THE HOUSEHOLD SCHEDULE: IS THERE A CHILD OF 0-17 YRS?		
	AT LEAST ONE CHILD 0-17 YRS ☐	NO CHILD 0-17 YRS ☐ →	35A
302	CHECK COLUMN 7 OF THE HOUSEHOLD SCHEDULE: IS THERE AN ADULT OF 18-59 YRS?		
	AT LEAST ONE ADULT 18-59 YRS ☐	NO ADULT 18-59 YRS ☐ →	307
303	VERIFY COLUMN 7A OF THE HOUSEHOLD SCHEDULE: IS THERE AN ADULT OF 18-59 YRS WHO IS SICK?		
	NOT A SINGLE "YES" IN COLUMN 7A ☐	AT LEAST ONE"YES" IN COLUMN 7A ☐ →	307
304	VERIFY 206 IN SECTION C2: IS THERE AN ADULT OF 18-59 YRS WHO DIED DURING THE LAST 12 MONTHS?		
	NO ADULT AGE 18-59 IN 206 ☐	AT LEAST ONE ADULT AGE 18-59 YRS IN 206 ☐ →	307
305	CHECK COLUMN 10 AND 12 IN THE HOUSEHOLD SCHEDULE: MOTHER OR FATHER ALIVE?		
	NOT A SINGLE "NO" OR 'DK' IN COL. 10 OR 12 ☐	AT LEAST ONE "NO" OR 'DK' IN 10 OR 12 ☐ →	307
306	CHECK COLUMNS 11A AND 13A IN THE HOUSEHOLD SCHEDULE: MOTHER OR FATHER VERY SICK?		
	AT LEAST ONE "YES" IN 11A OR 13A ☐	NOT A SINGLE "YES'" IN 11A OR 13A ☐ →	35A

307 MAKE THE LIST OF ALL THE CHILDREN OF 0-17 YRS IN THE HOUSEHOLD

1)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		
2)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		
3)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		
4)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		
5)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		
6)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		
7)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		
8)	LINE NUMBER ☐☐	NAME _____	AGE ☐☐		

IF YOU HAVE TO REGISTER MORE THAN 8 CHILDREN, USE AN ADDITIONAL QUESTIONNAIRE.

308	REGISTER THE LINE NUMBER AND NAME OF EACH LISTED CHILD IN Q.307, STARTING WITH THE FIRST CHILD IN THE LIST. ASK THE QUESTIONS ABOUT EACH ONE OF THESE CHILDREN. IF THERE ARE MORE THAN 8 CHILDREN, USE AN ADDITIONALQUESTIONNAIRE.				
309	LINE NUMBER AND NAME IN 307	1st CHILD NAME _____ LINE NO. ☐☐	2nd CHILD NAME _____ LINE NO. ☐☐	3rd CHILD NAME _____ LINE NO. ☐☐	4th CHILD NAME _____ LINE NO. ☐☐
310	I would like to ask you questions in connection with any type of assistance or organized support that your household could have received for [NAME OF EACH CHILD IN 309] and for which you did not pay.By assistance or organized support, I want to say help or support provided by somebody who works for a program, that it is governmental, of the private sector, religious, charity organization or a Community based program.				
311	I would like to now ask you questions about the support that your household received for (NAME). During the last 12 months.did your recieve medical support for (NAME) for which did not have to pay?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
312	In the last 12 months, has your household received any counseling from a trained counselor because of (NAME)'s situation, for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 314) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 314) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 314) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 314) ↵ DK 8
313	Did your household recieve this support during the last 3 months?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
314	In the last 12 months, has your household received any clothing, food or financial support because of (NAME)'s situation for which you didnot have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ↵ DK 8
315	Did your household recieve this support during the last 3 months?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
316	In the last 12 months, has your household received any help with household work or childcare, training of caregiver because of (NAME)'s situation for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ↵ DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ↵ DK 8
317	Did your household recieve this support during the last 3 months?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
318	VERIFY 307: AGE OF THE CHILD	AGE 0-4 ☐ (SKIP TO 320) ↵ AGE 5-17 ⚑	AGE 0-4 ☐ (SKIP TO 320) ↵ AGE 5-17 ⚑	AGE 0-4 ☐ (SKIP TO 320) ↵ AGE 5-17 ⚑	AGE 0-4 ☐ (SKIP TO 320) ↵ AGE 5-17 ⚑
319	In the last 12 months, has your household received any help with school fees or school related expenses for (NAME) for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
320		RETURN TO 311 FOR THE NEXT COLUMN; IF THERE ARE NOMORE CHILDREN, CONTINUE WITH INDIVIDUAL INTERVIEW OF THE ELIGIBLE PERSON.			

309	LINE NUMBER AND NAME IN 307	5th CHILD NAME _____ LINE NO.	6th CHILD NAME _____ LINE NO.	7th CHILD NAME _____ LINE NO.	8th CHILD NAME _____ LINE NO.
310	I would like to ask you questions in connection with any type of assistance or organized support that your household could have received for [NAME OF EACH CHILD IN 309] and for which you did not pay.By assistance or organized support, I want to say help or support provided by somebody who works for a program, that it is governmental, of the private sector, religious, charity organization or a Community based program.				
311	I would like to now ask you questions about the support that your household received for (NAME). During the last 12 months.did your recieve medical support for (NAME) for which did not have to pay?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
312	In the last 12 months, has your household received any counseling from a trained counselor because of (NAME)'ssituation, for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 314) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 314) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 314) ← DK 8	YES . . . . . 1 NO . . . . . 2 (PASSEZ TO 314) ← DK 8
313	Did your household recieve this support during the last 3 months?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
314	In the last 12 months, has your household received any clothing, food or financial support because of (NAME)'s situation for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 316) ← DK 8
315	Did your household recieve this support during the last 3 months?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
316	In the last 12 months, has your household received any help with household work or childcare, training of caregiver because of (NAME)'s situation for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ← DK 8	YES . . . . . 1 NO . . . . . 2 (SKIP TO 318) ← DK 8
317	Did your household receive this support during the last 3 months?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
318	VERIFY 307: AGE OF THE CHILD	ÂGE 0-4 ☐ (SKIP TO 320) ← ÂGE 5-17 ☐	ÂGE 0-4 ☐ (SKIP TO 320) ← ÂGE 5-17 ☐	ÂGE 0-4 ☐ (SKIP TO 320) ← ÂGE 5-17 ☐	ÂGE 0-4 ☐ (SKIP TO 320) ← ÂGE 5-17 ☐
319	In the last 12 months, has your household received any help with school fees or school related expenses for (NAME) for which you did not have to pay?	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8	YES . . . . . 1 NO . . . . . 2 DK 8
320		RETURN TO 311 FOR THE NEXT COLUMN; IF THERE ARE NOMORE CHILDREN, CONTINUE WITH INDIVIDUAL INTERVIEW OF THE ELIGIBLE PERSON.			

Q. 35A

CHECK THE COVER PAGE OF THIS QUESTIONNAIRE. USE THIS TABLE ONLY IF THE HOUSEHOLD WAS SELECTED FOR QUESTIONS IN SECTION 10, « RELATIONS IN THE HOUSEHOLD ».

IF THERE IS ONLY ONE ELEGIBLE WOMAN IN THE HOUSEHOLD

In the first line (row) of the table below, write the name, age and line number of the elegible woman (see Column (8) of the Household Schedule) : this woman is selected to be interviewed with questions in Section 11 «Relations in the Household».

IF THERE ARE SEVERAL ELEGIBLE WOMEN IN THE HOUSEHOLD

In the table below, write the name, the age and the line number of all elegible women (see Column (8) of the Household Questionnaire), beginning with the oldest and ending with the youngest.
Note the last digit of the household structure number recorded on the cover page of the questionnaire and circle that number on the first line of the table below. Descend down this column of this number until you reach the line of the last woman recorded. Circle the number that is at the intersection between the column descended and the line of the last woman recorded.
The number you circled (1,2,3 etc.) at this intersection tells you the order of the woman selected for Section 11 of the Women's Questionnaire (the 1st, 2nd, 3rd, etc…). In the household schedule, circle the LINE NUMBER of the woman selected.

Ordre Number	Name of the woman	Age Of the woman	Line number from household schedule	1	2	3	4	5	6	7	8	9	0
1ère				1	1	1	1	1	1	1	1	1	1
2è				2	1	2	1	2	1	2	1	2	1
3è				1	2	3	1	2	3	1	2	3	1
4è				1	2	3	4	1	2	3	4	1	2
5è				4	5	1	2	3	4	5	1	2	3
6è				4	5	6	1	2	3	4	5	6	1
7è				3	4	5	6	7	1	2	3	4	5
8è				3	4	5	6	7	8	1	2	3	4
9è				2	3	4	5	6	7	8	9	1	2
10è				1	2	3	4	5	6	7	8	9	10

ANTHROPOMETRY AND CHILD'S HEMOGLOBIN SCHEDULE

CHECK COLUMNS (8) AND (9): RECORD THE LINE NUMBER, NAME AND AGE OF ALL WOMEN AGE 15-49 AND ALL CHILDREN UNDER AGE 6.

WOMEN 15-49				WEIGHT AND HEIGHT MEASUREMENT OF WOMEN 15-49			
LINE NO. FROM COL.(8)	NAME FROM COL.(2)	AGE FROM COL.(7)	What is (NAME)'s date of birth ?	WEIGHT (KILOGRAMS)	HEIGHT (CENTIMÈTERS)	MEASURED LYING DOWN OR STANDING UP	*RESULT* 1 MEASURED 2 NOT PRESENT 3 REFUSED 4 TECHN PROB 6 OTHER
(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)
		YEARS		.	.		
				.	.		
				.	.		
				.	.		

CHILDREN UNDER AGE 6				WEIGHT AND HEIGHT MEASUREMENT OF CHILDREN BORN IN 1999 OR LATER			
LINE NO. FROM COL.(9)	NAME FROM COL.(2)	AGE FROM COL.(7)	What is (NAME)'s date of birth?*	WEIGHT (KILOGRAMS)	HEIGHT (CENTIMETERS)	MEASURED LYING DOWN OR STANDING UP	*RESULT* 1 MEASURED 2 NOT PRESENT 3 REFUSED 4 TECHN PROB 6 OTHER
			DAY MONTH YEAR	0 .	.	LYING STANDING 1 2	
				0 .	.	1 2	
				0 .	.	1 2	
				0 .	.	1 2	
				0 .	.	1 2	
				0 .	.	1 2	

TICK HERE IF CONTINUATION SHEET IS USED: ☐

CHECK COLUMNS (8) AND (9): RECORD THE LINE NUMBER, NAME AND AGE OF ALL WOMEN AGE 15-49 AND ALL CHILDREN UNDER AGE 6.

* FOR CHILDREN NOT INCLUDED IN ANY BIRTH HISTORY (SECTION 2), SUCH AS ORPHANS, ADOPTED CHILDREN, ETC.), ASK DAY, MONTH AND YEAR OF BIRTH. FOR ALL OTHER CHILDREN, COPY MONTH AND YEAR FROM Q.215 IN MOTHER'S BIRTH HISTORY (SECTION 2) AND ASK DAY OF BIRTH.

INFORMED CONSENT STATEMENT FOR ANEMIA

As part of this survey, we are studying anemia among women, men and children under age 6 years. Anemia is a serious health problem that results from poor nutrition. This survey will assist the government to develop programs to prevent and treat anemia.

We request that you (and all children born since 1999) participate in the anemia testing part of this survey by giving a few drops of blood from a finger. The test uses disposable sterile instruments that are clean and completely safe. The blood will be taken with new equipment and the results of the test will be given to you immediately after. These results will be kept confidential.

Now I would like to ask that you (and NAME OF CHILD[REN]) agree to participate in the anemia test. However, if you decide not to have the test done, it is your right and we will respect your decision. Now please tell me if you agree to have the test done.

CONTINUE TO COLUMN (45) AND CIRCLE THE APPROPRIATE CODE.

HEMOGLOBIN MEASUREMENT OF WOMEN 15-49			
LINE NO. OF PARENT/ RESPONSIBLE ADULT. RECORD '00' IF NOT LISTED IN HOUSEHOLD SCHEDULE	READ CONSENT STATEMENT TO WOMAN/PARENT/RESPONSIBLE ADULT* CIRCLE CODE (AND SIGN)	HEMOGLOBIN LEVEL (G/DL)	*RESULT* 1 MEASURED 2 NOT PRESENT 3 REFUSED 4 TECHN PROB 6 OTHER
(44)	(45)	(46)	(47)
☐☐	GRANTED 1 ▾ SIGN _____ REFUSED OR NOT READ 2 GO TO 47 ↲	☐☐.☐	☐
☐☐	1 ▾ SIGN _____ 2 GO TO 47 ↲	☐☐.☐	☐
☐☐	1 ▾ SIGN _____ 2 GO TO 47 ↲	☐☐.☐	☐
☐☐	1 ▾ SIGN _____ 2 GO TO 47 ↲	☐☐.☐	☐

Informed Consent Statements
HIV testing

INFORMED CONSENT STATEMENT FOR HIV TESTING
ADULTS AGE 18 OR OLDER

As part of this survey, we are studying HIV/AIDS among women age 15 to 49 years and men age 15-59 years. As you may know, HIV is the virus that causes AIDS, and AIDS is a serious illness that often leads to death. We are conducting a test to measure the extent of the disease in Cameroon. The results from the survey will assist the government in developing programs for preventing HIV and AIDS.

We request that you participate in the HIV testing part of this survey by permitting us to take a few drops of blood from your finger. Only disposable, sterile instruments that are clean and completely safe will be used.

The blood sample will be sent directly to a laboratory to be analyzed. To ensure confidentiality, your name will not be attached to the blood sample. The results will be completely anonymous and for this reason we cannot provide you with results of the test. However, we will give you a coupon for a free test at a Voluntary Counseling and Testing center in case you want to know your HIV status.

Do you have any questions about this?
Now I would like you to please tell me if you agree to participate in the HIV test ?

CONTINUE TO COLUMN (67) AND CIRCLE THE APPROPRIATE CODE.

INFORMED CONSENT STATEMENTS FOR HIV TESTING
YOUNG MEN AND WOMEN AGE 15-17 YEARS

1st step: First ask the consent of the parent or responsible adult

The study of HIV/AIDS includes young women and men starting at age 15. For HIV testing of young men and women ages 15 to 17 years we ask that the parent or a responsible adult provides their consent, as well as the eligible young man or woman.

We request that the young man/woman, [NAME], participate in the HIV testing part of this survey by permitting us to use a few drops of blood from his/her finger. Only disposable, sterile instruments that are clean and completely safe will be used.

The blood sample will be sent directly to a laboratory to be analyzed. To ensure confidentiality, no name or personally identifying information will be attached to the blood sample. The results will be completely anonymous and for this reason we cannot provide results of the test. However, we will give you a coupon for a free test at a Voluntary Counseling and Testing center in case you want to know your HIV status.

Now I would like you to please tell me if you agree that [NAME] participates in the HIV test ?

CONTINUE TO COLUMN (66) AND CIRCLE THE APPROPRIATE CODE.

_____

2nd step: Consent of the young man/woman

IF THE PARENT OR RESPONSIBLE ADULT AGREES THAT THE YOUNG PERSON BE TESTED, THEN READ THE CONSENT TO THE YOUNG PERSON.

As part of this survey, we are studying HIV/AIDS among women age 15 to 49 years and men age 15-59 years. As you may know, HIV is the virus that causes AIDS, and AIDS is a serious illness that often leads to death. We are conducting test to measure the extent of the disease in Cameroon. The results from the survey will assist the government in developing programs for preventing HIV and AIDS.

We request that you participate in the HIV testing part of this survey by permitting us to use a few drops of blood from your finger. Only disposable, sterile instruments that are clean and completely safe will be used.

The blood sample will be sent directly to a laboratory to be analyzed. To ensure confidentiality, your name will not be attached to the blood sample. The results will be completely anonymous and for this reason we cannot provide you with results of the test. However, we will give you a coupon for a free test at a Voluntary Counseling and Testing center in case you want to know your HIV status.

Do you have any questions about this?
Now I would like you to please tell me if you agree to participate in the HIV test ?

CONTINUE TO COLUMN (67) AND CIRCLE THE APPROPRIATE CODE.

* *DON'T FORGET TO GIVE EACH ELIGIBLE PERSON A REFERENCE FORM FOR A FREE HIV TEST.*

ADULT HIV AND HEMOGLOBIN SCHEDULE

Number of blood samples: _____

CHECK COLUMNS (8) AND (9a) FROM HOUSEHOLD SCHEDULE: RECORDTHE LINE NUMBER, NAME, SEX AND AGE OF ALL WOMEN AGE 15-49 AND ALL MEN AGE 15-59 YEARS. THIS FORM MUST BE DESTROYED BEFORE THE RESULTS OF THE TEST ARE LINKED TO THE RDHS DATABASE.

LINE NUMBER FROM COLUMN (8) OR COLUMN (9a)	NAME FROM COL.(2)	SEX FROM COL. (4)	AGE FROM COL.(7)	CHECK AGE IN COLUMN (51)	LINE NUMBER OF PARENT/ RESPON-SIBLE ADULT. RECORD '00' IF NOT LISTED IN HOUSE-HOLD SCHE-DULE	READ THE CONSENT TO THE PARENT OR RESPONSIBLE ADULT CIRCLE CODE (AND SIGN)		READ THE CONSENT TO THE RESPONDENT CIRCLE CODE (AND SIGN) If 54a = 1, READ CONSENT IN 55a. IF 54b = 1, READ CONSENT IN 55b. IF 55a AND 55b DO NOT EQUAL 1, GO TO 58.		HEMOGLOBIN LEVEL (G/DL)	FOR WOMEN CURRE-NTLY PREGNANT	ANEMIA RESULT 1 MEASURED 2 ABSENT 3 REFUSED 4 TECHNICAL PROBLEMS 6 OTHER (SPECIFY)	HIV RESULT 1 BLOOD TAKEN 2 ABSENT 3 REFUSED 4 TECHNICAL PROBLEMS 6 OTHER (SPECIFY)	PLACE BAR CODES 5 DROPS of blood: First drop is wiped away; Second, third, fourth drops are collected for HIV; Fifth (last) drop is collected for anemia
(48)	(49)	(50)	(51)	(52)	(53)	(a) (54)	(b)	(a) (55)	(b)	(56)	(57)	(58)	(59)	(60)
☐☐	NAME	M F 1 2	YEARS ☐☐	AGE 15-17 AGE 18+ 1 2 ↓ SKIP TO 55	☐☐	CONSENT FOR ANEMIA TESTING ACCORDÉ ....1 REFUSÉ.....2 PAS LU .....3 SIGNE R : _____	CONSENT FOR HIV TESTING ACCORDÉ.... 1 REFUSÉ ..... 2 PAS LU ..... 3 SIGNE R : _____	CONSENT FOR ANEMIA TESTING ACCORDÉ.... 1 REFUSÉ ..... 2 PAS LU ..... 3 SIGNE R : _____	CONSENT FOR HIV TESTING ACCORDÉ .... 1 REFUSÉ..... 2 PAS LU .....3 SIGNE R : _____	IF 55a DOES NOT EQUAL '1', GO TO 58 ☐☐.☐	YES.....1 NO.....2 DK.....3	☐ _____	☐ _____	PUT 1ST BAR CODE HERE PUT THE 2ND BAR CODE ON THE RESPONSENT'S FILTER PAPER , AND THE 3RD ON THE BLOOD SAMPLE TRANSMITTAL FORM
☐☐		1 2	☐☐	1 2 ↓ SKIP TO 55	☐☐	ACCORDÉ ....1 REFUSÉ.....2 PAS LU .....3 SIGNE R : _____	ACCORDÉ.... 1 REFUSÉ ..... 2 PAS LU ..... 3 SIGNE R : _____	ACCORDÉ.... 1 REFUSÉ ..... 2 PAS LU ..... 3 SIGNE R : _____	ACCORDÉ .... 1 REFUSÉ..... 2 PAS LU .....3 SIGNE R : _____	IF 55a DOES NOT EQUAL '1', GO TO 58 ☐☐.☐	YES.....1 NO.....2 DK.....3	☐ _____	☐ _____	PUT 1ST BAR CODE HERE PUT THE 2ND BAR CODE ON THE RESPONSENT'S FILTER PAPER , AND THE 3RD ON THE BLOOD SAMPLE TRANSMITTAL FORM
☐☐		1 2	☐☐	1 2 ↓ SKIP TO 55	☐☐	ACCORDÉ ....1 REFUSÉ.....2 PAS LU .....3 SIGNE R : _____	ACCORDÉ.... 1 REFUSÉ ..... 2 PAS LU ..... 3 SIGNE R : _____	ACCORDÉ.... 1 REFUSÉ ..... 2 PAS LU ..... 3 SIGNE R : _____	ACCORDÉ .... 1 REFUSÉ..... 2 PAS LU .....3 SIGNE R : _____	IF 55a DOES NOT EQUAL '1', GO TO 58 ☐☐.☐	YES.....1 NO.....2 DK.....3	☐ _____	☐ _____	PUT 1ST BAR CODE HERE PUT THE 2ND BAR CODE ON THE RESPONSENT'S FILTER PAPER , AND THE 3RD ON THE BLOOD SAMPLE TRANSMITTAL FORM

LINE NUMBER FROM COLUMN (8) OR COLUMN (9a)	NAME FROM COL.(2)	SEX FROM COL. (4)	AGE FROM COL.(7)	CHECK AGE IN COLUMN (51)	LINE NUMBER OF PARENT/ RESPON-SIBLE ADULT. RECORD '00' IF NOT LISTED IN HOUSE-HOLD SCHE-DULE	READ THE CONSENT TO THE PARENT OR RESPONSIBLE ADULT CIRCLE CODE (AND SIGN)		READ THE CONSENT TO THE RESPONDENT CIRCLE CODE (AND SIGN) If 54a = 1, READ CONSENT IN 55a. IF 54b = 1, READ CONSENT IN 55b. IF 55a AND 55b DO NOT EQUAL 1, GO TO 58.		HEMOGLOBIN LEVEL (G/DL)	FOR WOMEN CURRE-NTLY PREGNANT	ANEMIA RESULT 1 MEASURED 2 ABSENT 3 REFUSED 4 TECHNICAL PROBLEMS 6 OTHER (SPECIFY)	HIV RESULT 1 BLOOD TAKEN 2 ABSENT 3 REFUSED 4 TECHNICAL PROBLEMS 6 OTHER (SPECIFY)	PLACE BAR CODES
(48)	(49)	(50)	(51)	(52)	(53)	(a) (54)	(b)	(a) (55)	(b)	(56)	(57)	(58)	(59)	(60)
	NAME	M F	YEARS	AGE 15-17 AGE 18+		CONSENT FOR ANEMIA TESTING	CONSENT FOR HIV TESTING	CONSENT FOR ANEMIA TESTING	CONSENT FOR HIV TESTING					
⬜⬜		1 2	⬜⬜	1 2 ↓ SKIP TO 55	⬜⬜	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	ACCORDÉ.... 1 REFUSÉ .... 2 PAS LU .... 3 SIGNE R : ________	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	IF 55a DOES NOT EQUAL '1', GO TO 58 ⬜⬜.⬜	YES........1 NO..........2 DK..........3	⬜ ________	⬜ ________	PUT 1ST BAR CODE HERE PUT THE 2ND BAR CODE ON THE RESPONSENT'S FILTER PAPER , AND THE 3RD ON THE BLOOD SAMPLE TRANSMITTAL FORM
⬜⬜		1 2	⬜⬜	1 2 ↓ SKIP TO 55	⬜⬜	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	ACCORDÉ.... 1 REFUSÉ .... 2 PAS LU .... 3 SIGNE R : ________	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	IF 55a DOES NOT EQUAL '1', GO TO 58 ⬜⬜.⬜	YES........1 NO..........2 DK..........3	⬜ ________	⬜ ________	PUT 1ST BAR CODE HERE PUT THE 2ND BAR CODE ON THE RESPONSENT'S FILTER PAPER , AND THE 3RD ON THE BLOOD SAMPLE TRANSMITTAL FORM
⬜⬜		1 2	⬜⬜	1 2 ↓ SKIP TO 55	⬜⬜	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	ACCORDÉ.... 1 REFUSÉ .... 2 PAS LU .... 3 SIGNE R : ________	ACCORDÉ ....1 REFUSÉ........2 PAS LU ....3 SIGNE R : ________	IF 55a DOES NOT EQUAL '1', GO TO 58 ⬜⬜.⬜	YES........1 NO..........2 DK..........3	⬜ ________	⬜ ________	PUT 1ST BAR CODE HERE PUT THE 2ND BAR CODE ON THE RESPONSENT'S FILTER PAPER , AND THE 3RD ON THE BLOOD SAMPLE TRANSMITTAL FORM

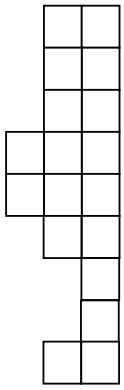
TICK HERE IS ANOTHER SHEET IS USED : ⬜

61	CHECK QUESTIONS 46 (FOR CHILDREN) AND 56/57 (FOR ADULTS) : NUMBER OF HOUSEHOLD MEMBERS FOR WHICH THE LEVEL OF HEMOGLOBIN IS BELOW THE CUT-OFF POINTS : LESS THAN **7G/DL** FOR CHILDREN, FOR MEN, AND FOR WOMEN WHO ARE NOT PREGNANT (OR WHO DO NOT KNOW IF THEY ARE PREGNANT); LESS THAN **9G/DL** FOR PREGNANT WOMEN. ONE OR MORE ☐ → GIVE EACH WOMAN, MAN OR RESPONSIBLE ADULT THE RESULTS OF THE HEMOGLOBIN TEST. READ THE DECLARATION BELOW (Q.62) TO THESE PERSONS WITH HEMOGLOBIN LEVELS BELOW CUT-OFF POINTS. NONE ☐ → GIVE EACH WOMAN, MAN OR RESPONSIBLE ADULT THE RESULTS OF THE HEMOGLOBIN TEST AND CONTINUE TO Q.60.
62	The results of the test show that (your blood/the blood of NAME OF CHILD/CHILDREN) has a very low level of hemoglobin. This indicates that (you/NAME OF CHILD/CHILDREN) are severely anemic, which is a serious health problem. We recommend that you visit a health facility as soon as possible to be examined and obtain the proper treatment. GIVE THE ADULT THE REFERENCE FORM FOR ANEMIA AND CONTINUE TO Q.60.

RWANDA DEMOGRAPHIC AND HEALTH SURVEY-2005
WOMAN'S QUESTIONNAIRE

MINECOFIN
DEPARTMENT OF STATISTICS

REPUBLIC OF RWANDA

IDENTIFICATION	
NAME OF THE LOCALITY _____ NAME OF HOUSEHOLD HEAD _____ PROVINCE ..... DISTRICT ..... SECTOR ..... NUMÉRO DE GRAPPE ..... STRUCTURE NUMBER ..... HOUSEHOLD NUMBER ..... URBAN/ RURAL (URBAN=1, RURAL=2) ..... KIGALI CITY/ OTHER-TOWN/ RURAL ..... (KIGALI CITY =1, OTHER TOWN =2, RURAL=3) NAME & LINE NUMBER OF THE WOMAN _____	
CHECK COVER PAGE OF THE HOUSEHOLD QUESTIONNAIRE: IS THE HOUSEHOLD SELECTED FOR MAN'S INTERVIEW (RELATIONS IN THE HOUSEHOLD' (SECTION 10), HIV AND ANEMIA TESTS, AND ANTHROPOMETRY?) (YES=1, NO=2)	☐
CHECK TABLE 35A FOR SELECTION OF AN ELIGIBLE WOMAN FOR "RELATIONS IN THE HOUSEHOLD (SECTION 10)". (YES=1, NO =2)	☐

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY MONTH YEAR 2 0 0 CODE RÉSULT
INTERVIEWER'S NAME				
RESULT*				
NEXT VISIT: DATE				TOTAL NO. OF VISITS ☐
TIME				

*RESULT CODES:

1	COMPLETED	4	REFUSED		
2	NOT AT HOME	5	PARTLY COMPLETED	7	OTHER _____ (SPECIFY)
3	POSTPONED	6	INCAPACITATED		

LANGUAGE OF INTERVIEW ☐

KINYARWANDA 1
OTHER LANGUAGE _____ 2
(SPECIFY)

INTERPRETER ☐

INTERPRETER YES 1
NO 2

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____ ☐☐	NAME _____ ☐☐	☐☐	☐☐
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with MINECOFIN, Department of Statistics. We are conducting a national survey about the health of women and children in Rwanda. We would very much appreciate your participation in this survey. I would like to ask you about your health (and the health of your children). This information will help the government to plan health services. The survey usually takes between 20 and 45 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?
May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED .....1 ▼ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED... 2 —▶END

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 live in a KIGALI CITY, in other town, or in the rural area? IF " FOREIGN " STATE AREA OF RESIDENCE	KIGALI CITY .....1 OTHER TOWN/ FOREIGN TOWN.....2 RURAL/ FOREIGN 3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS ..... ☐☐ ALWAYS.....95 VISITOR 96	▶105
104	Just before you moved here, did you live in KIGALI CITY, in other town, or in the rural area?	KIGALI CITY .....1 OTHER TOWN .....2 RURAL.....3	
105	In what month and year were you born?	MONTH..... ☐☐ DON'T KNOW MONTH .....98 YEAR ..... ☐☐☐☐ 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. ☐☐	
	IF AGE< 15 YEARS OR > 49 STOP THE INTERVIEW		
107	Have you ever attended school?	YES.....1 NO 2	▶111
108	What is the highest level of school you attended: Primary, reformed primary, post-primary, secondary, or higher?	PRIMARY (FORMER OR NEW).....1 PRIMARY REFORMED.....2 POST PRIMARY/FAMIL/CERAR/CERAI ..2 SECONDARY.....4 HIGHER.....5	
109	What is the highest (class/year) you completed at that level?	CLASS/YEAR..... ☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
110	CHECK 108: PRIMARY ☐ ▼ POST-PRIMARY OR HIGHER ☐		→114
111	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL.....1 ABLE TO READ ONLY PARTS OF SENTENCE.....2 ABLE TO READ WHOLE SENTENCE.....3 NO CARD WITH REQUIRED LANGUAGE_____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED.....5	
112	Have you ever participated in a literacy program or any other program that involves learning to read or write (not including primary school)?[2]	YES.....1 NO 2	
113	CHECK 111: CODE '2', '3' OR '4' CIRCLED ☐ ▼ CODE '1' OR '5' CIRCLED ☐		→115
114	Do you read a newspaper or magazine almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY .....1 AT LEAST ONCE A WEEK .....2 LESS THAN ONCE A WEEK .....3 NOT AT ALL 4	
115	Do you listen to the radio almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY .....1 AT LEAST ONCE A WEEK .....2 LESS THAN ONCE A WEEK .....3 NOT AT ALL 4	
116	Do you watch television almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY .....1 AT LEAST ONCE A WEEK .....2 LESS THAN ONCE A WEEK .....3 NOT AT ALL 4	
117	In the last 12 months, how many times have you traveled outside of your community or your home place?	NUMBER OF TRIPS..... ☐☐ NONE 00	→119
118	In the last 12 months, have you ever been away from your home place for the period of one month un-interrupted?	YES.....1 NO 2	
119	What is your religion?	CATHOLIC.....1 PROTESTANT.....2 7TH DAY ADVENTIST .....3 MUSLIM.....4 TRADITIONALIST .....5 OTHER ---------- 6 (SPECIFY) NONE 7	
119A	In the last four weeks, have you ever a) have had a consultation of a service provider b) been hospitalized for at least one night	YES NO a) 1 2 b) 2 2	
119B	CHECK Q 119A a)	Q. 119A a) = YES ☐ ▼ / Q.119A a) = NO ☐ ▼ (SKIP TO 119G)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
119C	Where did the last consultation with a service provider take place?	PUBLIC SECTOR GOVERNMENT HOSPITAL .....11 GOVERNMENT HEALTH CENTER .....12 AGENT DBC.....13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC.....21 PHARMACY .....22 PRIVATE DOCTOR.....23 ARBEF CLINIC .....24 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY)	
119D	How much did you pay on the whole for the last consultation, including the drugs and the tests of laboratory?	PRICE : ☐☐☐☐☐☐ FREE……00000 DON'T KNOW……..99998	
119E	Was there (others) expenditure of the drugs related to this consultation and paid on a pharmacy?	YES .....1 NO .....2 DON'T KNOW 8	▶119G
119F	How much did you pay for these drugs with pharmacy?	PRICE : ☐☐☐☐☐ DON'T KNOW……99998	
119G	CHECK Q 119A b)	Q 119A b) = YES ▼ Q 119A b) = NO ▼ (SKIP TO 119J)	
119H	Where were you hospitalised the last time for at least a night?	PUBLIC SECTOR GOVERNMENT HOSPITAL..... 11 GOVERNMENT HEALTH CENTER.... 12 OTHER PUBLIC_____16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 ARBEF CLINIC..... 22 OTHER PRIVATE MÉDICAL _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY)	
119I	How much did you pay on the whole for the hospitalisation?	PRICE : ☐☐☐☐☐☐ FREE……00000 DON'T KNOW……..99998	
119J	Which type of medical insurance do you currently have?	NONE .....1 RAMA MUTUAL .....2 OTHER MUTUAL INSURANCE .....3 OTHER NON-MUTUAL ----------6 (SPECIFY) DON'T KNOW 8	

SECTION 2: REPRODUCTION

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	Have you ever given birth to a boy or girl who was born alive but later died? Any baby who cried or showed signs of life but only survived 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 ..... ☐☐	
207A	Have you had any other children who were born alive and died after a few minutes, a few hours, or a few days?	YES .....1 NO..... 2	—▶208
207B	CORRECT 207 THEN CONTINUE WITH Q.208		
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 ☐————		—▶226

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?	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 ALIVE: RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD)	220 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.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME)?
01	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	
02	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
03	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
04	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
05	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
06	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
07	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	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?	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 ALIVE: RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD)	220 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.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME)?
08	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
09	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
10	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
11	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2
12	SING....1 MULT...2	BOY .. 1 GIRL . 2	MONTH ☐☐ YEAR ☐☐☐☐	YES.....1 NO.....2 → 220	AGE IN YEARS ☐☐	YES..... 1 NO 2	LINE NUMBER ☐☐ → (NEXT BIRTH)	DAYS..... 1 ☐☐ MONTHS. 2 ☐☐ YEARS .... 3 ☐☐	YES ..... 1 NO 2

222	Have you had any live births since the birth of (NAME OF LAST BIRTH)?	YES ..... 1 (ADD BIRTH AT Q212) ↲ NO 2	
223	COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME ☐ → 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. NUMBERS ARE DIFFERENT ☐ → (PROBE AND RECONCILE)		☐ ☐ ☐ ☐
224	CHECK 215 AND ENTER THE NUMBER OF BIRTHS IN 2000 OR LATER. IF NONE, RECORD '0'.		☐

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
225	FOR EACH BIRTH SINCE JANUARY 2000, RECORD 'B' NEXT TO THE MONTH OF BIRTH IN THE CALENDAR FOR EACH BIRTH ASK THE NUMBER OF MONTHS THAT THE PREGNANCY LASTED AND RECORD 'P' IN EACH OF THE PRECEDING MONTHS ACCORDING TO THE DURATION OF THE PREGNANCY (NOTE : THE NUMBER OF 'P' MUST BE LESS THAN '1' THAN THE NUMBER OF MONTHS THE PREGNANCY LASTED). RECORD THE NAME OF THE CHILD TO THE LET OF THE CODE 'B'.		
226	Are you pregnant now?	YES ..... 1 NO ..... 2 UNSURE 8	▶229
227	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS. ENTER 'P's IN THE CALENDAR, BEGINNING WITH THE MONTH OF INTERVIEW AND FOR THE TOTAL NUMBER OF COMPLETED MONTHS.	MONTHS..... ☐☐	
228	At the time you became pregnant did you want to become pregnant 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	
229	Have you ever had a pregnancy that miscarried, was aborted, or ended in a stillbirth?	YES ..... 1 NO 2	▶237
230	When did the last such pregnancy end?	MONTH..... ☐☐ YEAR ..... ☐☐☐☐	
231	CHECK 230: LAST BIRTH ENDED IN JAN. 2000 OR LATER ▼ LAST BIRTH ENDED BEFORE JAN. 2000		▶237
232	How many months pregnant were you when the last such 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..... ☐☐	
233	Since January 1999 **(1)**, have you had any other pregnancies that did not result in a live birth?	YES ..... 1 NO 2	▶237
234	ASK THE DATE AND THE DURATION OF PREGNANCY FOR EACH EARLIER NON-LIVE BIRTH PREGNANCY BACK TO JANUARY 2000. ENTER 'T' IN COLUMN 1 OF CALENDAR IN THE MONTH THAT EACH PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.		
235	Did you have any pregnancies that terminated before 2000 that did not result in a live birth?	YES ..... 1 NO 2	▶237
236	When did the last such pregnancy that terminated before 2000 end?	MONTH ..... ☐☐ YEAR..... ☐☐☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
237	When did your last menstrual period start? _____ (DATE, IF GIVEN)	DAYS AGO.....1 ☐☐ WEEKS AGO .....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO .....4 ☐☐ IN MENOPAUSE/ HAS HAD HYSTERECTOMY ..... 994 BEFORE LAST BIRTH..... 995 NEVER MENSTRUATED..... 996	
238	From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant if she has sexual relations?	YES ..... 1 NO..... 2 DON'T KNOW 8	▶240
239	Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?	JUST BEFORE HER PERIOD BEGINS.... 1 DURING HER PERIOD..... 2 RIGHT AFTER HER PERIOD HAS ENDED..... 3 HALFWAY BETWEEN TWO PERIODS.... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
240	Are there children who depend entirely on you ?	YES ..... 1 NO …… .2	▶301
241	Are there some children aged below 18 years among those who depend entirely on you?	YES ..... 1 NO …… .2	▶301
242	Now, I would like you to tell about children under 18 who entirely depend on you Have you made arrangements of the person who would take care of the children in case you fall sick or in case you become unable to support them.	YES ..... 1 NO..... 2 UNSURE 8	

SECTION 3. CONTRACEPTION

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 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 301, ASK 302.

301	Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)?		302 Have you ever used (METHOD)?
01	FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES.....1 NO .....2 ▼	Have you ever had an operation to avoid having any more children? YES.....1 NO.....2
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES.....1 NO .....2 ▼	Have you ever had a partner who had an operation to avoid having any more children? YES.....1 NO.....2
03	PILL Women can take a pill every day to avoid becoming pregnant.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
04	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
05	INJECTABLES Women can have an injection by a health provider which stops them from becoming pregnant for one or more months.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
06	IMPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
07	CONDOM Men can put a rubber sheath on their penis before sexual intercourse.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
08	FEMALE CONDOM Women can place a sheath in their vagina before sexual intercourse.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
09	DIAPHRAGM Women can place a thin flexible disk in their vagina before intercourse.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
10	FOAM OR JELLY Women can place a suppository, jelly, or cream in their vagina before intercourse.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
11	LACTATIONAL AMENORRHEA METHOD (LAM) Up to 6 months after childbirth, a woman can use a method that requires that she breastfeeds frequently, day and night, and that her menstrual period has not returned.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
12	RHYTHM OR PERIODIC ABSTINENCE Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on the days of the month she is most likely to get pregnant.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
12A	BEADS /STANDARD DAYS METHOD (SDM) The woman know days of the month when she can get pregnant by using beads or calendar	YES.....1 NO .....2 ▼	YES.....1 NO.....2
13	WITHDRAWAL Men can be careful and pull out before climax.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
14	EMERGENCY CONTRACEPTION Women can take pills up to three days after sexual intercourse to avoid becoming pregnant.	YES.....1 NO .....2 ▼	YES.....1 NO.....2
15	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES.....1 _____ (SPECIFY) _____ (SPECIFY) NO 2	YES.....1 NO.....2 YES.....1 NO.....2

303	CHECK 302:				
	NOT A SINGLE "YES" (NEVER USED) ▼	☐	AT LEAST ONE "YES" (EVER USED)	☐	—▶307

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
304	Have you ever used anything or tried in any way to delay or avoid getting pregnant?	YES ..... 1 NO 2	→32 9
306	What have you used or done? CORRECT 302 AND 303 (AND 301 IF NECESSARY).		
307	Now I would like to ask you about the first time that you did something or used a method to avoid getting pregnant. How many living children did you have at that time, if any? IF NONE, RECORD '00'.	NUMBER OF CHILDREN ..... ☐☐	
308	CHECK 302 (01): WOMAN NOT STERILIZED ☐ ▼ WOMAN STERILIZED ☐		→311A
309	CHECK 226: NOT PREGNANT OR UNSURE ☐ ▼ PREGNANT ☐		→32 9
310	Are you currently doing something or using any method to delay or to avoid getting pregnant?	YES ..... 1 NO 2	→32 9
311 311A	Which method are you using? CIRCLE 'A' FOR FEMALE STERILIZATION. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD ON LIST.	FEMALE STERILIZATION ..... A MALE STERILIZATION ..... B PILL ..... C IUD ..... D INJECTABLES ..... E IMPLANTS ..... F CONDOM ..... G FEMALE CONDOM ..... H DIAPHRAGM ..... I FOAM/JELLY ..... J LACTATIONAL AMEN. METHOD ..... K PERIODIC ABSTINENCE ..... L WITHDRAWAL ..... M OTHER _____ X (SPECIFY)	→316A
313	In what facility did the sterilization take place? IF SOURCE IS GOVERNMENTAL HOSPITAL, GOVERNMENT ASSISTED 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) IF THE CODES 'A' AND 'B' WERE CIRCLED IN 311, ASK 313-317 ABOUT FEMALE STERILISATION ONLY	PUBLIC SECTOR GOVT. HOSPITAL ..... 11 GOVT. ASSISTED HOSP. ..... 12 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 PRIVATE DOCTOR ..... 23 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY) DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
314	CHECK 311: CODE 'A' CIRCLED ☐ ▼ Before your sterilization operation, were you told that you would not be able to have any (more) children because of the operation? CODE 'A' NOT CIRCLED ☐ ▼ Before the sterilization operation, was your husband/partner told that he would not be able to have any (more) children because of the operation?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
316	In what month and year was the sterilization performed?		
316A	For how long have you been using (I[st] METHOD LISTED IN Q.311) without stopping? PROBE: In what month and year did you start using (I[st] METHOD of Q.311) continuously?	MONTH ..... ☐☐ YEAR ..... ☐☐☐☐	
316B	CHECK 316/316A, 215 AND 230: ANY BIRTH IN 215 OR PREGNANCY IN 230TERMINATION AFTER MONTH YES ☐ ▼ NO ☐ ▼ AND YEAR OF START OF USE OF CONTRACEPTION IN 316/316A GO BACK TO 316/316A, PROBE AND RECORD MONTH AND YEAR AT START OF CONTINUOUS USE OF CURRENT METHOD (MUST BE AFTER LAST BIRTH OR PREGNANCY TERMINATION).		
317	VÉRIFIER 316/316A : L'ANNÉE EST 2000 OU PLUS TARD ☐ ▼ L'ANNEÉ EST 1999 OU AVANT ☐		→▶327
319	CHECK 311/311A: CIRCLE METHOD CODE IF MORE THAN ONE METHOD CODE CIRCLED IN 311/311A, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION ..... 01 MALE STERILIZATION ..... 02 PILL ..... 03 IUD ..... 04 INJECTABLES ..... 05 IMPLANTS ..... 06 CONDOM ..... 07 FEMALE CONDOM ..... 08 DIAPHRAGM ..... 09 FOAM/JELLY ..... 10 MAMA ..... 11 STANDARD DAYS METHOD ..... 13 WITHDRAWAL ..... 14 ABSTINENCE ..... 15 OTHER METHOD 96	→▶322 →▶331 →▶320A →▶331

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
320	Where did you obtain (CURRENT METHOD) when you started using it?	PUBLIC SECTOR GOVT. HOSPITAL ..... 11 GOVT. HEALTH CENTER ..... 12 NURSE ..... 13 OTHER PUBLIC _____ 16 (SPECIFY)	
320A	Where did you learn to use the MAMA/SDM method? IF SOURCE IS GOVERNMENT HOSPITAL, GOVERNMENT ASSISTED HEALTH FACILITY, HEALTH CENTERS OR CLINIC, A NURSE, WRITE THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. _____ (NAME OF PLACE)	PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 PHARMACY ..... 22 PRIVATE DOCTOR ..... 23 ARBEF CLINIC ..... 24 FIELDWORKER ..... 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER SOURCE SHOP ..... 31 CHURCH ..... 32 PARENTS/ FRIEND ..... 33 OTHER _____ 96 (SPECIFY)	
321	CHECK 311/311A: CIRCLE METHOD CODE: IF MORE THAN ONE METHOD CODE CIRCLED IN 311/311A, CIRCLE CODE FOR HIGHEST METHOD IN LIST.	PILL ..... 03 IUD ..... 04 INJECTABLES ..... 05 IMPLANTS ..... 06 CONDOM ..... 07 FEMALE CONDOM ..... 08 DIAPHRAGM ..... 09 FOAM/JELLY ..... 10 LACTATIONAL AMEN.(MAMA) ..... 11 STANDARDS DAYS METHOD 12	→327 →326
322	You first obtained (CURRENT METHOD) from (SOURCE OF METHOD FROM 313 OR 320). At that time, were you told about side effects or problems you might have with the method?	YES ..... 1 NO 2	→324
323	Were you ever told by a health or family planning worker about side effects or problems you might have with the method?	YES ..... 1 NO 2	→325
324	Were you told what to do if you experienced side effects or problems?	YES ..... 1 NO 2	
325	CHECK 322: CODE '1' CIRCLED → At that time, were you told about other methods of family planning that you could use? CODE '1' NOT CIRCLED → When you obtained (CURRENT METHOD) from (SOURCE OF METHOD FROM 313 OR 320), were you told about other methods of family planning that you could use?	YES ..... 1 NO 2	→327
326	Were you ever told by a health or family planning worker about other methods of family planning that you could use?	YES ..... 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
327	CHECK 311/311A: CIRCLE METHOD CODE:	FEMALE STERILIZATION ..... 01 PILL ..... 03 IUD ..... 04 INJECTABLES ..... 05 IMPLANTS ..... 06 CONDOM ..... 07 FEMALE CONDOM ..... 08 DIAPHRAGM ..... 09 FOAM/JELLY ..... 10 MAMA ..... 11 BEADS /SDM 12	→33 1 →33 1 →33 1
328	Where did you obtain (CURRENT 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 GOVT. HOSPITAL ..... 11 GOVT. HEALTH CENTER ..... 12 NURSE ..... 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 PHARMACY ..... 22 PRIVATE DOCTOR ..... 23 ARBEF CLINIC ..... 24 FIELDWORKER ..... 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER SOURCE SHOP ..... 31 CHURCH ..... 32 PARENTS/ FRIEND ..... 33 OTHER _____ 96 (SPECIFY)	
328A	Did you obtain this method within the last four weeks?	YES ..... 1 NO 2	→33 1
328B	How much did you spend on this method including fees for the consultation and purchasing the method?	COST : ☐☐☐☐☐ FREE ..... 00000 DON'T KNOW 99998	→331
329	Do you know of a place where you can obtain a method of family planning?	YES ..... 1 NO 2	→331

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
330	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) RECORD ALL PLACES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER ..... B AGENT DBC ..... C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... E PHARMACY ..... F PRIVATE DOCTOR ..... G ARBEF CLINIC ..... H INFIRMARY ..... I OTHER PRIVATE MEDICAL _____ J (SPECIFY) OTHER SOURCE SHOP ..... K CHURCH ..... L PARENTS/ FRIEND ..... M OTHER _____ X (SPECIFY)	
331	In the last 12 months, were you visited by a fieldworker who talked to you about family planning?	YES ..... 1 NO 2	
332	In the last 12 months, have you visited a health facility for care for yourself (or your children)?	YES ..... 1 NO 2	—▶401
333	Did any staff member at the health facility speak to you about family planning methods?	YES ..... 1 NO 2	

SECTION 4A. PREGNANCY, POSTNATAL CARE AND BREASTFEEDING

401	CHECK 224: ONE OR MORE BIRTHS IN 2000 OR LATER ▼ NO BIRTHS IN 2000 OR LATER → 487		
402	ENTER IN THE TABLE THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2000 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 2 BIRTHS, USE LAST COLUMN OF ADDITIONAL QUESTIONNAIRES). Now I would like to ask you some questions about the health of all your children born in the last five years. (We will talk about each separately)		
403	LINE NUMBER FROM 212	LAST BIRTH LINE NUMBER ..... **FROM Q212**	NEXT-TO-LAST BIRTH LINE NUMBER ..... **FROM Q212**
404	FROM 212 AND 216	NAME _____ LIVING ▼ DEAD ▼	NAME _____ LIVING ▼ DEAD ▼
405	At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u>, did you want to wait until <u>later</u>, or did you <u>not want</u> to have any (more) children at all?	THEN ..... 1 (SKIP TO 407) ◄ LATER ..... 2 NOT AT ALL ..... 3 (SKIP TO 407) ◄	THEN ..... 1 (SKIP TO 423) ◄ LATER ..... 2 NOT AT ALL ..... 3 (SKIP TO 423) ◄
406	How much longer would you like to have waited?	MONTHS ..... 1 YEARS ..... 2 DON'T KNOW /DEPENDS 98	MONTHS ..... 1 YEARS ..... 2 DON'T KNOW /DEPENDS 98
407	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/MID-WIFE/ AUXILIARY MIDWIFE ..... B OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT ..... C UNTRAINED TRAD. BIRTH ATTENDANT ..... D OTHER _____ X (SPECIFY) NO ONE ..... Y (SKIP TO 415) ◄	
408	How many months pregnant were you when you first received antenatal care for this pregnancy?	MONTHS ..... DON'T KNOW 98	
409	How many times did you receive antenatal care during this pregnancy?	NUMBER OF TIMES .... DON'T KNOW 98	

		LAST BIRTH NAME_____	NEXT TO LAST BIRTH NAME_____
409A	Where did you go for the last prenatal visit? 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) RECORD ALL THAT ARE MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER..... B OTHER PUBLIC _____ C (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... D PRIVATE DOCTOR ..... E ARBEF CLINIC ..... F INFIRMARY ..... G OTHER PRIVATE MEDICAL _____ H (SPECIFY) OTHER _____ X (SPECIFY)	
409B	Was this consultation done within the last four weeks?	YES ..... 1 NO ..... 2 (SKIP TO 410) ◄——┘	
409C	How much did you spend on that prenatal consultation?	COST : ☐☐☐☐☐ FREE ..... 00000 DON'T KNOW 99998	
409D	Are there (other) medical expenses incurred for that prenatal visit, paid in the pharmacy?	YES ..... 1 NO ..... 2 (SKIP TO 410) ◄——┤ DON'T KNOW 8	
409E	How much did you spend to the pharmacy for the medicine?	COST : ☐☐☐☐☐ DON'T KNOW 9998	
410	CHECK 409: NUMBER OF TIMES RECEIVED ANTENATAL CARE	ONCE ☐ ▼ (SKIP TO 412) MORE THAN ONCE OR DK ☐ ▼	
411	How many months pregnant were you the last time you received antenatal care?	MONTHS..... ☐☐ DON'T KNOW 98	
412	During this pregnancy, were any of the following done at least once? Were you weighed? Was your height measured? Was your blood pressure measured? Did you give a urine sample? Did you give a blood sample?	YES NO WEIGHT ..... 1 2 HEIGHT ..... 1 2 BLOOD PRESSURE ..... 1 2 URINE SAMPLE ..... 1 2 BLOOD SAMPLE 1 2	
413	Were you told about the signs of pregnancy complications?	YES ..... 1 NO ..... 2 (SKIP TO 415) ◄——┤ DON'T KNOW 8	
414	Were you told where to go if you had these complications?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

		LAST BIRTH NAME_____	NEXT TO LAST BIRTH NAME_____
415	During this pregnancy, 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 417) ◄ DON'T KNOW 8	
416	During this pregnancy, how many times did you get this injection?	TIMES ..... ☐ DON'T KNOW 8	
417	During this pregnancy, were you given or did you buy any iron tablets? SHOW TABLETS	YES ..... 1 NO ..... 2 (SKIP TO 419) ◄ DON'T KNOW 8	
418	During the whole pregnancy, for how many days did you take the tablets of iron? IF ANSWER IS NOT NUMERIC, PROBE FOR APPROXIMATE NUMBER OF DAYS.	NUMBER OF DAYS ..... ☐☐☐ DON'T KNOW 998	
419	During this pregnancy, did you have difficulty with your vision during the daylight?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
420	During this pregnancy, did you suffer from night blindness [USE LOCAL TERM]?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
421	During this pregnancy, did you take any drugs to prevent you from getting malaria?	YES ..... 1 NO ..... 2 (SKIP TO 423) ◄ DON'T KNOW 8	
422	What drugs did you take? RECORD ALL MENTIONED. IF TYPE OF DRUG IS NOT DETERMINED, SHOW TYPICAL ANTIMALARIAL DRUGS TO RESPONDENT.	SP/FANSIDAR. ..... A AMODIAQUINE ..... B OTHER_____ X (SPECIFY) NE SAIT PAS ..... Z *<vérifier avec Lutte contre le Palu>*	
422A	CHECK 422 TYPE OF ANTIMALARIAL DRUG USED DURING PREGNANCE	CODE '' A'' CIRCLED ☐ ↓ CODE ''A'' UNCIRCLED ☐ ↓ (SKIP TO 423)	
422B	How many times did you use SP/Fansidar during this pregnancy	NUMBER OF TIMES..... ☐☐	
422C	CHECK 407 : TYPE OF PERSON WHO PROVIDED THE PRENATAL CARE DURING THIS PREGNANCY	CODE '' A'' CIRCLED ☐ ↓ OTHER CODE ' CIRCLED ☐ ↓ (SKIP TO 423)	
422D	Did you get the SP/Fansidar during an antenatal visit, during another visit to a health facility or from some other source?	PRENATAL VISIT ..... 1 OTHER MEDICAL VISIT ..... 2 OTHER SOURCE _____ 6 (SPECIFY)	

		LAST BIRTH NAME_____	NEXT TO LAST BIRTH NAME_____
423	When (NAME) was born, was he/shevery 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
424	Was (NAME) weighed at birth?	YES ..... 1 NO ..... 2 (SKIP TO 426) ◄ DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 426) ◄ DON'T KNOW 8
425	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
426	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/ MEDICAL ASSISTANT ..... B OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT ..... C UNTRAINED TRAD. BIRTH ATTENDANT ..... D PARENTS/FRIEND ..... E OTHER _____ X (SPECIFY) NO ONE ..... Y	HEALTH PROFESSIONAL DOCTOR ..... A NURSE/MIDWIFE/ MEDICAL ASSISTANT ..... B OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT ..... C UNTRAINED TRAD. BIRTH ATTENDANT ..... D PARENTS/FRIEND ..... E OTHER _____ X (SPECIFY) NO ONE ..... Y
427	Where did you give birth to (NAME)? 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)	HOME YOUR HOME ..... 11 (SKIP TO 429) ◄ OTHER HOME ..... 12 PUBLIC SECTOR GOVT. HOSPITAL ..... 21 GOVT. HEALTH CENTER ..... 22 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... 31 OTHER PVT. MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 429) ◄	HOME YOUR HOME ..... 11 (SKIP TO 429) ◄ OTHER HOME ..... 12 PUBLIC SECTOR GOVT. HOSPITAL ..... 21 GOVT. HEALTH CENTER ..... 22 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... 31 OTHER PVT. MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 429) ◄

427A	CHECK 427 FOR THE LAST BIRTH: WAS BORN IN A HEALTH FACILITY? YES ☐ ▼ NO ☐ _____	→428
427B	CHECK 427 FOR THE LAST BIRTH: WAS BORN IN THE LAST FOUR MONTHS? YES ☐ ▼ NO ☐ _____	→428

		LAST BIRTH NAME_____	NEXT TO LAST BIRTH NAME_____
427C	How much did you pay to the facility for the delivery?	COST : ☐☐☐☐☐ FREE..... 00000 DON'T KNOW.....99998	
427 D	Are there other medical expenses incurred for the delivery which you paid to a pharmacy?	YES..... 1 NO..... 2 (SKIP TO 428) ◄——┤ DON'T KNOW..... 8	
427E	How much did you pay the pharmacy for the medicine(s)?	COST : ☐☐☐☐☐ DON'T KNOW.....99998	
428	Was (NAME) delivered by caesarian section?	YES..... 1 (SKIP TO 433) ◄——┤ NO..... 2	YES..... 1 (SKIP TO 435) ◄——┤ NO..... 2
429	After (NAME) was born, did a health professional or a traditional birth attendant check on your health?	YES..... 1 NO..... 2 (SKIP TO 433) ◄——┘	YES..... 1 NO..... 2
430	How many days or weeks after the delivery did the first post-natal check take place? RECORD '00' DAYS IF SAME DAY.	DAYS AFTER DEL..... 1 ☐☐ WEEKS AFTER DEL .. 2 ☐☐ DON'T KNOW.....98	
431	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON.	HEALTH PROFESSIONAL DOCTOR.....11 NURSE/MIDWIFE/ MEDICAL ASSISTANT .....12 OTHER PERSON TRAINED TRADITIONAL BIRTH ATTENDANT.....21 UNTRAINED TRADITIONAL BIRTH ATTENDANT.....22 OTHER _____ 96 (SPECIFY)	
432	Where did this first visit 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)	HOME YOUR HOME.....11 OTHER HOME.....12 PUBLIC SECTOR GOVT. HOSPITAL .....21 GOVT. HEALTH CENTER.....22 DISPENSARY.....23 OTHER PUBLIC _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....31 OTHER PVT. MEDICAL _____ 36 (SPECIFY) OTHER _____ 96 (SPECIFY)	
432A	Was this post-natal check done in the last four weeks?	YES..... 1 NO..... 2 (SKIP TO 433) ◄——┘	

		LAST BIRTH NAME_____	NEXT TO LAST BIRTH NAME_____
432B	How much did you spend on this post-natal exam?	COST : ☐☐☐☐☐ FREE..... 00000 DON'T KNOW..... 99998	
432 C	Are there other medical expenses incurred on this post-natal visit which you paid the pharmacy	YES..... 1 NO..... 2 (SKIP TO 433) ◄ DON'T KNOW..... 8	
432D	How much did you pay to the pharmacy for the medicine?	COST : ☐☐☐☐☐ DON'T KNOW..... 99998	
433	In the first two months after delivery, did you receive a vitamin A dose like this? SHOW AMPULE/CAPSULE/SYRUP.	YES..... 1 NO..... 2	
434	Has your period returned since the birth of (NAME)?	YES.....1 (SKIP TO 436) ◄ NO.....2 (SKIP TO 437) ◄	
433A	Have you ever suffered from an obstetrical fistule ? (SICKNESS CHARACTERIZED BY THE INCONTROLABLE FLOW OF URINE AND/OR FECES FROM THE VAGINA DUE TO A PERFORATION IN THE WALL OF THE VAGINA)	YES..... 1 NO..... 2	
433B	Did you go to a health establishment to seek medical care?	YES..... 1 NO..... 2	
435	Did your period return between the birth of (NAME) and your next pregnancy?		YES..... 1 NO..... 2 (SKIP TO 439) ◄
436	For how many months after the birth of (NAME) did you <u>not</u> have a period?	MONTHS..... ☐☐ DON'T KNOW..... 98	MONTHS..... ☐☐ DON'T KNOW..... 98
437	CHECK 226: IS RESPONDENT PREGNANT?	NOT PREG-NANT ▼ ☐ PREGNANT OR UNSURE ☐ (SKIP TO 439) ◄	
438	Have you resumed sexual relations since the birth of (NAME)?	YES.....1 NO.....2 (SKIP TO 440) ◄	
439	For how many months after the birth of (NAME) did you <u>not</u> have sexual relations?	MONTHS..... ☐☐ DON'T KNOW..... 98	MONTHS..... ☐☐ DON'T KNOW..... 98
440	Did you ever breastfeed (NAME)?	YES..... 1 NO..... 2 (SKIP TO 447) ◄	YES..... 1 NO..... 2 (SKIP TO 447) ◄
441	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..... 00 HOURS .....1 ☐☐ DAYS .....2 ☐☐	IMMEDIATELY..... 00 HOURS .....1 ☐☐ DAYS.....2 ☐☐

		LAST BIRTH NAME_____	NEXT TO LAST BIRTH NAME_____
442	In the first three days after delivery, before your milk began flowing regularly, was (NAME) given anything to drink other than breast milk?	YES ..... 1 NO ..... 2 (SKIP TO 444) ◄——┘	YES ..... 1 NO ..... 2 (SKIP TO 444) ◄——┘
443	What was (NAME) given to drink before your milk began flowing regularly? Anything else? RECORD ALL LIQUIDS MENTIONED	MILK (OTHER THAN BREAST MILK) ..... A PLAIN WATER ..... B SUGAR OR GLUCOSE WATER ..... C GRIPE WATER FOR COLIC ..... D SUGAR-SALT-WATER SOLUTION ..... E FRUIT JUICE ..... F INFANT FORMULA ..... G TEA/INFUSIONS ..... H HONEY ..... I OTHER _____ X (SPECIFY)	MILK (OTHER THAN BREAST MILK) ..... A PLAIN WATER ..... B SUGAR OR GLUCOSE WATER ..... C GRIPE WATER FOR FOLIC ..... D SUGAR-SALT-WATER SOLUTION ..... E FRUIT JUICE ..... F INFANT FORMULA ..... G TEA/INFUSIONS ..... H HONEY ..... I OTHER _____ X (SPECIFY)
444	CHECK 404: IS CHILD LIVING?	LIVING ▼ DEAD ▼ (SKIP TO 446)	LIVING ▼ DEAD ▼ (SKIP TO 446)
445	Are you still breastfeeding (NAME)?	YES ..... 1 (SKIP TO 448) ◄——┘ NO 2	YES ..... 1 (SKIP TO 448) ◄——┘ NO 2
446	For how many months did you breastfeed (NAME)?	MONTHS ..... ☐☐ DON'T KNOW 98	MONTHS ..... ☐☐ DON'T KNOW 98
447	CHECK 404: IS CHILD LIVING?	LIVING ▼ (SKIP TO 450) DEAD ▼ (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 454)	LIVING ▼ (SKIP TO 450) DEAD ▼ (GO BACK TO 405 IN LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 454)
448	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 . ☐☐
449	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 .. ☐☐
450	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
451	Was sugar added to any of the foods or liquids (NAME) ate yesterday?	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
452	How many <u>times</u> did (NAME) eat solid, semisolid, or soft foods other than liquids yesterday during the day or at night? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES ..... ☐ DON'T KNOW 8	NUMBER OF TIMES ..... ☐ DON'T KNOW 8
453		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 454.	GO BACK TO 405 IN LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 454.

SECTION 4B. IMMUNIZATION, HEALTH AND NUTRITION

454	ENTER IN THE TABLE THE LINE NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH SINCE JANUARY 2000 OR AFTER. (IF THERE ARE MORE THAN 2 BIRTHS, USE LAST COLUMN OF ADDITIONAL QUESTIONNAIRES).		
455	LINE NUMBER FROM 212	LAST BIRTH LINE NUMBER ..... ☐☐	NEXT-TO-LAST BIRTH LINE NUMBER ..... ☐☐
456	FROM 212 AND 216	NAME _____ LIVING ☐ DEAD ☐ (GO TO 456 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 484)	NAME _____ LIVING ☐ DEAD ☐ (GO TO 456 IN LAST COLUMN OF NEW QUESTIONNAIRE OR, IF NO MORE BIRTHS, GO TO 484)
457	Did (NAME) receive a vitamin A dose like this during the last 6 months? SHOW AMPULE/CAPSULE/SYRUP.	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
458	Do you have a card where (NAME'S) vaccinations are written down? IF YES: May I see it please?	YES, SEEN ..... 1 (SKIP TO 460) YES, NOT SEEN ..... 2 (SKIP TO 462) NO CARD 3	YES, SEEN ..... 1 (SKIP TO 460) YES, NOT SEEN ..... 2 (SKIP TO 462) NO CARD 3
459	Did you ever have a vaccination card for (NAME)?	YES ..... 1 (SKIP TO 462) NO 2	YES ..... 1 (SKIP TO 462) NO 2
460	(1) COPY VACCINATION DATE 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. BCG POLIO 0 (POLIO GIVEN AT BIRTH) POLIO 1 POLIO 2 POLIO 3 DPT 1 DPT 2 DPT 3 MEASLES VITAMIN A (MOST RECENT)	DAY MONTH YEAR BCG ..... P0..... P1..... P2..... P3..... D1 ..... D2 ..... D3 ..... MEA ..... VIT. A....	DAY MONTH YEAR BCG ..... P0..... P1..... P2..... P3..... D1 ..... D2 ..... D3 ..... MEA ..... VIT. A....

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
461	Has (NAME) received any vaccinations that are not recorded on this card, including vaccinations received in a national immunization day campaign? 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 460) (SKIP TO 466) NO ..... 2 (SKIP TO 466) DON'T KNOW 8	YES ..... 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 460) (SKIP TO 466) NO ..... 2 (SKIP TO 466) DON'T KNOW 8
462	Did (NAME) ever receive any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign?	YES ..... 1 NO ..... 2 (SKIP TO 466) DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 466) DON'T KNOW 8
463	Please tell me if (NAME) received any of the following vaccinations.		
463A	A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar.	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
463B	Polio vaccine, that is, drops in the mouth?	YES ..... 1 NO ..... 2 (SKIP TO 463E) DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 463E) DON'T KNOW 8
463C	Was the first polio vaccine received in the first two week after birth or later?	FIRST TWO WEEKS ..... 1 LATER ..... 2 DON'T KNOW 8	FIRST TWO WEEKS ..... 1 LATER ..... 2 DON'T KNOW 8
463D	How many times was the polio vaccine received?	NUMBER OF TIMES ..... ☐	NUMBER OF TIMES ..... ☐
463E	A DPT vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops?	YES ..... 1 NO ..... 2 (SKIP TO 463G) DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 463G) DON'T KNOW 8
463F	How many times?	NUMBER OF TIMES ..... ☐	NUMBER OF TIMES ..... ☐
463G	An injection to prevent measles?	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
466	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
467	Has (NAME) had an illness with a cough at any time in the last 2 weeks?	YES ..... 1 NO ..... 2 (SKIP TO 469) DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 469) DON'T KNOW 8
468	When (NAME) had an illness 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
469	CHECK 466 AND 467: FEVER OR COUGH?	"YES" IN 466 OR 467 OTHER (SKIP TO 475)	"YES" IN 466 OR 467 OTHER (SKIP TO 475)
470	Did you seek advice or treatment for the fever/cough?	YES ..... 1 NO ..... 2 (SKIP TO 472)	YES ..... 1 NO ..... 2 (SKIP TO 472)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
471	Where did you seek advice or treatment? Anywhere else? RECORD ALL SOURCES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER. ..... B AGENT DBC ..... C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... E PHARMACY ..... F PRIVATE DOCTOR ..... G ARBEF CLINIC ..... H INFIRMARY ..... I OTHER PRIVATÉ MEDICAL _____ J (SPECIFY) OTHER SOURCE SHOP ..... K TRAD. PRACTIONER ..... L OTHER _____ X (SPECIFY)	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER. ..... B AGENT DBC ..... C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC ..... E PHARMACY ..... F PRIVATE DOCTOR ..... G ARBEF CLINIC ..... H INFIRMARY ..... I OTHER PRIVATÉ MEDICAL _____ J (SPECIFY) OTHER SOURCE SHOP ..... K TRAD. PRACTIONER ..... L OTHER _____ X (SPECIFY)
472	CHECK 466: HAD FEVER?	"YES" IN 466 → "NO"/"DK" IN 466 → (SKIP TO 475)	"YES" IN 466 → "NO"/"DK" IN 466 → (SKIP TO 475)
472A	Does (NAME) have fever now?	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
472B	Has (NAME) had convulsions at any time in the last 2 weeks?	YES ..... 1 NO ..... 2 DON'T KNOW 8	YES ..... 1 NO ..... 2 DON'T KNOW 8
472C	CHECK 466 and 472B: HAD FEVER OR CONVULSIONS?	"YES" IN 466 OR 472B →	"NO"/"DK" IN 466 → (SKIP TO 475)
473	Did (NAME) take any drugs for the fever?	YES ..... 1 NO ..... 2 (SKIP TO 474A) ◄ DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 474A) ◄ DON'T KNOW 8
474	What drugs did (NAME) take? RECORD ALL MENTIONED. ASK TO SEE DRUG(S) IF TYPE OF DRUG IS NOT KNOWN. IF TYPE OF DRUG IS STILL NOT DETERMINED, SHOW TYPICAL ANTIMALARIAL DRUGS TO RESPONDENT.	ANTI-MALARIALS SP/FANSIDAR ..... A AMODIAQUIN ..... B QUININE ..... C OTHER DRUGS ASPIRIN ..... D PANADOL ..... E IBUPROFEN/ACETAMINOPHEN . F OTHER _____ X (SPECIFY) DON'T KNOW ..... Z	ANTI-MALARIALS SP/FANSIDAR ..... A AMODIAQUIN ..... B QUININE ..... C OTHER DRUGS ASPIRIN ..... D PANADOL ..... E IBUPROFEN/ACETAMINOPHEN . F OTHER _____ X (SPECIFY) DON'T KNOW ..... Z
474A	Did (NAME) have an injection or a suppository have to treat (the fever/ convulsions)?	INJECTION ..... A SUPPOSITORY ..... B NONE ..... Y DON'T KNOW ..... Z	INJECTION ..... A SUPPOSITORY ..... B NONE ..... Y DON'T KNOW ..... Z
474B	CHECK 474 : WHICH MEDICINE?	CODE 'A' CIRCLED → CODE 'A' NOT CIRCLED → (SKIP TO 474F)	CODE 'A' CIRCLED → CODE 'A' NOT CIRCLED → (SKIP TO 474F)

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
474C	For how long after starting (the fever/ convulsions) did (NAME) start taking SP/Fansidar?	SAME DAY ..... 1 THE FOLLOWING DAY ..... 2 TWO DAYS AFTER ..... 3 THREE DAYS OR LONGER AFTER4 DON'T KNOW 8	SAME DAY ..... 1 THE FOLLOWING DAY ..... 2 TWO DAYS AFTER ..... 3 THREE DAYS OR LONGER AFTER4 DON'T KNOW 8
474D	How many successive days did (NAME) take SP/Fansidar? IF 7 DAYS + , RECORD 7	DAYS ..... ☐ DON'T KNOW 8	DAYS ..... ☐ DON'T KNOW 8
474E	Was the SP/Fansidar available at home or did you get it from some where else? IF MORE THAN ONE SOURCE MENTIONED, ASK Where did you get the SP/Fansidar first?	AT HOME ..... 1 OTHER SOURCE ..... 2 DON'T KNOW 8	AT HOME ..... 1 OTHER SOURCE ..... 2 DON'T KNOW 8
474F	CHECK 474 : WHICH MEDICINE?	CODE '' B'' CIRCLED ☐ CODE 'B' NOT CIRCLED ☐ ↓ (SKIP TO 474J)	CODE '' B'' CIRCLED ☐ CODE 'B' NOT CIRCLED ☐ ↓ (SKIP TO 474J)
474G	For how long after the start of the (fever/ convulsions) did (NAME) start taking the Amodiaquine?	SAME DAY ..... 1 THE FOLLOWING DAY ..... 2 TWO DAYS AFTER ..... 3 THREE DAYS OR LONGER AFTER4 DON'T KNOW 8	SAME DAY ..... 1 THE FOLLOWING DAY ..... 2 TWO DAYS AFTER ..... 3 THREE DAYS OR LONGER AFTER4 DON'T KNOW 8
474H	How many successive days did (NAME) take Amodiaquine? IF 7 DAYS + , RECORD 7	DAYS ..... ☐ DON'T KNOW 8	DAYS ..... ☐ DON'T KNOW 8
474I	Was the Amodiaquine available at home or did you get it from some where else? IF MORE THAN ONE SOURCE MENTIONED, ASK Where did you get the Amodiaquine first?	AT HOME ..... 1 OTHER SOURCE ..... 2 DON'T KNOW 8	AT HOME ..... 1 OTHER SOURCE ..... 2 DON'T KNOW 8
474J	CHECK 474 : WHICH MEDICINE?	CODE '' C'' CIRCLED ☐ CODE 'C' NOT CIRCLED ☐ ↓ (SKIP TO 474N)	CODE '' C'' CIRCLED ☐ CODE 'C' NOT CIRCLED ☐ ↓ (SKIP TO 474N)
474K	For how long after starting (the fever/ convulsions) did (NAME) start taking the quinine?	SAME DAY ..... 1 THE FOLLOWING DAY ..... 2 TWO DAYS AFTER ..... 3 THREE DAYS OR LONGER AFTER4 DON'T KNOW 8	SAME DAY ..... 1 THE FOLLOWING DAY ..... 2 TWO DAYS AFTER ..... 3 THREE DAYS OR LONGER AFTER4 DON'T KNOW 8
474L	How many successive days did (NAME) take quinine? IF 7 DAYS + , RECORD 7	DAYS ..... ☐ DON'T KNOW 8	DAYS ..... ☐ DON'T KNOW 8
474 M	Was the quinine available at home or did you get it from somewhere else? IF MORE THAN ONE SOURCES MENTIONED; ASK Where did you get quinine first?	AT HOME ..... 1 OTHER SOURCE ..... 2 DON'T KNOW 8	AT HOME ..... 1 OTHER SOURCE ..... 2 DON'T KNOW 8
474N	Did (NAME) use other way (different) to treat (the fever/ convulsions)?	YES ..... 1 NO ..... 2 (SKIP TO 475) ◄ DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 475) ◄ DON'T KNOW 8

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
474O	What was done about the (fever/ convulsions) of (NAME)?	CONSULTED TRADITIONAL HEALER ..... A COMPRESS WITH A WET CLOTH . B HERBAL MEDICINES ..... C OTHER ---------- X (SPECIFY)	CONSULTED TRADITIONAL HEALER ..... A COMPRESS WITH A WET CLOTH . B HERBAL MEDICINES ..... C OTHER---------- X (SPECIFY)
475	Has (NAME) had diarrhea in the last 2 weeks?	YES ..... 1 NO ..... 2 (SKIP TO 483) ◄ DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 483) ◄ DON'T KNOW 8
476	Now I would like to know how much (NAME) was offered to drink during the diarrhea. Was he/she offered less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she offered much less than usual to drink or somewhat less?	MUCH LESS ..... 1 SOMEWHAT LESS ..... 2 ABOUT THE SAME ..... 3 MORE ..... 4 NOTHING TO DRINK ..... 5 DON'T KNOW 8	MUCH LESS ..... 1 SOMEWHAT LESS ..... 2 ABOUT THE SAME ..... 3 MORE ..... 4 NOTHING TO DRINK ..... 5 DON'T KNOW 8
477	When (NAME) had diarrhea, was he/she offered less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she offered much less than usual to eat or somewhat less?	MUCH LESS ..... 1 SOMEWHAT LESS ..... 2 ABOUT THE SAME ..... 3 MORE ..... 4 STOPPED FOOD ..... 5 NEVER GAVE FOOD ..... 6 DON'T KNOW 8	MUCH LESS ..... 1 SOMEWHAT LESS ..... 2 ABOUT THE SAME ..... 3 MORE ..... 4 STOPPED FOOD ..... 5 NEVER GAVE FOOD ..... 6 DON'T KNOW 8
478	Was he/she given any of the following to drink:	YES NO DK	YES NO DK
a	A liquid made from a special packet called SERUMU?	LIQUID FROM ORS PKT ... 1 2 8	LIQUID FROM ORS PKT ... 1 2 8
b	A government-recommended homemade liquid?	HOMEMADE LIQUID 1 2 8	HOMEMADE LIQUID 1 2 8
479	Was anything (else) given to treat the diarrhea?	YES ..... 1 NO ..... 2 (SKIP TO 481) ◄ DON'T KNOW 8	YES ..... 1 NO ..... 2 (SKIP TO 481) ◄ DON'T KNOW 8
480	What (else) was given to treat the diarrhea? Anything else? RECORD ALL TREATMENTS 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)
481	Did you seek advice or treatment for the diarrhea?	YES ..... 1 NO ..... 2 (SKIP TO 483) ◄	YES ..... 1 NO ..... 2 (SKIP TO 483) ◄

		LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____
482	Where did you seek advice or treatment? 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) Anywhere else? RECORD ALL PLACES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER ..... B AGENT DBC ..... C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC..... E PHARMACY..... F PRIVATE DOCTOR ..... G ARBEF CLINIC ..... H INFIRMARY ..... I OTHER PRIVATE MEDICAL _____ J (SPECIFY) OTHER SOURCE SHOP..... K TRAD. PRACTITIONER..... L OTHER _____ X (SPECIFY)	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER ..... B AGENT DBC ..... C OTHER PUBLIC _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC..... E PHARMACY..... F PRIVATE DOCTOR ..... G ARBEF CLINIC..... H INFIRMARY..... I OTHER PRIVATE MEDICAL _____ J (SPECIFY) OTHER SOURCE SHOP ..... K TRAD. PRACTITIONER..... L OTHER _____ X (SPECIFY)
483		GO BACK TO 456 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 486.	GO BACK TO 456 IN LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 486.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
486	CHECK 478A, ALL COLUMNS: NO CHILD RECEIVED LIQUID FROM ORS PACKET ▼ — A CHILD RECEIVED LIQUID FROM ORS PACKET		▶488
487	Have you ever heard of a special product called SERUMU you can get for the treatment of diarrhea?	YES ..... 1 NO 2	
488	CHECK 218: HAS ONE OR MORE CHILDREN LIVING WITH HER ▼ — HAS NO CHILDREN LIVING WITH HER		▶490
489	When (your child/one of your children) is seriously ill, can you decide by yourself whether or not the child should be taken for medical treatment? IF SAYS NO CHILD EVER SERIOUSLY ILL, ASK: If (your child/one of your children) became seriously ill, could you decide by yourself whether the child should be taken for medical treatment?	YES ..... 1 NO ..... 2 DEPENDS 3	
490	Now I would like to ask you some questions about medical care for you yourself. Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not?	BIG PROBLEM / NOT A BIG PROBLEM	
	Knowing where to go.	1 / 2	
	Getting permission to go.	1 / 2	
	Getting money needed for treatment.	1 / 2	
	The distance to a health facility.	1 / 2	
	Having to take transport.	1 / 2	
	Not wanting to go alone.	1 / 2	
	Concern that there may not be a female health provider.	1 / 2	
490A	Do you currently smoke cigarettes or tobacco? IF YES: What do you smoke? RECORD ALL THAT IS MENTIONED.	YES, CIGARETTES ..... A YES, PIPE ..... B YES, OTHER TOBACCO ..... C NO ..... Y	
490B	CHECK 490: CODE 'A' CIRCLED ▼ — CODE 'A' NOT CIRCLED		▶490 D
490C	In the last 24 hours, how many cigarettes did you smoke?	CIGARETTES ..... ☐☐	
490D	Do you know how people contract malaria in your community?	YES ..... 1 NO 2	▶490G
490E	How can they catch malaria? RECORD ALL THAT IS MENTIONED.	WHEN IT IS COLD ..... A WHEN IT IS HOT ..... B CHANGE OF SEASON ..... C MOSQUITOS ..... D HUGGING ..... E EXPOSURE TO THE SUN ..... F WITCHCRAFT /SORCERY ..... G OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
490F	What can you do to avoid catching malaria? RECORD ALL THAT IS MENTIONED.	REMAIN INDOORS ..... A SLEEP UNDER MOSQUITO-NET ..... B AVOID MOSQUITO BITES ..... C USE INSECTICIDES ..... D BURN LEAVES/BUSHES ..... E WEAR WARM CLOTHES ..... F TAKE ANTI-MALARIALS ..... G OTHER _____ X (SPECIFY) DON'T KNOW ..... Z	
490G	CHECK 226: CURRENTLY PREGNANT ☐ ▼ NOT PREGNANT OR NOT SURE ☐		→491
490H	Did you suffer from fever, at one unspecified moment, during the last two weeks?	YES ..... 1 NO 2	---►491
490I	Did you take anti fever drugs the last time you suffered ?	YES ..... 1 NO 2	---►491
490J	Which drugs did you take? TO ASK SEE THE MEDICINE(S). IF NOT SEEN, SHOW MEDICINES TO THE RESPONDENT RECORD ALL THAT ARE MENTIONED FOR EACH ANTI-MALARIA, ASK: How long after the fever started did you start taking it (NAME OF the DRUG)? CODES IN DAY: SAME DAY = 0 1 DAY AFTER FEVER = 1 2 DAYS AFTER FEVER = 2 3 DAYS OR MORE = 3	ANTIMALARIALS AMODIAQUINE ..... A FANSIDAR ..... B QUININE ..... C UNKNOWN MEDICINES ..... D OTHER ..... E OTHER MEDICAMENTS ASPIRIN ..... F PARACETAMOL ..... G OTHER ..... X DON'T KNOW ..... Z	SAME DAY=0 A DAY AFTER FEVER =1 TWO DAYS AFTER FEVER =2 THREE DAYS AFTER OR MORE =3 _____ _____ _____ _____ _____	
490K	In total, how much did you spend on drugs the last time you had fever?	COST :..... ☐☐☐☐☐ FREE..... 00000 DON'T KNOW 99998	
491	CHECK 215 AND 218: HAS AT LEAST ONE CHILD BORN IN 2002 OR LATER AND LIVING WITH HER ☐ ▼ RECORD NAME OF YOUNGEST CHILD LIVING WITH HER (AND CONTINUE TO 492) _____ (NAME) DOES NOT HAVE ANY CHILDREN BORN IN 2002 OR LATER AND LIVING WITH HER ☐		→499B

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
492	Now I would like to ask you about liquids (NAME FROM Q. 491) drank over the last seven days, including yesterday. How many <u>days</u> during last seven days did (NAME FROM Q. 491) drink each of the following? FOR EACH ITEM GIVEN AT LEAST ONCE IN LAST SEVEN DAYS, BEFORE PROCEEDING TO THE NEXT ITEM, ASK: In total, how many <u>times</u> yesterday during the day or at night did (NAME FROM Q. 491) drink (ITEM)?	LAST 7 DAYS NUMBER OF DAYS YESTERDAY/ LAST NIGHT NUMBER OF TIMES	
a	Plain water?	a ☐ ☐	a ☐ ☐
b	Commercially produced infant formula such as Cerelac, soya, sorgho?	b ☐ ☐	b ☐ ☐
c	Any other milk such as tinned, powdered, or fresh animal milk?	c ☐ ☐	c ☐ ☐
d	Natural fruit juice?	d ☐ ☐	d ☐ ☐
e	Other liquids such as sugar water, tea, coffee, sodas?	e ☐ ☐	e ☐ ☐
f	Broth or soup?	f ☐ ☐	f ☐ ☐
g	Any other liquid of any time?	g ☐ ☐	g ☐ ☐
	IF 7 OR MORE TIMES, RECORD '7'. IF DON'T KNOW, RECORD '8'.		
493	Now I would like to ask you about the types of foods (NAME FROM Q. 491) ate over the last seven days, including yesterday. How many <u>days</u> during last seven days did (NAME FROM Q. 491) eat each of the following foods either separately or combined with other food? FOR EACH ITEM GIVEN AT LEAST ONCE IN LAST SEVEN DAYS, BEFORE PROCEEDING TO THE NEXT ITEM, ASK: In total, how many <u>times</u> yesterday during the day or at night did (NAME FROM Q. 491) eat (ITEM)?	LAST 7 DAYS NUMBER OF DAYS YESTERDAY/ LAST NIGHT NUMBER OF TIMES	
a	Cereals and staple foods made from grains [porridge, sorgho, corn, rice, wheat, mush, other local cereals?	a ☐ ☐	a ☐ ☐
b	Pumpkin, red or yellow yams or squash, carrots, or red sweet potatoes?	b ☐ ☐	b ☐ ☐
c	Any other food made from roots or tubers [e.g. white potatoes, white yams, manioc, cassava, or other local roots/tubers]?	c ☐ ☐	c ☐ ☐
d	Any green leafy vegetables?	d ☐ ☐	d ☐ ☐
e	Mango, papaya [or other local Vitamin A rich fruits]?	e ☐ ☐	e ☐ ☐
f	Any other fruits and vegetables [e.g. bananas, apples, applesauce, green beans, avocados, tomatoes]?	f ☐ ☐	f ☐ ☐
g	Meat, poultry, fish, shellfish, or eggs?	g ☐ ☐	g ☐ ☐
h	Any food made from legumes [e.g. lentils, beans, soybeans, pulses, or peanuts]?	h ☐ ☐	h ☐ ☐
i	Cheese or yoghurt?	i ☐ ☐	i ☐ ☐
j	Any food made with oil, fat, or butter?	j ☐ ☐	j ☐ ☐
	IF 7 OR MORE TIMES, RECORD '7'. IF DON'T KNOW, RECORD '8'.		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
499B	Now I would like to ask you some questions about your health in the last six months. During the last six months, did you have an injection for any reason? IF YES: how many injections did you have? IF THE NUMBER OF INJECTIONS IS GREATER THAN '94', OR IF THEY WERE RECEIVED DAILY FOR THREE MONTHS OR MORE, RECORD '95'. IF THE RESPONSE IS NOT NUMERIC, PROBE TO HAVE A NUMERIC RESPONSE.	NUMBER OF INJECTIONS.. ☐☐ NONE……..00	—▶501
499C	Of these injections, how many were given by a doctor, nurse, pharmacist, dentist or other health personnel? IF THE NUMBER OF INJECTIONS IS GREATER THAN '94', OR IF THEY WERE RECEIVED DAILY FOR THREE MONTHS OR MORE, RECORD '95'. IF THE RESPONSE IS NOT NUMERIC, PROBE TO HAVE A NUMERIC RESPONSE.	NUMBER OF INJECTIONS.. ☐☐ NONE……..00	—▶501
499D	THE LAST TIME YOU HAD AN INJECTION, WHERE DID YOU GET IT FROM? If IT IS A HOSPITAL, A HEALTH CENTER OR A PRIVATE CLINIC, WRITE NAME OF THE FACILITY. INSIST TO DETERMINE TYPE OF SECTOR AND ENCIRCLE THE SUITABLE CODE. _____ (NAME OF THE FACILITY)	PUBLIC SECTOR GOVERNMENT HOSPITAL..... 11 GOVT. HEALTH CENTER..... 12 AGENT DBC ..... 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 DENTIST..... 22 PHARMACY..... 23 PRIVATE DOCTOR/NURSE..... 24 ARBEF CLINIC ..... 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY) OTHER PLACE HOME ..... 31 OTHER _____ 96 (SPECIFY)	
499E	The last time you had an injection, the person who carried out the injection took the syringe and needle from new packing and which was not open?	YES……1 NO……2 DON'T KNOW……8	

SECTION 5. MARRIAGE AND SEXUAL ACTIVITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	Are you currently married or living with a man?	YES, CURRENTLY MARRIED ..... 1 YES, LIVING WITH A MAN ..... 2 NO, NOT CURR. IN UNION 3	▶504
502	Have you ever been married or lived with a man?	YES, FORMERLY MARRIED ..... 1 YES, LIVED WITH A MAN ..... 2 NO, NEVER IN UNION 3	▶518
503	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED ..... 1 DIVORCED ..... 2 SEPARATED 3	▶510
504	Is your husband/partner living with you now or is he staying elsewhere?	LIVING WITH HER ..... 1 STAYING ELSEWHERE 2	
505	RECORD THE HUSBAND– NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NO. ..... ☐☐	
506	What age was your partner at the last anniversary?	AGE IN COMPLETED YRS .... ☐☐	
507	Does your husband/partner have any other wives besides yourself?	YES ..... 1 NO ..... 2 DON'T KNOW 8	▶510 ▶510
508	How many other wives does he have?	NUMBER. ..... ☐☐ DON'T KNOW 98	
509	Are you the first, second ... wife?	RANK ..... ☐☐	
510	Have you been married or lived with a man only once, or more than once?	ONCE ..... 1 MORE THAN ONCE 2	
511	CHECK 510: 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 ..... ☐☐☐☐ DON'T KNOW YEAR 9998	▶513
512	How old were you when you started living with him?	AGE ..... ☐☐	
513	CHECK 503: THE RESPONDENT IS A WIDOW? NOT ASKED OR NOT WIDOW ☐ ▼ WIDOW ☐ _____		▶516
514	CHECK 510: MARRIED MORE THAN ONCE ☐ ▼ MARRIED ONCE ☐ _____		▶518
515	How did your last union end?	DEATH/WIDOW ..... 1 DIVORCE ..... 2 SEPARATION 8	▶518

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
516	Who inherited the largest share of the wealth from your previous husband?	RESPONDENT .....1 ANOTHER WIFE.....2 CHILDREN.....3 FAMILY OF THE WIFE .....4 OTHER _____ 5 (SPECIFY) NO WEALTH.....6	—▶518
517	Did you receive any valuable possessions from your previous husband?	YES .....1 NO 2	
518	CHECK FOR PRESENCE OF OTHER PEOPLE BEFORE CONTINUING, DO EVERYTHING POSSIBLE TO ENSURE THAT YOU ARE IN PRIVACY		
519	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family life issues. How old were you when you first had sexual intercourse (if ever)?	NEVER..... 00 AGE IN YEARS …… ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER ... 95	—▶521 —▶521
520	Do you intend to wait until you are married to start having sexual intercourse?	YES……1 NO……2 DON'T KNOW/NOT SURE……..3	▶544
521	CHECK 106: 15-24 YEARS ☐ ▼ 25-49 YEARS ☐		–▶526
522	The first time you had sexual intercourse, was a condom used?	YES……1 NO……2 DON'T KNOW/DON'T REMEMBER…….8	–▶523 –▶523
522A	What was the main reason for using a condom at this time?	RESPONDENT WANTED TO PREVENT STD/HIV……1 RESPONDENT WANTED TO PREVENT PREGNANCY ……..……2 RESPONDENT WANTED TO PREVENT BOTH STD/HIV AND PREGNANCY. .. .3 DID NOT TRUST PARTNER/FELT PARTNER HAD OTHER PARTNERS ..4 PARTNER REQUESTED/INSISTED…….5 OTHER _____6 (SPECIFY) DON'T KNOW……8	
523	How old was the person with whom you had your first sexual relations?	AGE OF PARTNER…… ☐☐ DON'T KNOW……98	–▶526
524	Was this person older than you, younger than you, or was approximately the same age as you?	OLDER.....1 YOUNGER.....2 SAME AGE .....3 DK/DON'T REMEMBER.....8	▶526
525	Would you say that this person had ten years more than you or more, or less than ten years more than you?	TEN OR MORE YEARS……..……1 LESS THAN TEN YEARS……..…..2 OLDER, DK HOW MANY YEARS…….3	
526	When was the last time you had sexual relations?	_____DAYS AGO..... ☐☐☐ _____WEEKS AGO ..... ☐☐ _____MONTHS AGO..... ☐☐ _____YEARS AGO ..... ☐☐	

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
527	The last time you had sexual intercourse with this (second/third) person, was a condom used? **(2)**	YES .... 1 NO .... 2 (SKIP TO 529)	YES .... 1 NO .... 2 (SKIP TO 529)	YES .... 1 NO .... 2 (SKIP TO 529)
527A	What is the main reason that you used a condom?	RESPOND. WANTED TO AVOID STD .... 1 RESPOND. WANTED TO AVOID GETTING PREGNANT ...... 2 RESPOND. WANTED TO AVOID STD AND GETTING PREG. ... 3 RESPOND. DIDN'T HAVE CONFIDENCE IN PARTNER / SUSPECTED PARTNER OF HAVING SEX WITH OTHERS .... 4 PARTNER REQUESTED ...... 5 OTHER: ______ 6 (SPECIFY) DNK 7	.... 1 .... 2 .... 3 .... 4 .... 5 .... 6 7	.... 1 .... 2 .... 3 .... 4 .... 5 .... 6 7
528	Did you use a condom every time you had sexual intercourse with this person in the last 12 months?	YES .... 1 NO 2	YES .... 1 NO 2	YES .... 1 NO 2
529	The last time you had sexual intercourse with this (second/third) person, did you or this person drink alcohol?	YES .... 1 NO .... 2 (SKIP TO 531)	YES .... 1 NO .... 2 (SKIP TO 531)	YES .... 1 NO .... 2 (SKIP TO 531)
530	Were you or your partner drunk at that time? IF YES: Who was drunk?	RESPONDENT ONLY 1 PARTNER ONLY ... 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4	RESPONDENT ONLY 1 PARTNER ONLY ... 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4	RESPONDENT ONLY 1 PARTNER ONLY ... 2 RESPONDENT AND PARTNER BOTH . 3 NEITHER 4
531	What was your relationship to this person with whom you had sexual intercourse? IF BOYFRIEND/GIRLFRIEND: Were you living together as if married? IF YES, CIRCLE '02' IF NO, CIRCLE '03'	HUSBAND/WIFE ...... 01 (SKIP TO 537) LIVE-IN PARTNER .... 02 BOYFRIEND/GIRLFRIEND NOT LIVING WITH RESPONDENT .... 03 CASUAL ACQUAINTANCE .... 04 COMMERCIAL SEX WORKER .... 05 OTHER ______96 (SPECIFY)	HUSBAND/WIFE ...... 01 (SKIP TO 537) LIVE-IN PARTNER .... 02 BOYFRIEND/GIRLFRIEND NOT LIVING WITH RESPONDENT .... 03 CASUAL ACQUAINTANCE .... 04 COMMERCIAL SEX WORKER .... 05 OTHER ______96 (SPECIFY)	HUSBAND/WIFE ...... 01 (SKIP TO 537) LIVE-IN PARTNER .... 02 BOYFRIEND/GIRLFRIEND NOT LIVING WITH RESPONDENT .... 03 CASUAL ACQUAINTANCE .... 04 COMMERCIAL SEX WORKER .... 05 OTHER ______96 (SPECIFY)
532	For how long have you had sexual relations with this person? IF THE RESPONDENT HAD ONLY HAD SEXUAL RELATIONS ONE TIME, RECORD '01' DAYS.	DAYS. . . . . . 1 [ ][ ] WEEKS . . . 2 [ ][ ] MONTHS. . . 3 [ ][ ] YEARS 4 [ ][ ]	DAYS. . . . . . 1 [ ][ ] WEEKS . . . 2 [ ][ ] MONTHS. . . 3 [ ][ ] YEARS 4 [ ][ ]	DAYS. . . . . . 1 [ ][ ] WEEKS . . . 2 [ ][ ] MONTHS. . . 3 [ ][ ] YEARS 4 [ ][ ]
533	CHECK 103:	15-24 [ ] 25-49 [ ] (SKIP TO 537)	15-24 [ ] 25-49 [ ] (SKIP TO 537)	15-24 [ ] 25-49 [ ] (SKIP TO 537)
534	How old is this person?	AGE OF PARTNER [ ][ ] (SKIP TO 537) DON'T KNOW 98	AGE OF PARTNER [ ][ ] (SKIP TO 537) DON'T KNOW 98	AGE OF PARTNER [ ][ ] (SKIP TO 537) DON'T KNOW 98

		LAST SEXUAL PARTNER	SECOND-TO-LAST SEXUAL PARTNER	THIRD-TO-LAST SEXUAL PARTNER
535	Is this person older than you, younger than you, or about the same age?	OLDER . . . . . 1 YOUNGER . . . . . 2 SAME AGE . . . . . 3 DON'T KNOW . . . 8 (SKIP TO 537)	OLDER . . . . . 1 YOUNGER . . . . . 2 SAME AGE . . . . . 3 DON'T KNOW . . . 8 (SKIP TO 537)	OLDER . . . . . 1 YOUNGER . . . . . 2 SAME AGE . . . . . 3 DON'T KNOW . . . 8 (SKIP TO 537)
536	Would you say this person is ten or more years older than you or less than ten years older than you?	TEN OR MORE YEARS OLDER . 1 LESS THAN TEN YEARS OLDER . 2 OLDER, UNSURE HOW MUCH . . . 3	TEN OR MORE YEARS OLDER . 1 LESS THAN TEN YEARS OLDER . 2 OLDER, UNSURE HOW MUCH . . . 3	TEN OR MORE YEARS OLDER . 1 LESS THAN TEN YEARS OLDER . 2 OLDER, UNSURE HOW MUCH . . . 3
537	Apart from [this person/these two people], have you had sexual intercourse with any other person in the last 12 months?	YES . . . . . 1 (GO BACK TO 527 IN NEXT COLUMN) NO . . . . . 2 (SKIP TO 539)	YES . . . . . 1 (GO BACK TO 527 IN NEXT COLUMN) NO . . . . . 2 (SKIP TO 539)	

INSERT EXCEL SECTION FOR Q 527-537, P. 33-34

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
539	In all, with how many different people have you had sexual relations with in the <u>past 12 months</u>? IN CASE OF A NON-NUMERICAL ANSWER, INSIST TO OBTAIN ESTIMATION. IF THE NUMBER IS GREATER THAN ' 95 ', RECORD ' 95 ';	NUMBER OF PARTNERS ….. ☐☐	
539	In all, with how many different people have you had sexual relations with <u>in your whole life</u>? IN CASE OF A NON-NUMERICAL ANSWER, INSIST TO OBTAIN ESTIMATION. IF THE NUMBER IS GREATER THAN ' 95 ', RECORD ' 95 ';	NUMBER OF PARTNERS ….. ☐☐	
540	CHECK THE COVER PAGE: ADDITIONAL QUESTIONS ON SEXUAL ACTIVITY FOR MALES (1) OR FEMALES (2) _____ ADDITIONAL QUESTIONS FOR FEMALE INTERVIEW (COVER PAGE =2) ▼ ADDITIONAL QUESTIONS FOR MALE INTERVIEW (COVER PAGE =1 ☐_____		—▶544
541	CHECK PRESENCE OF OTHER PEOPLE	PRIVACY OBTAINED ..... 1 PRIVACY IMPOSSIBLE 2	—▶544
542	The fist time you had sexual intercourse, did you want to have sex or you were forced against your will?	ACCEPTED ..... 1 FORCED ..... 2 REFUSE TO RESPOND/ NO RESPOND 3	
543	In the last 12 months, did someone force you to have sex against your will?	YES ..... 1 NO ..... 2 REFUSE TO RESPOND/ NO RESPONSE 3	
544	Do you know of a place where a person can get condoms?	YES ..... 1 NO 2	—▶601
545	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) Any other place? RECORD ALL SOURCES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER ..... B AGENT DBC ..... C OTHER PUBLIC D PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... E PHARMACY ..... F PRIVATE DOCTOR ..... G ARBEF CLINIC ..... H INFIRMARY ..... I OTHER PRIVATE MEDICAL J OTHER SOURCE SHOP/KIOSK/STREET ..... K CHURCH ..... L FRIENDS/RELATIVES ..... M OTHER ---------- X (SPECIFY)	
546	If you wanted to, could you yourself get a condom?	YES ..... 1 NO ..... 2 DON'T KNOW/UNSURE 8	
546A	Do you know of a place where you can buy condoms by walking?	YES ..... 1 NO 2	—▶601

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
546 B	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) Any other place? RECORD ALL SOURCES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL ..... A GOVT. HEALTH CENTER ..... B AGENT DBC ..... C OTHER PUBLIC D PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... E PHARMACY ..... F PRIVATE DOCTOR ..... G ARBEF CLINIC ..... H NURSE ..... I OTHER PRIVATE MEDICAL J OTHER SOURCE SHOP ..... K CHURCH ..... L FRIENDS/RELATIVES ..... M OTHER _____ X (SPECIFY)	
546 C	How long does it take you to get to the closest place to buy a condom?	MINUTES..... ☐☐☐ ON THE SPOT..... 998	

SECTION 6. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	CHECK 311/311A: NEITHER STERILIZED ☐ ▼ HE OR SHE STERILIZED ☐		→614
602	CHECK 226: NOT PREGNANT OR UNSURE ☐ ▼ 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? PREGNANT ☐ ▼ 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 →604 SAYS SHE CAN'T GET PREGNANT ..... 3 →614 NOT PREGNANT/UNDECIDED/ DON'T KNOW ..... 4 →610 PREGNANT/UNDECIDED/DON'T KNOW 5 →608	
603	CHECK 226: NOT PREGNANT OR NOT SURE ☐ ▼ How long would you like to wait from now before the birth of (a/another) child? PREGNANT ☐ ▼ After the birth of 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 →609 SAYS SHE CAN'T GET PREGNANT .... 994 →614 AFTER MARRIAGE ..... 995 OTHER _____ 996 →609 (SPECIFY) DON'T KNOW 998	
604	CHECK 226: NOT PREGNANT OR UNSURE ☐ ▼ PREGNANT ☐		→610
605	CHECK 310: USING A CONTRACEPTIVE METHOD? NOT ASKED ☐ ▼ NOT CURRENTLY USING ☐ ▼ CURRENTLY USING ☐		→608
606	CHECK 603: NOT ASKED ☐ ▼ 24 OR MORE MONTHS OR 02 OR MORE YEARS ☐ ▼ 00-23 MONTHS OR 00-01 YEAR ☐		→610

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
607	CHECK 602: WANTS TO HAVE A/ANOTHER CHILD ☐ You have said that you do not want (a/another) child soon, but you are not using any method to avoid pregnancy. Can you tell me why? Any other reason? RECORD ALL REASONS MENTIONED. WANTS NO MORE/ NONE ☐ You have said that you do not want any (more) children, but you are not using any method to avoid pregnancy. Can you tell me why? Any other reason?	NOT MARRIED....A FERTILITY-RELATED REASONS NOT HAVING SEX....B INFREQUENT SEX....C MENOPAUSAL/HYSTERECTOMY....D SUBFECUND/INFECUND....E POSTPARTUM AMENORRHEIC....F BREASTFEEDING....G FATALISTIC....H OPPOSITION TO USE RESPONDENT OPPOSED....I HUSBAND/PARTNER OPPOSED....J OTHERS OPPOSED....K RELIGIOUS PROHIBITION....L LACK OF KNOWLEDGE KNOWS NO METHOD....M KNOWS NO SOURCE....N METHOD-RELATED REASONS HEALTH CONCERNS....O FEAR OF SIDE EFFECTS....P LACK OF ACCESS/TOO FAR....Q COSTS TOO MUCH....R INCONVENIENT TO USE....S INTERFERES WITH BODY'S NATURAL PROCESSES....T OTHER _____ X (SPECIFY) DON'T KNOW....Z	
608	In the next few weeks, if you discovered that you were pregnant, would that be a big problem, a small problem, or no problem for you?	BIG PROBLEM....1 SMALL PROBLEM....2 NO PROBLEM....3 SAYS SHE CAN'T GET PREGNANT/ NOT HAVING SEX....4	
609	CHECK 310: USING A CONTRACEPTIVE METHOD? NOT ASKED ☐ NO, NOT CURRENTLY USING ☐ YES, CURRENTLY USING ☐_____		→614
610	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	YES....1 NO....2 DON'T KNOW....8	→612
611	Which contraceptive method would you prefer to use?	FEMALE STERILIZATION....01 MALE STERILIZATION....02 PILL....03 IUD....04 INJECTABLES....05 IMPLANTS....06 CONDOM....07 FEMALE CONDOM....08 DIAPHRAGM....09 FOAM/JELLY....10 LACTATIONAL AMEN. METHOD....11 PERIODIC ABSTINENCE....12 WITHDRAWAL....13 BEADS /SDM....14 OTHER _____ 96 (SPECIFY) UNSURE....98	→614

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
612	What is the main reason that you think you will not use a contraceptive method at any time in the future?	NOT MARRIED ..... 11 FERTILITY-RELATED REASONS INFREQUENT SEX/NO SEX ..... 22 MENOPAUSAL/HYSTERECTOMY ..... 23 SUBFECUND/INFECUND ..... 24 WANTS AS MANY CHILDREN AS POSSIBLE ..... 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 COSTS TOO MUCH ..... 54 INCONVENIENT TO USE ..... 55 INTERFERES WITH BODY'S NORMAL PROCESSES ..... 56 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	→614
613	Would you ever use a contraceptive method if you were married?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
614	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 ..... 00 →616 NUMBER ..... ☐☐ OTHER _____ 96 →616 (SPECIFY)	
615	How many of these children would you like to be boys, how many would you like to be girls and for how many would the sex not matter?	BOYS GIRLS EITHER NUMBER ☐☐ ☐☐ ☐☐ OTHER _____ 96 (SPECIFY)	
616	Would you say that you approve or disapprove of couples using a method to avoid getting pregnant?	APPROVE ..... 1 DISAPPROVE ..... 2 DON'T KNOW/UNSURE 3	
617	In the last few months have you heard about family planning: On the radio? On the television? In a newspaper or magazine?	YES NO RADIO ..... 1 2 TELEVISION ..... 1 2 NEWSPAPER OR MAGAZINE 1 2	
619	In the last few months, have you discussed the practice of family planning with your friends, neighbors, or relatives?	YES ..... 1 NO 2	→621

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
620	With whom? Anyone else? RECORD ALL PERSONS MENTIONED.	HUSBAND/PARTNER ..... A MOTHER ..... B FATHER ..... C SISTER(S) ..... D BROTHER(S) ..... E DAUGHTER ..... F SON ..... G MOTHER-IN-LAW ..... H FRIENDS/NEIGHBORS ..... I OTHER _____ X (SPECIFY)	
621	CHECK 501: YES, CURRENTLY MARRIED ☐ ▼ YES, LIVING WITH A MAN ☐ ▼ NO, NOT IN UNION ☐		→628
622	CHECK 311/311A: ANY CODE CIRCLED ☐ ▼ NO CODE CIRCLED ☐		→624
623	You have told me that you are currently using contraception. Would you say that using contraception is mainly your decision, mainly your husband's decision or did you both decide together?	MAINLY RESPONDENT ..... 1 MAINLY HUSBAND/PARTNER ..... 2 JOINT DECISION ..... 3 OTHER _____ 6 (SPECIFY)	
624	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 contraceptive method to avoid pregnancy?	APPROVES ..... 1 DISAPPROVES ..... 2 DON'T KNOW 8	
625	In the past 12 months, how often have you talked to your husband/partner about family planning?	NEVER ..... 1 ONCE OR TWICE ..... 2 MORE OFTEN 3	
626	CHECK 311/311A: NEITHER STERILIZED ☐ ▼ HE OR SHE STERILIZED ☐		→628
627	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	
628	Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified in refusing to have sex with her husband when: She knows her husband has a sexually transmitted disease? She knows her husband has sex with other women? She has recently given birth? She is tired or not in the mood?	YES NO DK HAS STD ..... 1 2 8 OTHER WOMEN ..... 1 2 8 RECENT BIRTH ..... 1 2 8 TIRED/MOOD 1 2 8	
629	When a woman knows that her husband has a sexually transmitted disease, this justified that she asks him to use a condom during sexual intercourse?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
630	CHECK 501: CURRENTLY IN UNION ☐ ▼ NOT IN UNION ☐		→701
631	Can you refuse to have the sexual relations with your husband/partner when you do not wish to have some?	YES ..... 1 NO ..... 2 IT DEPENDS/NOT SURE 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
632	Can you ask your husband/partner to use a condom if you want him to use it?	YES..... 1 NO..... 2 IT DEPENDS/NOT SURE.....8	

SECTION 7. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 501 AND 502: CURRENTLY MARRIED/ LIVING WITH A MAN ☐ FORMERLY MARRIED/ LIVED WITH A MAN ☐ →703 NEVER MARRIED AND NEVER LIVED WITH A MAN ☐ →707		
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, reformed primary, post-primary, secondary, or higher?	PRIMARY (FORMER OR NEW) .....1 PRIMARY REFORMED .....2 POST PRIMARY/FAMIL/CERAR/CERAI ..2 SECONDARY.....4 HIGHER .....5 DON'T KNOW 8	→706
705	What was the highest (class/year) he completed at that level?	CLASS/YEAR ..... ☐☐ DON'T KNOW 8	
706	CHECK 701: CURRENTLY MARRIED/ LIVING WITH A MAN ☐ What is your husband's/partner's occupation? That is, what kind of work does he mainly do? FORMERLY MARRIED/ LIVED WITH A MAN ☐ What was your (last) husband's/ partner's occupation? That is, what kind of work did he mainly do?	_____ ☐☐ _____ _____	
707	Aside from your own housework, are you currently working?	YES .....1 NO 2	→710
708	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	→710
709	Have you done any work in the last 12 months?	YES .....1 NO 2	→719
710	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
711	CHECK 710: WORKS IN AGRICULTURE ☐ DOES NOT WORK IN AGRICULTURE ☐		→713
712	Do you work mainly on your own land or on family land, or do you work on land that you rent from someone else, or do you work on someone else's land?	OWN LAND .....1 FAMILY LAND .....2 RENTED LAND .....3 SOMEONE ELSE'S LAND .....4 SHARECROPPER 5	
713	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	
714	Do you usually work at home or away from home?	HOME.....1 AWAY.....2	
715	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	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
716	Are you paid or do you earn in cash or kind for this work or are you not paid at all?	CASH ONLY.....1 CASH AND KIND .....2 IN KIND ONLY .....3 NOT PAID 4	→719
717	Who mainly decides how the money you earn will be used?	RESPONDENT .....1 HUSBAND/PARTNER.....2 RESPONDENT AND HUSBAND/PARTNER JOINTLY.....3 SOMEONE ELSE.....4 RESPONDENT AND SOMEONE ELSE JOINTLY.....5	
718	On average, how much of your household's expenditures do your earnings pay for: almost none, less than half, about half, more than half, or all?	ALMOST NONE .....1 LESS THAN HALF .....2 ABOUT HALF.....3 MORE THAN HALF.....4 ALL .....5 NONE, HER INCOME IS ALL SAVED. 6	
719	Who in your family usually has the final say on the following decisions:	RESPONDENT = 1 HUSBAND/PARTNER = 2 RESPONDENT & HUSBAND/PARTNER JOINTLY = 3 SOMEONE ELSE = 4 RESPONDENT & SOMEONE ELSE JOINTLY = 5 DECISION NOT MADE/NOT APPLICABLE = 6	
	Your own health care?	1 2 3 4 5 6	
	Making large household purchases?	1 2 3 4 5 6	
	Making household purchases for daily needs?	1 2 3 4 5 6	
	Visits to family or relatives?	1 2 3 4 5 6	
	What food should be cooked each day?	1 2 3 4 5 6	
720	PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING OR NOT PRESENT)	PRES/ LISTEN. / PRES/ NOT LISTEN. / NOT PRES	
		CHILDREN <10 YRS... 1 2 8 HUSBAND..... 1 2 8 OTHER MALES..... 1 2 8 OTHER FEMALES 1 2 8	
721	Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations:	YES / NO / DK	
	If she goes out without telling him?	GOES OUT 1 2 8	
	If she neglects the children?	NEGL. CHILDREN ... 1 2 8	
	If she argues with him?	ARGUES 1 2 8	
	If she refuses to have sex with him?	REFUSES SEX 1 2 8	
	If she burns the food?	BURNS FOOD 1 2 8	

SECTION 8: AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES ..... 1 NO 2	→844
802	Can people reduce their chances of getting the AIDS virus by having just one sex partner who is not infected and who has no other partners?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
803	Can a person get the AIDS virus from mosquito bites?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
804	Can people reduce their chances of getting the AIDS virus by using a condom every time they have sex?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
805	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
806	Can people reduce their chances of getting the AIDS virus by abstaining from sex?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
807	Can people get the AIDS virus by sorcery or supernatural means?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
808	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→810
809	What can a person do? Anything else? RECORD ALL WAYS MENTIONED.	ABSTAIN FROM SEX ..... A USE CONDOMS ..... B LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER ..... C LIMIT NUMBER OF SEXUAL PARTNERS ..... D AVOID SEX WITH PROSTITUTES ..... E AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS ..... F AVOID SEX WITH HOMOSEXUALS ..... G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY ..... H AVOID BLOOD TRANSFUSIONS ..... I AVOID INJECTIONS ..... J AVOID SHARING RAZORS/BLADES ..... K AVOID KISSING ..... L AVOID MOSQUITO BITES ..... M SEEK PROTECTION FROM TRADITIONAL PRACTITIONER ..... N OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW ..... Z	
810	Is it possible for a healthy-looking person to have the AIDS virus?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
811	Can the virus that causes AIDS be transmitted from a mother to a child: During pregnancy? During delivery? By breastfeeding?	YES NO DK DURING PREG ..... 1 2 8 DURING DELIVERY ... 1 2 8 BREASTFEEDING 1 2 8	
812	CHECK 811: AT LEAST ONE 'YES' ☐ OTHER ☐ _____		→814
813	Are there special drugs that a doctor or a nurse can give a woman infected by the virus of the AIDS to reduce the risk of transmission to his baby?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
814	Are there special drugs that the people infected with the AIDS virus can obtain from a doctor or a nurse?	YES……1 NO……2 DON'T KNOW……8	
815	CHECK 215: NO BIRTHS ☐ ——— LAST BIRTH SINCE JANUARY 2003 ☐ ▼ LAST BIRTH BEFORE JANUARY 2003 ☐ ———		→824 →824
816	CHECK 407: SAW SOMEONE FOR PRENATAL CARE ☐ ▼ ——— DID NOT SEE ANYONE FOR PRENATAL CARE ☐		→824
817	Now I would like to ask some questions about your last birth. During one of the antenatal visits for this pregnancy, did anyone speak to you about one of the following subjects: Babies who contract the AIDS virus from their mother? The things that one can do not to contract AIDS? Conducting a test for AIDS?	YES NO DK MOTHERS VIRUS 1 2 8 THINGS TO DO 1 2 8 AIDS TEST 1 2 8	
818	Within the framework of this prenatal care, did someone propose to you to carry out a test for AIDS?	YES .....1 NO 2	
819	I do not want to know the results but did you carry out a test for AIDS within the framework of your prenatal care?	YES .....1 NO 2	→824
820	I do not want to know the results but did you obtain the results of the test?	YES .....1 NO 2	
821	Where was the test done? 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 GOVT. HOSPITAL.....11 GOVT. HEALTH CENTER .....12 VCT CENTER.....13 OTHER PUBLIC _ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC.....21 PRIVATE DOCTOR.....22 VCT CENTER.....23 ARBEF CLINIC.....24 INFIRMARY.....25 YOUTH CENTER .....26 OTHER PRIVATE MEDICAL ____ 27 (SPECIFY)	
822	Did you carry out another test for AIDS since you were tested during your pregnancy?	YES .....1 NO 2	→825
823	When was the last time you were tested?	LESS THAN 12 MONTHS……1 12-23 MONTHS……2 2 YEARS OR MORE……3	→831
824	I you do not want to know the results, but have you ever been tested to see if you have the AIDS VIRUS?	YES……1 NO……2	→829

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
825	When was the last time you were tested?	DAYS AGO.....1 ☐☐ WEEKS AGO.....2 ☐☐ MONTHS AGO.....3 ☐☐ YEARS AGO .....4 ☐☐	
825A	How much did you spend for this test?	PRICE : ☐☐☐☐☐ FREE……00000 DON'T KNOW……99998	
826	The last time you had the test, did you yourself ask for the test, was it offered to you and you accepted, or was it required?	ASKED FOR THE TEST……1 OFFERED AND ACCEPTED……2 REQUIRED……3	
827	I do not want to know the results but did you get the results of the test?	YES .....1 NO 2	
828	Where did you go for the test? 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 GOVT. HOSPITAL.....11 GOVT/ HEALTH CENTER .....12 VCT CENTER.....13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC.....21 PRIVATE DOCTOR.....22 VCT CENTER.....23 ARBEF CLINIC.....24 INFIRMARY.....25 YOUTH CENTER .....26 OTHER PRIVATE MEDICAL---------- 27 (SPECIFY)	▶831
829	Do you know a place where you could go to get an AIDS test?	YES .....1 NO 2	▶831
830	Where can you go for the test? 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) Any other place? RECORD ALL SOURCES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL.....A GOVT/ HEALTH CENTER .....B VCT CENTER.....C OTHER PUBLIC _____X (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC.....D PRIVATE DOCTOR.....E VCT CENTER.....F ARBEF CLINIC.....G INFIRMARY.....H YOUTH CENTER .....I OTHER PRIVATE MEDICAL_____ J (SPECIFY)	
831	Would you buy fresh vegetables from a vendor who has the AIDS virus?	YES .....1 NO .....2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
831B	In your opinion, is it acceptable or unacceptable for AIDS to be discussed: On the radio? On the TV? In newspapers?	ACCEPT-ABLE / NOT ACCEPT-ABLE ON THE RADIO 1 2 ON THE TV 1 2 IN NEWSPAPERS 1 2	
831C	During last three months, did you hear or see something on AIDS through the media?	YES .....1 NO .....2 DON'T KNOW 8	
831D	Through which media did you hear or see something on AIDS? On the radio? On the Television? In the newspapers or magazines? Through the posters, flyers or stickers?	YES / NO RADIO 1 2 TELEVISION 1 2 NEWSPAPERS/MAGAZINES 1 2 POSTER/FLYER/STICKER 1 2	
831E	Did you change your behavior in an unspecified way following what you heard or saw about AIDS?	YES.....1 NO.....2 DON'T KNOW.....8	▶831G
831 F	How did you change behavior? Anything else? RECORD ALL WAYS MENTIONED.	LIMIT NUMBER OF SEXUAL PARTNERS .....A STAY FAITHFUL TO ONE PARTNER ..... B AVOID SEX WITH PROSTITUTES..... C AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS..... D USE CONDOMS DURING SEX WITH OCCASIONAL PARTNERS ..... E ABSTAIN FROM SEX .....F AVOID INJECTIONS..... G AVOID BLOOD TRANSFUSIONS..... H OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW .....Z	
831 G	CHECK 501: YES, CURRENTLY MARRIED/ LIVING WITH A MAN ☐ NO, NOT IN UNION ☐		▶832
831 H	Have you ever talked about ways to prevent getting the virus that causes AIDS with (your husband/the man you are living with)?	YES .....1 NO 2	
831I	During the last six months, did you advise someone to take unspecified measures to avoid being infected with AIDS virus?	YES .....1 NO .....2 DON'T KNOW 8	
832	If a member of your family got infected with the virus that causes AIDS, would you want it to remain a secret or not?	YES, REMAIN SECRET.....1 NO .....2 DON'T KNOW/DEPENDS.....8	
833	If a relative of yours became sick with the virus that causes AIDS, would you be willing to care for her or him in your own household?	YES .....1 NO .....2 DON'T KNOW 8	
834	If a female teacher has the virus that causes aids, should she be allowed to continue teaching in the school?	CAN CONTINUE .....1 SHOULD NOT CONTINUE .....2 DK/NOT SURE/DEPENDS 8	
835	Do you personally know someone who was denied health services during the last 12 months because (s)he was suspected to have AIDS or because s(he) had AIDS?	YES .....1 NO .....2 KNOWS NOBODY WITH AIDS.....8	▶840

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
836	Do you personally know somebody who refused to take part in social demonstrations, religious services or Community events during the last 12 months because (s)he suspect to have AIDS or because (s)he had AIDS?	YES .....1 NO 2	
837	Do you personally know somebody who was insulted or scoffed during the last 12 months because one (s)he was suspected to have AIDS or because (s)he had AIDS?	YES .....1 NO 2	
838	CHECK 835,836 AND 837: NOT ONE 'YES' ▼ AT LEAST ONE "YES"		→840
839	Do you personally know somebody who is suspected to have AIDS, has AIDS, or who died of AIDS?	YES .....1 NO 2	
840	Do you agree or not agree with the following assertion: People who have AIDS should be ashamed of themselves.	AGREE.....1 DO NOT AGREE.....2 DK/NO OPINION.....8	
841	Do you agree or do not agree with the following assertion: People with the AIDS virus should be blamed for bringing the disease in the community.	AGREE.....1 DO NOT AGREE.....2 DK/NO OPINION.....8	
842	Should one educate children of 12-14 years on the use of the condom to avoid the AIDS?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
843	Should one teach children of 12-14 years to wait until the marriage to have sexual relations to avoid contracting the AIDS?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
844	Do you think that young men should wait to be married to have sexual relations?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
845	Do you think that the majority of the young men you know wait to be married to have sexual relations?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
846	Do you think that the men who are not married and who have sexual relations should not have sexual relations with only one person?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
847	Do you think that majority of the men you know, who are not married and who have sexual relations should have sexual relations only with one person?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
848	Do you think that the married men should have sexual relations only with their wives?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
849	Do you think that majority of the married men you know have sexual relations only with their wives?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
850	Do you think that young women should wait to be married to have sexual relations?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
851	Do you think that majority of the young women whom you know wait to be married to have sexual relations?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
852	Do you think that the women who are not married and who have sexual relations should not have sexual relations with only one person?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
853	Do you think that majority of women you know, who are not married and who have sexual relations should have sexual relations only with only one person?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	
854	Do you think that the married women should have sexual relations only with their husbands?	YES.....1 NO.....2 DK/NOT SURE/IT DEPENDS.....8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
855	Do you think that the majority of the married women you know have sexual relations only with their husbands?	YES……1 NO……2 DK/NOT SURE/IT DEPENDS……8	
856	CHECK 801: INTENDED TO SPEAK ABOUT AIDS ☐ ▼ Put aside AIDS, do you intend to speak about other infections that are transmitted by sexual contact? NOT INTENDED TO SPEAK ☐ ▼ Do you intend to speak about infections that are transmitted by sexual contact?	YES……1 NO……2	→859
857	If a man has a sexually transmitted disease, what symptoms might he have? Any others? RECORD ALL SYMPTOMS MENTIONED.	ABDOMINAL PAIN……A GENITAL DISCHARGE/DRIPPING……B FOUL SMELLING DISCHARGE……C BURNING PAIN ON URINATION……D REDNESS/INFLAMMATION IN GENITAL AREA……E SWELLING IN GENITAL AREA……F GENITAL SORES/ULCERS……G GENITAL WARTS……H GENITAL ITCHING……I BLOOD IN URINE……J LOSS OF WEIGHT……K IMPOTENCE……L OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) NO SYMPTOMS……Y DON'T KNOW……Z	
858	If a woman has a sexually transmitted disease, what symptoms might she have? Any others? RECORD ALL SYMPTOMS MENTIONED.	ABDOMINAL PAIN……A GENITAL DISCHARGE……B FOUL SMELLING DISCHARGE……C BURNING PAIN ON URINATION……D REDNESS/INFLAMMATION IN GENITAL AREA……E SWELLING IN GENITAL AREA……F GENITAL SORES/ULCERS……G GENITAL WARTS……H GENITAL ITCHING……I BLOOD IN URINE……J LOSS OF WEIGHT……K HARD TO GET PREGNANT/ HAVE A CHILD……L OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) NO SYMPTOMS……Y DON'T KNOW……Z	
859	CHECK 519: HAS HAD SEXUAL RELATIONS ☐ ▼ HAS NOT HAD SEXUAL RELATIONS ☐ _____		→901
860	CHECK 856: KNOWS STI ☐ ▼ DOES NOT KNOW STI ☐ _____		→862
861	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a sexually-transmitted disease?	YES……1 NO……2 DON'T KNOW……8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
862	Sometimes, women experience a bad smelling abnormal genital discharge. During the last 12 months, have you had a bad smelling abnormal genital discharge?	YES……1 NO……2 DON'T KNOW……8	
863	Sometimes women have a genital sore or ulcer. During the last 12 months, have you had a genital sore or ulcer?	YES……1 NO……2 DON'T KNOW……8	
864	CHECK 861, 862, 863: HAS HAD AN INFECTION (ONE 'YES') ✓ HAS NOT HAD AN INFECTION OR DOES NOT KNOW ☐		→901A
865	The last time you had (PROBLEM FROM 861/862//863), did you seek any kind of advice or treatment?	YES……1 NO……2	→901A
866	Where did you go? Any other place? RECORD ALL SOURCES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL…… A GOVT. HEALTH CENTER …… B AGENT DBC…… C VCT CENTER…… D YOUTH CENTER …… E OTHER PUBLIC F PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC…… G PRIVATE DOCTOR…… H PHARMACY …… I ARBEF CLINIC…… J VCT CENTER…… K INFIRMARY…… L YOUTH CENTER …… M OTHER PRIVATE MEDICAL Y OTHER SOURCE SHOP …… N OTHER_____ X (SPECIFY)	
867	When you had (PROBLEM FROM 861/862/863), did you inform the person with whom you were having sex?	YES……1 NO……2 SOME/ NOT ALL……3 DID NOT HAVE PARTNER……4	→901A
868	When you had (PROBLEM FROM 861/862/863), did you do something to avoid infecting your sexual partner(s)?	YES……1 NO……2 PARTNER ALREADY INFECTED……3	→901A
869	What did you do to avoid infecting your partner(s)? Did you.... Use medicine? Stop having sex? Use a condom when having sex?	YES NO USE MEDICINE 1 2 STOP SEX 1 2 USE CONDOM 1 2	

SECTION 9. ADULT MORTALITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901A	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. Did your mother give birth to any children, in addition to you?	YES..... 1 NO..... 2	–➢901H
901B	How many sons did your mother have who are still living?	SONS LIVING ☐☐	
901C	How many sons did your mother have who have died?	SONS DEAD ☐☐	
901D	In addition to you, how many daughters did your mother have who are still living?	DAUGHTERS LIVING ☐☐	
901E	How many daughters did your mother have who have died?	DAUGHTERS DEAD ☐☐	
901F	Did your mother have any other children which you do not know if they are alive or dead?	YES.....1 NO..... 2	–➢901H
901G	How many other children did your mother have which you do not know if they are alive or dead?	OTHER CHILDREN ☐☐	
901H	SUM ANSWERS TO 901B, C, D, E, AND G, ADD 1 (THE RESPONDENT) AND ENTER TOTAL.	TOTAL ..... ☐☐	
901I	CHECK 901H: Just to make sure that I have this right: including yourself, your mother gave birth to _____ children in total. Is that correct? YES ☐ CORRECT ▼ NO ☐ ▶ PROBE AND 901-A-H AS NECESSARY.		
902	CHECK 901H: TWO OR MORE BIRTHS ☐ ▼ ONLY ONE BIRTH ☐ (RESPONDENT ONLY)		—▶1004A
903	How many of these births did your mother have before you were born?	NUMBER OF PRECEDING BIRTHS ☐☐	

904	What was the name given to your oldest (next oldest) brother or sister?	[1] _____	[2] _____	[3] _____	[4] _____	[5] _____	[6] _____
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 908 DK.....8 GO TO [2]	YES.....1 NO.....2 GO TO 908 DK.....8 GO TO [3]	YES ..... 1 NO..... 2 GO TO 908 DK ..... 8 GO TO [4]	YES ..... 1 NO ..... 2 GO TO 908 DK ..... 8 GO TO [5]	YES.....1 NO .....2 GO TO 908 DK.....8 GO TO [6]	YES.....1 NO.....2 GO TO 908 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]
908	How many years ago did (NAME) die?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
909	How old was (NAME) when he/she died? IF DON'T KNOW, PROBE: Did (NAME) die before age 12? IF YES, ENTER '95' IF NO, ASK ADDITIONAL QUESTIONS TO GET AN ESTIMATE. FOR EXAMPLE: Did (NAME) die before or after being married?	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [2]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [3]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [4]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [5]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [6]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [7]
910	Was (NAME) pregnant when she died?	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2	YES ..... 1 GO TO 913 NO..... 2	YES ..... 1 GO TO 913 NO 2	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2
911	Did (NAME) die during childbirth?	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2	YES ..... 1 GO TO 913 NO..... 2	YES ..... 1 GO TO 913 NO 2	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2
912	Did (NAME) die in the two months following 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
913	To how many live children did (NAME) give birth to during her life?	☐☐ GO TO [2]	☐☐ GO TO [3]	☐☐ GO TO [4]	☐☐ GO TO [5]	☐☐ GO TO [6]	☐☐ GO TO [7]
IF NO MORE BROTHERS OR SISTERS, GO TO Q.1000A							

904	What was the name given to your oldest (next oldest) brother or sister?	[7] _____	[8] _____	[9] _____	[10] _____	[11] _____	[12] _____
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 908 DK.....8 GO TO [8]	YES.....1 NO.....2 GO TO 908 DK.....8 GO TO [9]	YES ..... 1 NO..... 2 GO TO 908 DK ..... 8 GO TO [10]	YES ..... 1 NO ..... 2 GO TO 908 DK ..... 8 GO TO [11]	YES.....1 NO .....2 GO TO 908 DK.....8 GO TO [12]	YES.....1 NO.....2 GO TO 908 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]
908	How many years ago did (NAME) die?	☐☐	☐☐	☐☐	☐☐	☐☐	☐☐
909	How old was (NAME) when he/she died? IF DON'T KNOW, PROBE: Did (NAME) die before age 12? IF YES, ENTER '95' IF NO, ASK ADDITIONAL QUESTIONS TO GET AN ESTIMATE. FOR EXAMPLE: Did (NAME) die before or after being married?	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [8]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [9]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [10]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [11]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [12]	☐☐ IF MALE, OR DIED BEFORE AGE 12 YEARS: GO TO [13]
910	Was (NAME) pregnant when she died?	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2	YES ..... 1 GO TO 913 NO..... 2	YES ..... 1 GO TO 913 NO 2	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2
911	Did (NAME) die during childbirth?	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2	YES ..... 1 GO TO 913 NO..... 2	YES ..... 1 GO TO 913 NO 2	YES.....1 GO TO 913 NO 2	YES.....1 GO TO 913 NO.....2
912	Did (NAME) die in the two months following 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
913	To how many live children did (NAME) give birth to during her life?	☐☐ GO TO [8]	☐☐ GO TO [9]	☐☐ GO TO [10]	☐☐ GO TO [11]	☐☐ GO TO [12]	☐☐ GO TO [13]
IF NO MORE BROTHERS OR SISTERS, GO TO Q.1000A							

SECTION 10. RELATIONS IN THE HOUSEHOLD

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1000 A	CHECK COVER PAGE: THE WOMAN BEING INTERVIEWED IS SELECTED FOR QUESTIONS ON RELATIONS IN THE HOUSEHOLD. YES ☐ NO ☐		⟶ 1029
1001	CHECK FOR PRESENCE OF OTHERS: DO NOT CONTINUE UNTIL EFFECTIVE PRIVACY IS ENSURED. PRIVACY OBTAINED……..1 PRIVACY NOT POSSIBLE…….2		→ 1028
	READ TO ALL RESPONDENTS: Now I would like to ask you questions about some other important aspects of a woman's life. I know that some of these questions are very personal. However, your answers are crucial for helping to understand the condition of women in Rwanda. Let me assure you that your answers are completely confidential and will not be told to anyone. Let me assure you also that you are the only person in this household to whom these questions will be asked. If someone arrives during the discussion then we'll change subjects.		
1002	CHECK 501, 502, AND 504: CURRENTLY MARRIED/ LIVING WITH A MAN ☐ SEPARATED/ DIVORCED ☐ WIDOWED/ NEVER MARRIED/ NE VER LIVED WITH A MAN ☐		→ 1014
1003	When two people marry or live together, they share both good and bad moments. In your relationship with your (last) husband/partner do (did) the following happen frequently, only sometimes, or never? a) He usually (spends/spent) his free time with you? b) He (consults/consulted) you on different household matters? c) He (is/was) affectionate with you? d) He (respects/respected) you and your wishes?	FRE-QUENTLY / SOME-TIMES / NEVER FREE TIME 1 2 3 CONSULTS 1 2 3 AFFECTIONATE 1 2 3 RESPECTS 1 2 3	
1004	Now I am going to ask you about some situations which happen to some women. Please tell me if these apply to your relationship with your (last) husband/partner? a) He (is/was) jealous or angry if you (talk/talked) to other men? b) He frequently (accuses/accused) you of being unfaithful? c) He (does/did) not permit you to meet your girl friends? d) He (tries/tried) to limit your contact with your family? e) He (insists/insisted) on knowing where you (are/were) at all time? f) He (does/did) not trust you with any money?	YES / NO / DK JEALOUS 1 2 8 ACCUSES 1 2 8 NOT MEET FRIENDS 1 2 8 NO FAMILY 1 2 8 WHERE YOU ARE 1 2 8 MONEY 1 2 8	
1005	Now if you will permit me, I need to ask some more questions about your relationship with your (last) husband/partner. 5A. (Does/did) your (last) husband/partner ever: Say or do something to humiliate you in front of others? Threaten you or someone close to you with harm?	5B. How many times did this happen during the last 12 months? YES 1 ⟶ TIMES IN LAST 12 MONTHS ☐☐ NO 2 IF DIV OR SEPARATED .....95 YES 1 ⟶ TIMES IN LAST 12 MONTHS ☐☐ NO 2 IF DIV OR SEPARATED 95	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1006	6A. (Does/did) your (last) husband/partner ever:	6B. How many times did this happen during the last 12 months?	
	Push you, shake you, or throw something at you?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Slap you or twist your arm?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Spit on you?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Punch you with his fist or with something that could hurt you?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Kick you or drag you?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Try to strangle you or burn you?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Threaten you with a knife, gun, or other type of weapon?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Attack you with a knife, gun, or other type of weapon?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Physically force you to have sexual intercourse with him even when you did not want to?	YES 1 –► NO 2 ┐▼ TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
	Force you to perform other sexual acts you did not want to?	TIMES IN LAST 12 MONTHS |__|__| IF DIV OR SEPARATED.....95	
1007	CHECK 1006: AT LEAST ONE 'YES' ┐▼ NOT A SINGLE 'YES' ┐		–►1009
1008	How long after you first got married to/started living with your (last) husband/partner did (this/any of these things) first happen? IF LESS THAN ONE YEAR, RECORD '00'.	NUMBER OF YEARS |__|__| BEFORE MARRIAGE/BEFORE LIVING TOGETHER……..95 AFTER SEPARATION/DIVORCE……96	
1009	Did the following ever happen because of something your (last) husband/partner did to you:	108B. How many times did this happen during the last 12 months?	

NO.	QUESTIONS AND FILTERS		CODING CATEGORIES	SKIP
	You had bruises and aches?	YES 1 –► NO 2 ▼	TIMES IN LAST 12 MONTHS |___| IF DIV OR SEPARATED.....95	
	You had an injury or a broken bone?	YES 1 –► NO 2 ▼	TIMES IN LAST 12 MONTHS |___| IF DIV OR SEPARATED.....95	
	You went to the doctor or health center as a result of something your husband/partner did to you?	YES 1 –► NO 2 ▼	TIMES IN LAST 12 MONTHS |___| IF DIV OR SEPARATED.....95	
1010	Have you ever hit, slapped, kicked or done anything else to physically hurt your (last) husband/partner at times when he was not already beating or physically hurting you?		YES..... 1 NO..... 2	–►1012
1011	In the last 12 months, how many times have you hit, slapped, kicked or done something to physically hurt your (last) husband/partner at a time when he was not already beating or physically hurting you?		TIMES IN LAST 12 MONTHS |___| IF DIV OR SEPARATED.....95	
1012	Does (did) your (last) husband/partner drink alcohol?		YES..... 1 NO..... 2	–►1014
1013	How often does (did) he get drunk: very often, only sometimes, or never?		VERY OFTEN..... 1 SOMETIMES..... 2 NEVER..... 3	
1014	CHECK 501, 502 & 504: MARRIED/LIVING WITH A MAN/SEPARATED/ DIVORCED ▼ From the time you were 15 years old has anyone other than your (current/last) husband/partner hit, slapped, kicked, or done anything else to hurt you physically?	WIDOWED/ NEVER MARRIED/NEVER LIVED WITH A MAN ▼ From the time you were 15 years old has anyone ever hit, slapped, kicked, or done anything else to hurt you physically?	YES..... 1 NO..... 2 NO ANSWER..... 6	►1019
1015	Who has physically hurt you in this way? Anyone else? RECORD ALL MENTIONED.		MOTHER..... A FATHER..... B STEP-MOTHER..... C STEP-FATHER..... D SISTER..... E BROTHER..... F DAUGHTER..... G SON..... H LATE/EX-HUSBAND/EX-PARTNER... I CURRENT BOYFRIEND..... J FORMER BOYFRIEND..... K MOTHER-IN-LAW..... L FATHER-IN-LAW..... M OTHER FEMALE RELATIVE/IN-LAW.. N OTHER MALE RELATIVE/ IN-LAW..... O FEMALE FRIEND/ACQUAINTANCE..... P MALE FRIEND/ACQUAINTANCE..... Q TEACHER..... R EMPLOYER..... S STRANGER..... T OTHER __ X (SPECIFY)	
1016	CHECK 1015: MORE THAN ONE PERSON MENTIONED ▼	ONLY ONE PERSON MENTIONED		–►1018

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1017	Who has hit, slapped, kicked, or done something to physically hurt you most often?	MOTHER ..... 01 FATHER ..... 02 STEP-MOTHER ..... 03 STEP-FATHER ..... 04 SISTER ..... 05 BROTHER ..... 06 DAUGHTER ..... 07 SON ..... 08 LATE/EX-HUSBAND/EX-PARTNER ..... 09 CURRENT BOYFRIEND ..... 10 FORMER BOYFRIEND ..... 11 MOTHER-IN-LAW ..... 12 FATHER-IN-LAW ..... 13 OTHER FEMALE RELATIVE/IN-LAW ..... 14 OTHER MALE RELATIVE/ IN-LAW ..... 15 FEMALE FRIEND/ACQUAINTANCE ..... 16 MALE FRIEND/ACQUAINTANCE ..... 17 TEACHER ..... 18 EMPLOYER ..... 19 STRANGER ..... 20 OTHER _____ 96 (SPECIFY)	
1018	In the last 12 months, how many times has this person hit, slapped, kicked, or done anything else to physically hurt you?	NUMBER OF TIMES ☐☐☐	
1019	CHECK 201, 206, AND 226: HAS ONE OR MORE LIVE OR NON-LIVE BIRTHS OR IS CURRENTLY PREGNANT ☐ ▼ NO LIVE BIRTHS, NO NON-LIVE BIRTHS, AND IS NOT CURRENTLY PREGNANT ☐		–►1021
1020	Has any one ever hit, slapped, kicked, or done anything else to hurt you physically while you were pregnant?	YES ..... 1 NO 2	–►1022
1021	Who has done any of these things to physically hurt you while you were pregnant? Anyone else? RECORD ALL MENTIONED.	CURRENT HUSBAND/PARTNER ..... A MOTHER ..... B FATHER ..... C STEP-MOTHER ..... D STEP-FATHER ..... E SISTER ..... F BROTHER ..... G DAUGHTER ..... H SON ..... I LATE/LAST/EX-HUSBAND/PARTNER J CURRENT BOYFRIEND ..... K FORMER BOYFRIEND ..... L MOTHER-IN-LAW ..... M FATHER-IN-LAW ..... N OTHER FEMALE RELATIVE/IN-LAW O OTHER MALE RELATIVE/IN-LAW P FEMALE FRIEND/ACQUAINTANCE Q MALE FRIEND/ACQUAINTANCE R TEACHER ..... S EMPLOYER ..... T STRANGER ..... U OTHER _____ X (SPECIFY)	
1022	CHECK 1006, 1009, 1014, AND 1020: AT LEAST ONE 'YES' ☐ ▼ NOT A SINGLE 'YES' ☐		–►1026
1023	Have you ever tried to get help to prevent or stop (this person/these persons) from physically hurting you?	YES ..... 1 NO 2	–►1025

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1024	From whom have you sought help? Anyone else? RECORD ALL MENTIONED	MOTHER…….. A FATHER…….. B SISTER…….. C BROTHER…….. D CURRENT/LAST/LATE HUSBAND/ PARTNER…….. E CURRENT/FORMER BOYFRIEND F MOTHER-IN-LAW…….. G FATHER-IN-LAW…….. H OTHER FEMALE RELATIVE/IN-LAW I OTHER MALE RELATIVE/ IN-LAW J FRIEND…….. K NEIGHBOR…….. L TEACHER…….. M EMPLOYER…….. N RELIGIOUS LEADER…….. O DOCTOR/MEDICAL PERSONNEL….. P POLICE…….. Q LAWYER…….. R OTHER _ X (SPECIFY)	►1026
1025	What is the main reason you have never sought help?	DON'T KNOW WHO TO GO TO……01 NO USE……..02 PART OF LIFE……03 AFRAID OF DIVORCE/DESERTION…..04 AFRAID OF FURTHER BEATINGS……05 AFRAID OF GETTING PERSON BEATING HER INTO TROUBLE……06 EMBARRASSED……07 DON'T WANT TO DISGRACE FAMILY……..08 OTHER _ 96 (SPECIFY)	
1026	As far as you know, did your father ever beat your mother?	YES .....1 NO .....2 DON'T KNOW 8	

THANK THE RESPONDENT FOR HER COOPERATION AND REASSURE HER ABOUT THE CONFIDENTIALITY OF HER ANSWERS. FILL OUT THE QUESTIONS BELOW WITH REFERENCE TO THE HOUSEHOLD RELATIONS MODULE ONLY.

1027	DID YOU HAVE TO INTERRUPT THE INTERVIEW BECAUSE SOME ADULT WAS TRYING TO LISTEN, OR CAME INTO THE ROOM, OR INTERFERED IN ANY OTHER WAY?		YES ONCE	YES, MORE THAN ONCE	NO
		HUSBAND	1	2	3
		OTHER MALE ADULT	1	2	3
		FEMALE ADULT	1	2	3

1028 INTERVIEWER'S COMMENTS / EXPLANATION FOR NOT COMPLETING THE HOUSEHOLD RELATIONS MODULE

1129	RECORD THE TIME.	HOUR [ ][ ] MINUTES [ ][ ]

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR:_____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR:_____ DATE: _____

INSTRUCTIONS:
ONLY ONE CODE SHOULD APPEAR IN ANY BOX.

BIRTHS AND PREGNANCIES
B BIRTHS
P PREGNANCIES
T TERMINATIONS

	12 DEC	01	
	11 NOV	02	
	10 OCT	03	
	09 SEP	04	
2	08 AUG	05	
0	07 JUL	06	
0	06 JUN	07	
0	05 MAY	08	
5	04 APR	09	
	03 MAR	10	
	02 FEB	11	
	01 JAN	12	
	12 DEC	13	
	11 NOV	14	
	10 OCT	15	
	09 SEP	16	
2	08 AUG	17	
0	07 JUL	18	
0	06 JUN	19	
4	05 MAY	20	
	04 APR	21	
	03 MAR	22	
	02 FEB	23	
	01 JAN	24	
	12 DEC	25	
	11 NOV	26	
	10 OCT	27	
	09 SEP	28	
2	08 AUG	29	
0	07 JUL	30	
0	06 JUN	31	
3	05 MAY	32	
	04 APR	33	
	03 MAR	34	
	02 FEB	35	
	01 JAN	36	
	12 DEC	37	
	11 NOV	38	
	10 OCT	39	
	09 SEP	40	
2	08 AUG	41	
0	07 JUL	42	
0	06 JUN	43	
2	05 MAY	44	
	04 APR	45	
	03 MAR	46	
	02 FEB	47	
	01 JAN	48	
	12 DEC	49	
	11 NOV	50	
	10 OCT	51	
	09 SEP	52	
2	08 AUG	53	
0	07 JUL	54	
0	06 JUN	55	
1	05 MAY	56	
	04 APR	57	
	03 MAR	58	
	02 FEB	59	
	01 JAN	60	
	12 DEC	61	
	11 NOV	62	
	10 OCT	63	
	09 SEP	64	
2	08 AUG	65	
0	07 JUL	66	
0	06 JUN	67	
0	05 MAY	68	
	04 APR	69	
	03 MAR	70	
	02 FEB	71	
	01 JAN	72	

RWANDA DEMOGRAPHIC AND HEALTH SURVEY- 2005
INDIVIDUAL QUESTIONNAIRE MALE

MINECOFIN **REPUBLIC OF RWANDA**
DEPARTMENT OF STATISTICS

IDENTIFICATION

PLACE NAME _____

NAME OF HOUSEHOLD HEAD _____

PROVINCE.....

DISTRICT.....

CLUSTER NUMBER.....

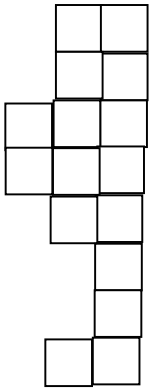
STRUCTURE NUMBER .....

HOUSEHOLD NUMBER .....

URBAN/ RURAL (URBAN=1, RURAL=2) .....

KIGALI CITY/ OTHER TOWNS/ RURAL.....
(KIGALI CITY =1, Other Towns =2, Rural=3)

NAME AND LINE NUMBER OF MAN.....



INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTHS / YEAR (2 0 0) / CODE / RÉSULT
INTERVIEWERS' NAME				
RESULT*				
NEXT VISIT : DATE				TOTAL NBR. OF VISITS
HOUR				

*RESULT CODES:
1. COMPLETED
2. NOT AT HOME
3. POSTPONED
4. REFUSED
5. PARTLY COMPLETED
6. INCAPACITATED
7 OTHER _____ (SPECIFY)

LANGUAGE OF INTERVIEW

KINYARWANDA.....1

OTHER LANGUAGE _____ (SPECIFY) 2

INTERPRETED YES 1
NO 2

TEAM LEADER	FIELD CONTROLLER	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____		
DATE _____	DATE _____		

SECTION 1. CARACTÉRISTIQUES SOCIO-DÉMOGRAPHIQUES DES ENQUÊTÉS

INTRODUCTION ET CONSENTEMENT

INFORMED CONSENT

Hello. My name is_____ and I am working with NATIONAL POPULATION OFFICE. We are conducting a national survey about the health of men, women and children. We would very much appreciate your participation in this survey. I would like to ask you some questions related to health. This information will help the government to plan health services. The survey usually takes about 30 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?
May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED 1 ▼ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED .....2 —►END

N^{O}.	QUESTIONS ET FILTRES	CODES	SKIP TO
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 live in a city, in a town, or in the countryside? IF "FOREIGN", SPECIFY THE TYPE OF PLACE OF RESIDENCE	KIGALI/CITY ..... 1 OTHER TOWNS ..... 2 COUNTRY SIDE 3	
103	How long have you been living continuously in (NAME OF CURRENT PLACE OF RESIDENCE)? IF LESS THAN ONE YEAR, RECORD '00' YEARS.	YEARS ..... ☐☐ ALWAYS ..... 95 VISITOR 96	 —►105
104	Just before you moved here, did you live in a city, in a town, or in the countryside? IF "FOREIGN", SPECIFY THE TYPE OF PLACE OF RESIDENCE	KIGALI/CITY ..... 1 OTHER TOWNS 2 COUNTRY SIDE 3	
105	In the last 12 months, on how many separate occasions have you traveled away from your home community and slept away?	NUMBER OF TRIPS ..... ☐☐ NONE 00	 —►107
106	In the last 12 months, have you been away from your home community for more than 1 month at a time?	YES ..... 1 NO 2	
107	In what month and year were you born?	MONTH ..... ☐☐ DK MONTH ..... 98 YEAR ..... ☐☐☐☐ DK YEAR 9998	
108	How old were you at your last birthday? COMPARE AND CORRECT 107 AND/OR 108 IF INCONSISTENT.	AGE IN COMPLETED YEARS ... ☐☐	

N^{O}.	QUESTIONS ET FILTRES	CODES	SKIP TO
109	Have you ever attended school?	YES .....1 NO 2	→113
110	What is the highest level of school you attended: primary, secondary, or higher?[1]	PRIMARY .....1 POST-PRIMARY .....2 SECONDARY .....3 TERTIARY 4	
111	What is the highest (class/form/year) you completed at that level?	CLASS/YEAR..... ☐☐	
112	VÉRIFIER 110: PRIMAIRE ☐ POST-PRIMAIRE OU PLUS ☐ ▼		►116
113	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL .....1 ABLE TO READ ONLY CERTAIN PARTS .....2 ABLE TO READ WHOLE SENTENCE.....3 NO CARD WITH REQUIRED LANGUAGE_____..4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED_____ 5	
114	Have you ever participated in a literacy program or any other program that involves learning to read or write (not including primary school)?[3]	YES .....1 NO 2	
115	VÉRIFIER 113: CODE '2', '3' OU '4' ENCERCLÉ ☐ ▼ CODE '1'ou 5 ENCERCLÉ ☐		►117
116	Do you read a newspaper or magazine almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY .....1 AT LEAST ONCE A WEEK .....2 LESS THAN ONCE A WEEK .....3 NOT AT ALL 4	
117	Do you listen to the radio almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY .....1 AT LEAST ONCE A WEEK .....2 LESS THAN ONCE A WEEK .....3 NOT AT ALL 4	
118	Do you watch television almost every day, at least once a week, less than once a week or not at all?	ALMOST EVERY DAY .....1 AT LEAST ONCE A WEEK .....2 LESS THAN ONCE A WEEK .....3 NOT AT ALL 4	
119	Are you currently working for which you earn money?	YES .....1 NO 2	►122
120	Have you earned money for any work done in the last 12 months?	YES .....1 NO 2	►122
121	What have you been doing for most of the time over the last 12 months?	GOING TO SCHOOL/STUDYING .....1 LOOKING FOR WORK .....2 RETIRED .....3 UNABLE TO WORK, ILL/HANDICAPPED 4 HOUSEWORK/CHILDCARE .....5 OTHERS _____ 6 (SPECIFY)	►129
122	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____	

N^{O}.	QUESTIONS ET FILTRES	CODES	SKIP TO
123	VÉRIFIER 122: TRAVAILLE DANS AGRICULTURE ☐▼ NE TRAVAILLE PAS DANS AGRICULTURE ☐		►125
124	Do you work mainly on your own land or on family land, or do you work on land that you rent from someone else, or do you work on someone else's land?	OWN LAND .....1 FAMILY LAND .....2 RENTED LAND .....3 SOMEONE ELSE'S LAND .....4 SHARECROPPER 5	
125	During the last 12 months, how many months did you work?	NUMBER OF MONTHS ..... ☐☐	
125A	Do you do this work for a member of your family, somebody or on your own?	FOR A MEMBER OF FAMILY .....1 FOR SOMEBODY ELSE .....2 ON HIS OWN 3	
126	Are you paid in cash or kind for this work, or are you not paid at all?	CASH ONLY.....1 CASH AND KIND .....2 IN KIND ONLY.....3 NOT PAID.....4	►129
127	Who mainly decides how the money you earn will be used?	RESPONDENT .....1 WIFE/PARTNER .....2 RESPONDENT AND WIFE/ PARTNER JOINTLY.....3 SOMEONE ELSE .....4 RESPONDENT AND SOMEONE ELSE JOINTLY.....5	
128	On average, how much of your household's expenditures do your earnings pay for: almost none, less than half, about half, more than half, or all?	NONE, HIS INCOME IS SAVED.....1 ALMOST NONE…….. ……..2 LESS THAN HALF .....3 HALF .....4 MORE THAN HALF.....5 ALL/NEARLY ALL 6	
129	What is your religion?	CATHOLIC .....1 PROTESTANT .....2 MUSLIM.....3 TRADITIONAL RELIGION.....4 7TH DAY ADVENTIST……5 OTHER _____ 6 (SPECIFY) NONE……7	
129A	During last four weeks, did you have a) Have a consultation with a service provider? b) Hospitalised for at least a night?	YES NO a) 1 2 b) 1 2	
129B	CHECK Q 129A a)	Q. 129A a) = YES ▼	Q.129A a) = NO ▼ (SKIP TO 129G)

N°.	QUESTIONS ET FILTRES	CODES	SKIP TO
129C	Where did the last consultation with a service provider take place?	PUBLIC SECTOR GOVERNMENT HOSPITAL ..... 11 GOVERNMENT HEALTH CENTER.... 12 DBC AGENT ..... 13 OTHER PUBLIC_____16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 PHARMACY ..... 22 PRIVATE DOCTOR ..... 23 ARBEF CLINIC..... 24 INFIRMARY..... 25 OTHER MEDICAL PRIVATE _____ 26 (SPECIFY) OTHER SOURCE SHOP/KIOSK ..... 31 OTHER _____ 96 (SPECIFY)	
129D	How much did you pay in total for the last consultation, including the drugs and the tests of laboratory?	PRICE ☐☐☐☐☐☐ FREE ..... 00000 DON'T KNOW 99998	
129E	Were there any (other) expenditures for medicines related to this consultation and paid to a pharmacy?	YES ..... 1 NO ..... 2 DON'T KNOW 8	▶ 129G
129F	How much did you pay to the pharnacy for these medicines?	PRICE ☐☐☐☐☐ DON'T KNOW 99998	
129 G	CHECK Q 129A b)	Q 129A b) = YES ▼ / Q 129A b) = NO ▼ (SKIP TO 129J)	
129H	Where were you hospitalised the last time for at least a night?	PUBLIC SECTOR GOVERNMENT HOSPITAL ..... 11 GOVERNMENT HEALTH CENTER.... 12 OTHER PUBLIC_____16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC ..... 21 ARBEF CLINIC..... 22 OTHER MEDICAL PRIVATE _____ 26 (SPECIFY) OTHER _____ 96 (SPECIFY)	
129I	How much in total did you pay for the hospitalisation?	PRICE ☐☐☐☐☐☐ FREE ..... 00000 DON'T KNOW..... 99998	

N^{O}.	QUESTIONS ET FILTRES	CODES	SKIP TO
129J	Which type of insurance do you currently have?	NONE .....1 RAMA MUTUAL ..... 2 OTHER MUTUAL _____ 3 (SPECIFY) OTHER NON-MUTUAL _____ 6 (SPECIFY) DON'T KNOW.....8	

SECTION 2: REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about any children you have had during your life. I am interested only in the children that are biologically yours. Have you ever fathered any children with any woman?	YES .....1 NO .....2 DON'T KNOW.....8	►206
202	Do you have any sons or daughters that you have fathered 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 ..... GIRLS AT HOME	
204	Do you have any sons or daughters you have fathered 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..... GIRLS ELSEWHERE	
206	Have you ever fathered a son or a daughter who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES .....1 NO .....2 DON'T KNOW.....8	►208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD..... GIRLS DEAD.....	
208	(In addition to the children that you have just told me about), do you have: any other living sons or daughters who are biologically your children but who are not legally yours or do not have your last name? ____YES ____NO a) any other sons or daughters who died who were biologically your children but who were not legally yours or did not have your last name? ____YES ____NO NO TO BOTH ▼ ; YES TO AT LEAST 2 CASES ► PROBE AND CORRECT 201 TO 207 AS NECESSARY.		
209	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL	
210	CHECK 209 : HAS HAD MORE THAN ONE CHILD ▼ ; HAS HAD ONLY ONE CHILD ▼ 213 ; HAS NOT HAD ANY CHILD ►		►214

N^{O}.	QUESTIONS ET FILTRES	CODES	ALLER À
211	Do the children that you have fathered all have the same biological mother?	YES .....1 NO 2	—►213
212	In all, with how many women have you fathered children?	NUMBER OF WOMEN..... ☐☐	
213	How old were you when your (first) child was born?	AGE IN YEARS ..... ☐☐	
214	Are there children who depend mainly on you?	YES .....1 NO 2	—►301
215	Among the children who depend mainly on you, are any less than 18 years old?	YES .....1 NO 2	—►301
216	Now I would like to speak with you about the children less than 18 years which depend mainly on you. Have you made arrangements for someone to take care of these children if you would fall sick or if you could not take care of them anymore?	YES .....1 NO .....2 NOT SURE 8	

SECTION 3. CONTRACEPTION

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 301, READING THE NAME AND DESCRIPTION OF EACH METHOD NOT MENTIONED SPONTANEOUSLY. CIRCLE CODE 1 IF METHOD IS RECOGNIZED, AND CODE 2 IF NOT RECOGNIZED. THEN, FOR EACH METHOD WITH CODE 1 CIRCLED IN 301, ASK 302 IF APPLICABLE.

301	Which ways or methods have you heard about? FOR METHODS NOT MENTIONED SPONTANEOUSLY, ASK: Have you ever heard of (METHOD)?		302 Have you ever used (METHOD)?
01	FEMALE STERILIZATION Women can have an operation to avoid having any more children.	YES.....1 NO .....2 →	
02	MALE STERILIZATION Men can have an operation to avoid having any more children.	YES.....1 NO .....2 →	Have you ever had an operation to avoid having any more children? YES .....1 NO 2
03	PILL Women can take a pill every day to avoid becoming pregnant.	YES.....1 NO .....2 →	
04	IUD Women can have a loop or coil placed inside them by a doctor or a nurse.	YES.....1 NO .....2 →	
05	INJECTABLES Women can have an injection by a health provider which stops them from becoming pregnant for one or more months.	YES.....1 NO .....2 →	
06	IMPLANTS Women can have several small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	YES.....1 NO .....2 →	
07	CONDOM Men can put a rubber sheath on their penis before sexual intercourse.	YES.....1 NO .....2 →	YES .....1 NO 2
08	FEMALE CONDOM Women can place a sheath in their vagina before sexual intercourse.	YES.....1 NO .....2 →	
09	DIAPHRAGM Women can place a thin flexible disk in their vagina before intercourse.	YES.....1 NO .....2 →	
10	FOAM OR JELLY Women can place a suppository, jelly, or cream in their vagina before intercourse.	YES.....1 NO .....2 →	
11	LACTATIONAL AMENORRHEA METHOD (LAM) Up to 6 months after childbirth, a woman can use a method that requires that she breastfeeds frequently, day and night, and that her menstrual period has not returned.	YES.....1 NO .....2 →	
12	RHYTHM OR PERIODIC ABSTINENCE Every month that a woman is sexually active she can avoid pregnancy by not having sexual intercourse on the days of the month she is most likely to get pregnant.	YES.....1 NO .....2 →	YES .....1 NO .....2 DON'T KNOW 8
12A	STANDARD DAYS METHOD, USING BEADS A woman who knows days of the month when she is likely to be pregnant can use a bead and a calendar.	YES.....1 NO .....2 →	
13	WITHDRAWAL Men can be careful and pull out before climax.	YES.....1 NO .....2 →	YES .....1 NO 2
14	EMERGENCY CONTRACEPTION Women can take pills up to three days after sexual intercourse to avoid becoming pregnant.	YES.....1 NO .....2 →	
15	Have you heard of any other ways or methods that women or men can use to avoid pregnancy?	YES.....1 _____ (SPECIFY) _____ (SPECIFY) NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
303	Now I would like to ask you about a woman's risk of pregnancy. From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant if she has sexual relations?	YES ..... 1 NO ..... 2 DON'T KNOW ..... 8 ▶ 305	
304	Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?	JUST BEFORE HER PERIOD BEGINS ..... 1 DURING HER PERIOD ..... 2 RIGHT AFTER HER PERIOD ENDED ..... 3 HALFWAY BETWEEN TWO PERIODS ..... 4 OTHER 6 (SPECIFY) _____ DON'T KNOW 8	
305	Do you think that a woman who is breastfeeding her baby can become pregnant?	YES ..... 1 NO ..... 2 IT DEPENDS ..... 3 DON'T KNOW 8	
306	I will now read you some statements about contraception. Please tell me if you agree or disagree with each one.	AGREE / DISAGREE / DON'T KNOW/ NO OPINION	
	a) Contraception is women's business and a man should not have to worry about it.	1 / 2 / 3	
	b) Women who use contraception may become promiscuous.	1 / 2 / 3	
	c) A woman is the one who gets pregnant so she should be the one to use contraception.	1 / 2 / 3	

SECTION 4. MARRIAGE AND SEXUAL ACTIVITY

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	—►406
401 A	Is your wife/partner living with you now, or does she live elsewhere ?	LIVING TOGETHER CURRENTLY .....1 STAYING ELSEWHERE 2	
401 B	CHECK 401 : CURRENTLY MARRIED ... LIVES WITH A WOMAN		—►404
402	Do you have one wife or more than one wife? IF ONLY ONE WIFE, RECORD '01' . IF MORE THAN ONE, ASK: How many wives do you currently have?	..... NUMBER OF WOMEN.....	
403	Are there any other women with whom you live as if married?	YES .....1 NO 2	—►405
404	How many women are you living with as if married? IF ONLY ONE LIVE-IN PARTNER, RECORD '01'.	NUMBER OF LIVE-IN PARTNERS	
405	Apart from the woman/women you have already mentioned, do you currently have any other regular or occasional sexual partners?	REGULAR PARTNER(S) ONLY .....1 OCCASIONAL PARTNER(S) ONLY .....2 REGULAR AND OCCASIONAL PARTNERS..... .....3 NO SEXUAL PARTNER.....4	►409
406	Do you currently have any regular sexual partners, occasional sexual partners, or do you have no sexual partner at all?	REGULAR PARTNER(S) ONLY .....1 OCCASIONAL PARTNER(S) ONLY .....2 REGULAR AND OCCASIONAL PARTNERS..... .....3 NO SEXUAL PARTNER.....4	
407	Have you ever been married or lived with a woman?	YES, FORMERLY MARRIED ONLY .....1 YES, LIVED WITH A WOMAN ONLY .....2 YES, BOTH .....3 NO 4	—►411 —►416
408	What is your marital status now: are you widowed, divorced, or separated?	WIDOWED..... .....1 DIVORCED.....2 SEPARATED.....3	►411

N°.	QUESTIONS AND FILTERS	CODES	SKIP TO
409	WRITE THE LINE NUMBERS FROM THE HOUSEHOLD QUESTIONNAIRE FOR EACH WIFE/PARTNER REPORTED IN QUESTIONS 402 AND 404 ONLY. IF A WIFE/PARTNER IS NOT LISTED IN THE HOUSEHOLD SCHEDULE, RECORD '00' IN THE LINE NUMBER BOXES. THE NUMBER OF LINES FILLED IN MUST BE EQUAL TO THE NUMBER OF WIVES AND PARTNERS . (IF RESPONDENT HAS MORE THAN FIVE WIVES/ PARTNERS USE ADDITIONAL QUESTIONNAIRE(S).)		
	CHECK : 402 AND 404: THE SUM OF 402 AND 404 ÉQUALS 1 ▼ LA SOMME DE 402 ET 404 EST ÉGALE À 2 OU PLUS ▼ Please tell me the name of your partner. Please tell me the name of each (wife/partner that you live with as if married), starting with the one you lived with first.	LINE NUMBER IN HHD. QUEST. WIFE PARTNER	
	1 _____ 2 _____ 3 _____ 4 _____ 5 _____	☐☐ ☐☐ ☐☐ ☐☐ ☐☐	1 2 1 2 1 2 1 2 1 2
410	VÉRIFIER : 409 ONLY ONE WIFE/ PARTNER ▼ 2 WIVE/PARTNERS OR MORE ☐		—►412
411	Have you been married or lived with a woman only once or more than once?	ONCE.....1 MORE THAN ONCE.....2	—►414 —►413
412	Have you ever been married to or lived as if married to any woman other than those you have just mentioned?	YES.....1 NO.....2	—►414
413	In total, in your whole life, how many women have you been married to or lived with as if married?	NUMBER OF WOMEN..... ☐☐	
414	CHECK 409 AND 411: ONLY ONE WIFE/ PARTNER ▼ ..... MARRIED/LIV ..... WITH A WOM ..... MORE THAN ON In what month and year did you start living with your wife/partner? Now we will talk about your first wife/partner. In what month and year did you start living with her?	MONTH ☐☐ DOESN'T KNOW MONTH.....98 YEAR ☐☐☐☐ DOESN'T KNOW YEAR.....9998	—►416

N°.	QUESTIONS AND FILTERS	CODES	SKIP TO
415	How old were you when you started living with her?	AGE ☐☐	
416	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some family life issues. How old were you when you first had sexual intercourse with a woman (if ever)?	NEVER ..... 00 AGE IN YEARS ☐☐ 1ST TIME WAS WHEN BEGAN LIVING WITH 1ST WIFE/PARTNER 95	►416B
416A	Do you intend to wait until you get married to have sexual intercourse for the first time ?	YES ..... 1 NO ..... 2 NOT SURE 8	►439
416B	CHECK : 108 AGE 15-24 YRS ☐ ▼ ÂGE 25-59 YRS ☐		►417
416C	The first time you had sexual intercourse, was a condom used?	YES ..... 1 NO 2	
416D	How old was the person with whom you had your first sexual relations?	AGE OF PARTNER ☐☐ DON'T KNOW 98	►417
416E	Was this person older than you, more young person or had it approximately the same age as you?	OLDER ..... 1 YOUNGER ..... 2 SAME AGE ..... 3 DK/DON'T REMEMBER 8	►417
416F	Would you say that this person had ten years more than you or more, or less than ten years more than you?	TEN OR MORE YEARS ..... 1 LESS THAN TEN YEARS ..... 2 OLDER, DK HOW MANY YEARS 3	
417	How long ago that you had your last sexual relations with a woman? RECORD IN "NUMBER OF YEARS" ONLY IF THE LAST INTERCOURSE TOOK PLACE IN A YEAR OR MORE IF 12 MONTHS OR MORE, THE ANSWER MUST BE RECORDED IN YEARS.	NUMBER OF DAYS ..... 1 ☐☐ NUMBER OF WEEKS ..... 2 ☐☐ NUMBER OF MONTHS .... 3 ☐☐ NUMBER OF YEARS ..... 4 ☐☐	►436A

		LAST SEXUAL PARTNER	SECOND LAST SEXUAL PARTNER	THIRD LAST SEXUAL PARTNER.
418	The last time that you had sexual relations with a woman, a condom was used?	YES ..... NO ..... (GO TO 426)↵	YES..... NO ..... (GO TO 426)↵	YES..... NO..... (GO TO 426)↵
419				
420	Did you use a condom each time you had sexual relations with this person during 12 months last?	YES ..... NO	YES..... NO	YES..... NO.....
421				
422				
423				
424				
425				
426	The last time that you had sexual intercourse with this third person, did you or your partner drink alcohol?	YES ..... NO ..... (GO TO 428)↵	YES..... NO ..... (GO TO 428)↵	YES..... NO..... (GO TO 428)↵
427	Was person or yourself drunk at this time? If YES : Who drank alcohol?	RESPONDENT ONLY..... PARTNER ONLY..... RESPONDENT AND PARTNER ..... NEITHER ONE.....	RESPONDENT ONLY ..... PARTNER ONLY..... RESPONDENT AND PARTNER..... NEITHER ONE	RESPONDENT ONLY ..... PARTNER ONLY ..... RESPONDENT AND PARTNER..... NEITHER ONE .....
428	What is your relationship to this person with whom you had last sexual intercourse? IF "GIRLFRIEND " OR "FIANCÉE", ASK : Was your girlfriend/fiancée living with you the last time that you had sex together? IF 'YES', CIRCLE '01' IF 'NO', CIRCLE '02'	SPOUSE/COHABITATING PARTNER ..... GIRLFRIEND/FIANCÉ ..... OTHER FRIEND ..... CASUAL ACQUAINTANCE. ..... RELATIVE..... COMMERCIAL SEX WORKER ..... OTHER _____ (SPECIFY)	SPOUSE/COHABITATING PARTNER..... GIRLFRIEND/FIANCÉ ..... OTHER FRIEND..... CASUAL ACQUAINTANCE. ..... RELATIVE ..... COMMERCIAL SEX WORKER..... OTHER _____ (SPECIFY)	SPOUSE/COHABITATING PARTNER..... GIRLFRIEND/FIANCÉ ..... OTHER FRIEND..... CASUAL ACQUAINTANCE. ..... RELATIVE..... COMMERCIAL SEX WORKER..... OTHER _____ (SPECIFY)
429	For how long you did have sexual intercourse with this woman? IF HE HAD SEXUAL INTERCOURSE WITH THIS WOMAN ONLY ONCE, RECORD '01' TO DAYS.	DAYS ..... 1 ☐☐ WEEKS ..... 2 ☐☐ MONTHS..... 3 ☐☐ YEARS ..... 4 ☐☐	DAYS ..... 1 ☐☐ WEEKS..... 2 ☐☐ MONTHS ..... 3 ☐☐ YEARS..... 4 ☐☐	DAYS .....1 ☐☐ WEEKS.....2 ☐☐ MONTHS .....3 ☐☐ YEARS.....4 ☐☐
430	CHECK : 103	MALE AGED 15-24 YEARS ▼ MALE AGED 25-59 YEARS (GO TO 434) ▼	MALE AGED 15-24 YEARS ▼ MALE AGED 25-59 YEARS (GO TO 434) ▼	MALE AGED 15-24 YEARS ▼ MALE AGED 25-59 YEARS (GO TO 434) ▼

		LAST SEXUAL PARTNER	SECOND LAST SEXUAL PARTNER	THIRD LAST SEXUAL PARTNER.
431	How old was this person?	ÂGE PARTNER..... ☐☐ (GO TO 434)↲ DON'T KNOW 98	ÂGE PARTNER..... ☐☐ (GO TO 434)↲ DON'T KNOW..... 98	ÂGE PARTNER ..... ☐☐ (GO TO 434)↲ DON'T KNOW.....98
432	Was this person older than you, young than you or had almost the same age as you?	OLDER..... 1 YOUNGER ..... 2 SAME AGE..... 3 DK ..... 8 ►434	OLDER ..... 1 YOUNGER..... 2 SAME AGE ..... 3 DK..... 8 ►434	OLDER.....1 YOUNGER.....2 SAME AGE .....3 DK .....8 ►434
433	Do you think he is more than 10 years older than you ?	10 OR MORE YEARS OLDER .....1 LESS THAN 10 YEARS OLDER.....2 OLDER, DK.....8	10 OR MORE YEARS OLDER ..... 1 LESS THAN 10 YEARS OLDER ..... 2 OLDER, DK 8	10 OR MORE YEARS OLDER ..... 1 LESS THAN 10 YEARS OLDER..... 2 OLDER, DK..... 8
434	Other than this (these) women, have you had sex with any other woman in the last 12 months?	YES .....1 (RETURN TO 418 ↲ N THE NEXT COLUMN) NO .....2 (GO TO 436A)↲	YES..... 1 (RETURN TO 418 ↲ IN THE NEXT COLUMN) NO ..... 2 (GO TO 436A)↲	

NO.	QUESTIONS AND FILTRES	CODES	GO TO
435	In all, with how many different people have you had sexual relations with in the last 12 months? IN CASE OF A NON-NUMERICAL ANSWER, INSIST TO OBTAIN ESTIMATION. IF THE NUMBER IS GREATER THAN ' 95 ', RECORD ' 95 ';	..... NUMBER OF PARTNERS ... ☐☐	
436 A	In the last 12 months, did you pay anyone in exchange for sex?	YES ..... 1 NO 2	–►437A
436 B	The last time you paid someone in exchange for sex, was a condom used?	YES ..... 1 NO 2	—►438
436 C	Did you use a condom during every sexual intercourse every time you paid someone in exchange for sex in the last 12 months?	YES ..... 1 NO ..... 2 DK/NOT SURE 8	►438
437 A	Have you ever in your life paid someone in exchange for sex?	YES ..... 1 NO 2	—►438
437 B	How long has it been since you've paid someone in exchange for sex?	..... NO. OF DAYS ..... 1 ☐☐ ..... NO. OF WEEKS ..... 2 ☐☐ ..... NO. OF MONTHS..... 3 ☐☐ ..... NO. OF YEARS ..... 4 ☐☐	
437 C	The last time that you paid someone in exchange for sex, was a condom used?	YES ..... 1 NO 2	

NO.	QUESTIONS AND FILTRES	CODES	GO TO
438	In total, how many different people have you had sexual intercourse with in your lifetime? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF PARTNERS IS GREATER THAN 95, RECORD '95'.	..... NUMBER OF PARTNERS ... ☐☐	
439	Do you know of a place where a person can get condoms?	YES ..... 1 NO 2	—►442
440	Where is that? IF THE 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) Any other place? RECORD ALL SOURCES MENTIONED.	PUBLIC SECTOR GOVT. HOSPITAL..... A GOVT. HEALTH CENTER..... B AGENT DBC..... C OTHER PUBLIC .....D (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC..... E PHARMACY ..... F PRIVATE DOCTOR..... G CLINIQUE ARBEF..... H INFIRMARY..... I OTHER PRIVATE MÉDICAL ..... J (SPECIFY) OTHER SOURCE SHOP/KIOSQUE ..... K ÉGLISE..... L PARENTS/AMIS..... M OTHER ..... X (SPECIFY)	
440 A	Do you know a place where you could go on foot to get a condom ?	YES ..... 1 NO 2	–►442
440 B	How long would it take for you to go and come back, on foot, to the closest place to get a condom?	MINUTES ..... ☐☐☐ ON THE SPOT 996	
442	CHECK 302(07), 416C, 436B AND 437C : USE OF CONDOMS AT LEAST ONE "YES" ☐▼ NOT ONE "YES" ☐		—►447
443	How old were you when you used a condom for the first time?	AGE IN YEARS THE 1ST ..... ☐☐ TIME USED CONDOM ..... ☐☐ ..... DON'T KNOW/CAN'T REMEMBER 98	

NO.	QUESTIONS AND FILTRES	CODES	GO TO
445	Have you run into any problems using a condom? IF "YES": What were the problems ? ASK : Auy other problem ? RECORD ALL PROBLEMS MENTIONED.	EMBARRASSING TO BUY/ TO GET A CONDOM ..... A DIFFICULT TO PUT ON/ TO GET OFF ..... B IT SPOILS THE MOOD ..... C IT REDUCES MY PLEASURE ..... D MY WIFE PARTNER DOESN'T LIKE IT ..... E MY WIFE/PARTNER IS ALREADY PREGNANT ..... F NOT PRACTICAL TO USE ..... G IT BREAKS/IT DOESN'T STAY IN PLACE ..... H OTHER _____ X (SPECIFY) NO PROBLEMS ..... Y	

447	Now I would like to read you certain statements that other people have made on the use of condoms. Could you tell me if you agree or not with each of the following statements?		AGREE	NOT AGREE	DON'T KNOW/ NO OPINION	
	a) A condom reduces sexual pleasure for the man.	a)	……1	…..2	……3	
	b) A condom is not practical to use.	b)	……1	……2	……3	
	c) A condom can be re-used.	c)	……1	……2	……3	
	d) A condom protects against getting disease.	d)	……1	……2	……3	
	e) Buying condoms is embarrassing.	e)	……1	……2	……3	
	f) A woman doesn't have the right to tell a man to use a condom.	f)	……1	……2	……3	

SECTION 5. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
501	VÉRIFIER 409: HAS ONE WIFE/ PARTNER ▼ HAS 2 WIVES/ PARTNERS, OR MORE ▼ NOT ASKED		►505
502	Is your wife/partner (any of your wives/partners) currently pregnant?	YES..... 1 NO..... 2 UNSURE..... 3	
503	CHECK 502: YES, WIFE(S)/ PARTNER(S) PREGNANT ▼ Now I have some questions about the future. After the child(ren) your wife/wives/ partner(s) is/are expecting now, would you like to have another child or would you prefer not to have any more children at all? NO, NO WIFE/ PARTNER PREGNANT NOT SURE ▼ 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 at all?	HAVE A/ANOTHER CHILD..... 1 NO MORE/NONE..... 2 WIFE/WIVES INFECUND/ STERILIZED..... 3 UNDECIDED/DON'T KNOW..... 8	►505
504	How long would you like to wait from now before the birth of (a/another) child ?	MONTHS.....1 ☐☐ YEARS .....2 ☐☐ SOON/NOW.....993 AFTER MARRIAGE .....995 OTHER.....996 (SPECIFY) DON'T KNOW 998	
505	CHECK 203 AND 205: 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.	PAS D'ENFANT .....00 NOMBRE ..... ☐☐ AUTRE .....96 (SPECIFY)	►507 ►507
506	How many of these children would you like to be boys, how many would you like to be girls, and for how many would the sex not matter?	BOYS GIRLS EITHER NUMB. ☐☐ ☐☐ ☐☐ OTHER.....96 (SPECIFY)	
507	Would you say that you approve or disapprove of couples using a contraceptive method to avoid getting pregnant?	APPROVE..... 1 DISAPPROVE..... 2 DON'T KNOW/UNSURE..... 8	
508	In the last few months have you heard about family planning: On the radio? On the television? In a newspaper or magazine?	YES NO RADIO..... 1 2 TELEVISION..... 1 2 NEWSPAPER OR MAGAZINE...1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
510	In the last few months, have you discussed the practice of family planning with your friends, neighbors, or relatives?	YES..... 1 NO..... 2	——►512
511	With who have you discussed it? Anyone else? RECORD ALL PERSONS MENTIONED.	WIFE(WIVES)/PARTNER(S)..... A MOTHER..... B FATHER..... C SISTER(S)..... D BROTHER(S)..... E DAUGHTER..... F SON..... G MOTHER(S)-IN-LAW..... H FATHER(S)-IN-LAW..... I FRIENDS/NEIGHBOURS..... J OTHER _____ X (SPECIFY)	
512	In the last few months, have you discussed the practice of family planning with a health worker or health professional?	YES..... 1 NO..... 2	

SECTION 6. PARTICIPATION IN HEALTH CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	VÉRIFIER 209: HAS HAD ONE OR MORE CHILDREN ▼	HAS NOT HAD ANY CHILDREN ☐	☐ ⟶►617
602	Please tell me the name and sex of your child (who was born most recently). _____ (NAME OF CHILD)	BOY..... 1 GIRL..... 2	
603	In what month and year was (NAME OF CHILD) born?	MONTH ☐☐ YEAR ☐☐☐☐	
604	Is (NAME OF CHILD) still living?	YES..... 1 NO..... 2 DON'T KNOW..... 8	⟶►606 ⟶►606
605	How old was (NAME OF CHILD) when he/she died? IF '1 YEAR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	DAYS..... 1 ☐☐ MONTHS..... 2 ☐☐ YEARS ..... 3 ☐☐ DON'T KNOW 998	
606	What is the name of (NAME OF CHILD)'s mother? WRITE THE CHILD'S MOTHER'S NAME AND HER LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF THE MOTHER IS NOT LISTED IN THE HOUSEHOLD SCHEDULE RECORD '00' NAME OF CHILD'S MOTHER _____	LINE NUMBER..... ☐☐	
607	CHECK 603: (LAST) CHILD BORN SINCE JANUARY 2000 OR LATER ▼	(LAST) CHILD BORN BEFORE JANUARY 2000 ☐	☐ ⟶►617
608	CHECK 606: LINE NUMBER IS '00' ▼	OTHER LINE NUMBER ☐	☐ ⟶►610
609	What is your relationship with (NAME OF MOTHER OF LAST CHILD BORN)?	CURRENT SPOUSE..... 01 FORMER SPOUSE..... 02 CURRENT LIVE-IN PARTNER..... 03 FORMER LIVE-IN PARTNER..... 04 REGULAR SEXUAL PARTNER..... 05 WOMAN IS GIRLFRIEND/FIANCÉE..... 06 OCCASIONAL SEXUAL PARTNER..... 07 FRIEND/ACQUAINTANCE..... 08 OTHER _____ 96 (SPECIFY)	

610	AFTER ASKING Q610A, FIRST ASK Q611 AND Q612 ABOUT PREGNANCY, THEN 610B, 611 AND 612 ABOUT DELIVERY, AND PROCEED IN THE SAME WAY FOR THE COLUMN " 6 WEEKS AFTER DELIVERY". ALL QUESTIONS REFER TO THE LAST BIRTH.			
		PREGNANCY	DELIVERY	6 WEEKS AFTER DELIVERY
	Now, think back to the time when (NAME OF CHILD'S MOTHER Q606) was pregnant with (NAME OF CHILD Q602).	**610A**: Did (NAME OF CHILD'S MOTHER) receive any antenatal care from a doctor or any health care provider when she was pregnant with (NAME OF CHILD)? YES ..... 1 NO ..... 2 (SKIP TO 612) DON'T KNOW ..... 8 (SKIP TO 610B IN THE NEXT COLUMN)	**610B** : Did a doctor or any health care provider assist with the delivery of (NAME OF CHILD)? YES ..... 1 NO ..... 2 (SKIP TO 612) DON'T KNOW ..... 8 (SKIP TO 610C IN THE NEXT COLUMN)	**610C**: Did (NAME OF CHILD'S MOTHER) receive any care for herself from a doctor or any health care provider during the six weeks after this delivery? YES ..... 1 NO ..... 2 (SKIP TO 612) DON'T KNOW ..... 8 (SKIP TO 613 IN THE NEXT COLUMN)
611	Who mainly provided the money or goods or services to pay for this care?	FREE ..... 01 INSURANCE ..... 02 RESPONDENT ..... 03 CHILD'S MOTHER ..... 04 RESPONDENT AND CHILD'S MOTHER ..... 05 RESPONDENT'S FAMILY ..... 06 CHILD'S MOTHER'S FAMILY ..... 07 OTHER _____ 96 (SPECIFY) (SKIP TO 610B IN THE NEXT COLUMN)	FREE ..... 01 INSURANCE ..... 02 RESPONDENT ..... 03 CHILD'S MOTHER ..... 04 RESPONDENT AND CHILD'S MOTHER ..... 05 RESPONDENT'S FAMILY ..... 06 CHILD'S MOTHER'S FAMILY ..... 07 OTHER _____ 96 (SPECIFY) (SKIP TO 610C IN THE NEXT COLUMN)	FREE ..... 01 INSURANCE ..... 02 RESPONDENT ..... 03 CHILD'S MOTHER ..... 04 RESPONDENT AND CHILD'S MOTHER ..... 05 RESPONDENT'S FAMILY ..... 06 CHILD'S MOTHER'S FAMILY ..... 07 OTHER _____ 96 (SPECIFY) (SKIP TO 613)
612	What was the main reason (NAME OF CHILD'S MOTHER) did not receive any advice or care from a doctor or other health care provider during (pregnancy/ delivery/the six weeks after delivery)?	NOT NECESSARY ..... 01 NOT CUSTOMARY ..... 02 RESPONDENT DIDN'T ALLOW ..... 03 TOO COSTLY ..... 04 TOO FAR/NO TRANSPORT ..... 05 POOR SERVICE ..... 06 LACK OF KNOWLEDGE ..... 07 OTHER _____ 96 (SPECIFY) (SKIP TO 610B IN THE NEXT COLUMN)	NOT NECESSARY ..... 01 NOT CUSTOMARY ..... 02 RESPONDENT DIDN'T ALLOW ..... 03 TOO COSTLY ..... 04 TOO FAR/NO TRANSPORT ..... 05 POOR SERVICE ..... 06 LACK OF KNOWLEDGE ..... 07 OTHER _____ 96 (SPECIFY) (SKIP TO 610B IN THE NEXT COLUMN)	NOT NECESSARY ..... 01 NOT CUSTOMARY ..... 02 RESPONDENT DIDN'T ALLOW ..... 03 TOO COSTLY ..... 04 TOO FAR/NO TRANSPORT ..... 05 POOR SERVICE ..... 06 LACK OF KNOWLEDGE ..... 07 OTHER _____ 96 (SPECIFY)
613	At any time while (NAME OF CHILD'S MOTHER) was pregnant with (NAME OF CHILD), did you yourself talk with a doctor or any other health care provider about the health of the mother or of the pregnancy?	YES ..... 1 NO 2		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
614	CHECK 602 AND 604: NAME OF (LAST) CHILD —————————— (LAST) CHILD LIVING ☐ ▼ (LAST) CHILD NOT LIVING OR DON'T KNOW ☐ ——————		——►617
615	Does (NAME OF CHILD) live with you in your household?	YES…….. 1 NO…… 2	——►617
616	In your household who usually decides what to do if the (NAME OF CHILD) is ill? RECORD ALL PERSONS MENTIONED.	RESPONDENT……..……A CHILD'S MOTHER……..……B WIFE/PARTNER WHO IS NOT CHILD'S MOTHER ……..……..C FEMALE RELATIVE…… ……..……..D MALE RELATIVE…… ……E OTHER X (SPECIFY) CHILD HAS NEVER BEEN ILL… ……Y	
617	Now, I want to talk to you about pregnancy and the health of children. Sometimes a pregnancy can have complications that lead to miscarriage or even death. What are some of the signs and symptoms that indicate that a pregnancy may be in danger? PROBE: Any other signs or symptoms? RECORD ALL SIGNS AND SYMPTOMS MENTIONED.	VAGINAL BLEEDING…… A HIGH FEVER…… B ABDOMINAL PAIN…… C SWELLING OF HANDS AND FEET ……D DIFFICULT LABOR FOR MORE THAN 12 HOURS…… E CONVULSIONS…… F OTHER X (SPECIFY) DON'T KNOW ANY SIGNS OR SYMPTOMS…… Y	
618	When a child has diarrhoea, should he/she be given less to drink than usual, about the same amount, or more than usual?	LESS…….. 1 ABOUT THE SAME …… ……2 MORE…… 3 DON'T KNOW…… 8	
619	Have you ever heard of a special product called [LOCAL NAME FOR ORS PACKET] you can get for the treatment of diarrhea?	YES…….. 1 NO…….. 2	
620	Now, please tell me about yourself. Do you currently smoke cigarettes or tobacco?[1] IF YES: What type of tobacco do you smoke? RECORD ALL TYPES MENTIONED.	YES, CIGARETTES…… A YES, PIPE…… B YES, OTHER TOBACCO…….. C NO…….. Y	
621	CHECK 620: CODE 'A' CIRCLED ☐ ▼ CODE 'A' NOT CIRCLED ☐ ——————		——►623
622	In the last 24 hours, how many cigarettes did you smoke?	CIGARETTES…… ☐☐	
623	Have you ever drunk an alcohol-containing beverage?	YES…….. 1 NO…… 2	——►701
624	In the last 3 months, on how many days did you drink an alcohol-containing beverage? IF EVERY DAY, RECORD '90'.	NUMBER OF DAYS …… ☐☐ NONE/NEVER95	
625	Have you ever gotten "drunk" from drinking an alcohol-containing beverage?	YES…….. 1 NO…… 2	——►701

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
626	CHECK 624: DRANK ALCOHOL AT LEAST 1 DAY ▼	NONE ☐	☐ ——►701
627	In the last 3 months, on how many occasions did you get “drunk”?	NUMBER OF TIMES..... ☐☐ NONE/NEVER..... 95	

SECTION 7. HIV/AIDS AND OTHER SEXUALLY TRANSMITTED INFECTIONS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES..... 1 NO..... 2	⟶735
702	Can people reduce their chances of getting the AIDS virus by having just one sex partner who is not infected and has no other partners?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
703	Can a person get the AIDS virus from mosquito bites?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
704	Can people reduce their chances of getting the AIDS virus by using a condom every time they have sex?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
705	Can a person get the AIDS virus by sharing food with a person who has AIDS?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
706	Can people reduce their chance of getting the AIDS virus by not having sex at all?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
707	Can people get the AIDS virus because of witchcraft or other supernatural means?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
708	Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?	YES..... 1 NO..... 2 DON'T KNOW..... 8	⟶710
709	What can a person do? Anything else? RECORD ALL WAYS MENTIONED.	ABSTAIN FROM SEX.....A USE CONDOMS.....B LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER.....C LIMIT NUMBER OF SEXUAL PARTNERS AVOID SEX WITH PROSTITUTES.....E AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS.....F AVOID SEX WITH HOMOSEXUALS.....G AVOID SEX WITH PERSONS WHO INJECT DRUGS INTRAVENOUSLY.....H AVOID BLOOD TRANSFUSIONS.....I AVOID INJECTIONS .....J AVOID SHARING RAZORS/BLADES.....K AVOID KISSING.....L AVOID MOSQUITO BITES.....M SEEK PROTECTION FROM TRADITIONAL PRACTITIONER.....N OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY) DON'T KNOW.....Z	
710	Is it possible for a healthy-looking person to have the AIDS virus?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
711	Can the virus that causes AIDS be transmitted from a mother to her child...	YES NO DK	
	During pregnancy?	DURING PREG 1 2 8	
	During delivery?	DURING DELV 1 2 8	
	By breastfeeding?	DURING BRSTFD 1 2 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
712	CHECK 711: A YES IN AT LEAST ONCE ☐ OTHER ☐		⟶714
713	Are there special drugs that a doctor or a nurse can give to a woman infected with the AIDS virus to reduce the risk of transmission to the baby during pregnancy?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
714	Are there special drugs, which a person infected with the AIDS virus can get from the doctor or the nurse?	YES..... 1 NO..... 2 DON'T KNOW..... 8	
715	I don't want to know the results, but have you ever been tested to see if you have the AIDS virus?	YES..... 1 NO..... 2	⟶720
716	When was the last time you were tested?	LESS THAN 12 MONTHS..... 1 12-23 MONTHS..... 2 2 YEARS OR MORE..... 3	
717	The last time you had the test, did you yourself ask for the test, was it offered to you and you accepted, or was it required?	ASKED FOR THE TEST..... 1 OFFERED AND ACCEPTED..... 2 REQUIRED..... 3	
718	I don't want to know the results, but did you get the results of the test?	YES..... 1 NO..... 2	
719	Where did you go for the test? 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 CENTER..... 12 VCT CENTER..... 13 OTHER PUBLIC _____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC.....21 PRIVATE DOCTOR..... 22 VCT CENTER..... 23 ARBEF CLINIC..... 24 INFIRMARY..... 25 OTHER PRIVATE MEDICAL _____ 26 (SPECIFY)	
720	Do you know a place where you could go to get an AIDS test?	YES..... 1 NO..... 2	⟶722
721	Where? IF SOURCE IS HOSPITAL, HEALTH CENTER, OR CLINIC, WRITES THE NAME OF THE PLACE. PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE _____ (NAME OF PLACE) Are there other places? RECORD ALL PLACES MENTIONED	PUBLIC SECTOR GOVERNMENT HOSPITAL..... A GOVERNMENT HEALTH CENTER..... B VCT CENTER..... C OTHER _____ D (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC..... E PRIVATE DOCTOR ..... F VCT CENTER ..... G ARBEF CLINIC... ..... H INFIRMARY..... ..... I OTHER PRIVATE MEDICAL_____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
722	Would you buy fresh vegetables from a vendor who has the AIDS virus?	YES…… 1 NO…… 2 DON'T KNOW…… 8	
722A	In your opinion, is it acceptable or unacceptable for AIDS to be discussed: on the radio? on the TV? in newspapers?	NOT ACCEPT-ABLE / ACCEPT-ABLE ON THE RADIO……1 2 ON THE TV……1 2 IN NEWSPAPERS……1 2	
722B	During the last three, have you ever heard or seen on AIDS through the media?	YES…… 1 NO…… 2 DON'T KNOW…… 8	▶722F
722C	In what media coverage did you hear or see something about AIDS The radio? The TV? In newspapers? On posters, leaflets or logo	YES NO ON THE RADIO……1 2 ON THE TV…….. 1 2 NEWSPAPERS…… … .1 2 POSTERS, LEAFLETS OR LOGO…….. 1 2	
722D	Have you changed your behaviour as results of things you have ever heard or seen about AIDS?	YES…… 1 NO…… 2 DON'T KNOW…… 8	▶722F
722E	How and In what way did you change your behaviour? RECORD ALL WAYS MENTIONED.	LIMIT NUMBER OF SEX PARTNERS.. A LIMIT SEX TO ONE PARTNER/STAY FAITHFUL TO ONE PARTNER…….. B AVOID SEX WITH OCCASIONAL PARTNERS……..…… C AVOID SEX WITH PERSONS WHO HAVE MANY PARTNERS……. D USE CONDOM FOR SEX WITH OCCASIONAL PARTNER…… E ABSTAIN FROM SEX …… F AVOID BLOOD INJECTIONS……. G AVOID TRANSFUSIONS…… H OTHER _____ W (SPECIFY) OTHER _____ X (SPECIFY)	
722F	CHECK 501: YES, CURRENTLY MARRIED/LIVING WITH A WOMAN ↓	NO, NOT IN UNION	➔723
722G	Have you ever talked with (your wife/the woman you are living with) about ways to prevent getting the virus that causes AIDS?	YES…….. 1 NO……. 2	
722H	In the last six-month, have you ever advised any one about ways to prevent getting the virus that causes AIDS?	YES…… 1 NO…… 2 DON'T KNOW…… 8	
723	If a member of your family got infected with the virus that causes AIDS, would you want it to remain a secret or not?	YES…… 1 NO……. 2 DON'T KNOW/UNSURE…… 8	
724	If a relative of yours became sick with the virus that causes AIDS, would you be willing to care for her or him in your own household?	YES…… 1 NO…… 2 DON'T KNOW/UNSURE/DEPENDS… 8	
725	If a female teacher has the AIDS virus, should she be allowed to continue teaching in the school?	CAN CONTINUE…….. 1 SHOULD NOT CONTINUE…… DON'T KNOW/UNSURE/DEPENDS….	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
726	Do you know any person who has ever been denied of medical services during the last 12 months because he/she is suspected to have AIDS or because he/she has AIDS?	YES…… NO…… DON'T KNOW A PERSON WITH AIDS	→731
727	Do you know any person who has ever been denied of participation in the social mobilisation, religious services on in the community events during the last 12 months because he/she is suspected to have AIDS or because he/she has AIDS?	YES…… NO……..	
728	Do you know any person who has ever been insulted or abused during the last 12 months because he/she is suspected to have AIDS or because he/she has AIDS?	YES…….. NO……	
729	CHECK 726, 727,728: OTHER ☐ AT LEAST ONE YES ☐		⟶731
730	Do you know any person who is suspected to have AIDS, haS AIDS or who has died of AIDS?	YES…….. NO……	
731	Would you agree or disagree with the affirmation that: People who have AIDS should feel ashamed?	AGREE…….. DON'T AGREE…… DON'T KNOW/NO OPINION……	
732	Would you agree or disagree with the affirmation that: People who have AIDS should be blamed for bringing the disease into the community?	AGREE…….. DON'T AGREE…… DON'T KNOW/NO OPINION……	
733	Should children between age 12 and 14 be taught about using a condom to prevent AIDS?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
734	Should children between age 12 and 14 wait until the get married to have sexual intercourse in order to avoid AIDS?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
735	Do you think young men should be wait until they are married to have sexual intercourse?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
736	Would you think that most young men that you know wait until they are married to have sexual intercourse?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
737	Do you think that most men you know who are not married and are having sex, have sex with only one partner?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
738	Do you think that most men you know who are not married and are having sex, have sex with only one partner?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
739	Do you believe that married men should only have sex with their wives?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
740	Do you think that most married men you know have sex only with their wives?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
741	Do you believe that young women should wait until they are married to have sexual intercourse?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
742	Do you think that most young women you know wait until they are married to have sexual intercourse?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
743	Do you believe that women who are not married and are having sex should only have sex with one partner?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
744	Do you think that most women you know who are not married and are having sex, have sex with only one partner?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
745	Do you believe that married women should only have sex with their husbands?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	
746	Do you think that most married women you know have sex only with their husbands?	YES…… NO…… DON'T KNOW/UNSURE/DEPENDS…	

SECTION 8: OTHER HEALTH PROBLEMS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	Some men are circumcised, are also circumcised?	YES..... 1 NO..... 2	
802	CHECK 701: HEARD OF AIDS ▼ Apart from AIDS have you ever heard of any other sexually transmitted disease? NOT HEARD OF AIDS ▼ have you ever heard of any other sexually transmitted disease?	YES..... 1 NO..... 2	—➢805
803	What are the symptoms which indicate that a man is infected with a sexually transmitted infection? Is there any other symptom? RECORD ALL MENTIONED SYMPTOMS	ABDOMINAL PAIN..... A GENITAL DISCHARGE/RIPPING..... B FOUL SMELLIMG DISCHARGE..... C BURNING PAIN ON URINATION..... D READINES/INFLAMATION IN GENITAL AREA..... E SWELLING IN GENITAL AREA..... F GENITAL SORES/ULCERS..... G GENITAL WARTS..... H GENITAL ITCHING..... I BLOOD IN URINE..... J LOSS OF WEIGHT..... K IMPORTANCE..... L OTHER_____ W SPECIFY OTHER_____ X SPECIFY NO SYMPTOMS..... Y DON'T KNOW..... Z	
804	Are there other symptoms which can indicate that a women is infected a sexually transmitted infection? Is there any other symptom? RECORD ALL MENTIONED SYMPTOMS	ABDOMINAL PAIN..... A GENITAL DISCHARGE/RIPPING..... B FOUL SMELLIMG DISCHARGE..... C BURNING PAIN ON URINATION..... D READINES/INFLAMATION IN GENITAL AREA..... E SWELLING IN GENITAL AREA..... F GENITAL SORES/ULCERS..... G GENITAL WARTS..... H GENITAL ITCHING..... I BLOOD IN URINE..... J LOSS OF WEIGHT..... K IMPORTANCE..... L OTHER_____ W SPECIFY OTHER_____ X SPECIFY NO SYMPTOMS..... Y DON'T KNOW..... Z	
805	CHECK 416: HAD SEX ▼ NOT HAD SEX		—➢816
806	CHECK 802: HEARD ABOUT SEXUALLY TRANSMITTED INFECTIONS ▼ NOT HEARD ABOUT SEXUALLY TRANSMITTED INFECTIONS		—➢808
807	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months have you had a disease which you got through sexual contact?	YES..... 1 NO..... 2 DON'T KNOW..... 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
808	Sometimes men experience an abnormal discharge from their penis. During the last 12 months, have you had an abnormal discharge from your penis?	YES…… 1 NO…… 2 DON'T KNOW…… 8	
809	Sometimes men have a sore or ulcer on or near their penis. During the last 12 months, have you had an ulcer or sore on or near your penis?	YES…… 1 NO…… 2 DON'T KNOW…… 8	
810	CHECK 807, 808 AND 809: HAD ONE INFECTION (AT LEAST ONE YES) ☐ ▼	NOT HAD ANY INFECTION OR DON'T KNOW ☐	→808
811	The last time you suffered (PROBLEME MENTIONED 807/808 /809), did you seek any kind of advise or treatment?	YES…… 1 NO…… 2	
812	Where did you go? Is there any other place? ENREGISTRER TOUT CE QUI EST MENTIONNÉ	PUBLIC SECTOR GOV.HOSPITAL /ASSISTED …….. A GOV.HEALTH CENT /ASSISTED ….. B CBD AGENT ……. C VCT CENTRE. . . . . D FIELDWORKER. . . . . E OTHER PUBLIC_____F (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE DOCTOE …….. H PHARMACY…… I ARBREF CLINIC ……..…….. J VCT CENTRE ……. K INFIRMARY. . . . . L OTHER PRIVATE MÉDICAL_____M (SPECIFY) OTHER SOURCE SHOP. . . . . N OTHER_____ X (SPECIFY)	
813	The last time you suffered (PROBLEM(S) OF 807/808/809), did you inform your sexual partner(s) ?	YES…….. NO…… SOME/NOT ALL. ……... . . . . 3 HAVE NO PARTNER.	
814	The last time you suffered (PROBLEM(S) OF 807/808/809), did you do any thing to avoid infecting your partner?	YES…… 1 NO…… 2 PARTNER(S) ALREADY INFECTED… 8	
815	What did you do to prevent you partner from being unfected? Took medicine? Stopped sex? Used Condom?	YES NO TOOK MEDICINE……. 1 2 STOPPED SEX. . . . . 1 2 USED CONDOM. 1 2	
816	Let us now talk about your health status in the last 6 month. During the last six month , have you ever been injected for any reason? IF YES: How many injection did you receive? IF THE NUMBER OF INJECTION IS MORE THAN 94 OR IF IF HE RECEIVED INJECTION IN 3 MONTH CONSECUTIVELY RECORD 95 IN THE CASE RESPONSE IN NON- NUMERICAL PROBE TO OBTAIN THE ESTIMATIONS	NUMBER OF INJECTIONS..... ☐☐ NONE…….. 95	
817	For the number of injections you have mentioned, how many were were provided by the doctor,a nurse, pharmacis, dentist or any other medical practitioner	NUMBER OF INJECTIONS…… ☐☐ | NONE…….. 95	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	IF THE NUMBER OF INJECTION IS MORE THAN 99 OR IF IF HE RECEIVED INJECTION IN 3 MONTH CONSECUTIVELY RECORD 95 IN THE CASE RESPONSE IN NONO- NUMERICAL PROBE TO OBTAIN THE ESTIMATIONS		
818	Where did you go for injection the last time you got injection?	PUBLIC SECTOR GOV.HOSPITAL /ASSISTED…….. 11 GOV.HEALTH CENT /ASSISTED…... 12 BDC AGENT . . . . . 13 OTHER PUBLIC_____ 16 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC 21 DENTIST…….. 22 PHARMACIST…… 23 PRIVATE DOCTOR/NURSE. . . . . 24 ARBEFCLINIC . . . . . 25 OTHER PRIVATE _____ 26 (SPECIFY) OTHER CARE AT HOME. . . . . 31 OTHER_____ 96 (SPECIFY)	
819	The last time you were injected, did the person who injected you remove the injection from the cover which has never been open before?	YES…… 1 NO…… 2 DON'T KNOW…… 8	

SECTION 9. ATTITUDES TOWARDS GENDER ROLES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	In a couple, who do you think should have the greater say in each of the following decisions: the husband, the wife or both equally:	HUSBAND = 1; WIFE = 2; BOTH EQUALLY = 3; DON'T KNOW, DEPENDS = 8	
	a) making large household purchases?	a) 1 2 3 8	
	b) making small daily household purchases?	b) 1 2 3 8	
	c) deciding when to visit family, friends or relatives?	c) 1 2 3 8	
	d) deciding what to do with the money she earns for her work?	d) 1 2 3 8	
	e) deciding how many children to have and when to have them?	e) 1 2 3 8	
902	Sometimes a husband is annoyed or angered by things that his wife/partner does. In your opinion, is a husband justified in hitting or beating his wife in the following situations...	YES = 1; NO = 2; DON'T KNOW, DEPENDS = 8	
	a) If she goes out without telling him?	a) 1 2 8	
	b) If she neglects the children?	b) 1 2 8	
	c) If she argues with him?	c) 1 2 8	
	d) If she refuses to have sex with him?	d) 1 2 8	
	e) If she burns the food?	e) 1 2 8	
903	When a wife knows her husband has a disease that can transmitted through sexual contact, is she justified in asking that they use a condom?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
904	Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified in refusing to have sex with her husband if...	YES = 1; NO = 2; DON'T KNOW, DEPENDS = 8	
	a) She is tired and not in the mood?	a) 1 2 8	
	b) She has recently given birth?	b) 1 2 8	
	c) She knows her husband has sex with other women?	c) 1 2 8	
	d) She knows her husband has a sexually transmitted disease?	d) 1 2 8	
805	Do you think that if a woman refuses to have sex with her husband when he wants her to, he has the right to...	YES = 1; NO = 2; DON'T KNOW, DEPENDS = 8	
	a) Get angry and reprimand her?	a) 1 2 8	
	b) Refuse to give her money or other means of financial support?	b) 1 2 8	
	c) Use force and have sex with her even if she doesn't want to?	c) 1 2 8	
	d) Go and have sex with another woman?	d) 1 2 8	
809	ENREGISTRER L'HEURE	HEURE . . . . . [ ][ ] MINUTES . . . . . [ ][ ]	

OBSERVATIONS DE L'ENQUETEUR

A REMPLIR APRÈS AVOIR TERMINÉ L'INTERVIEW

COMMENTAIRES SUR L'ENQUÊTÉE:

COMMENTAIRES SUR DES QUESTIONS PARTICULIÈRES:

AUTRES COMMENTAIRES:

OBSERVATIONS DE CHEF D'ÉQUIPE

NOM DU CHEF D'ÉQUIPE: _____ DATE: _____

OBSERVATIONS DE LA CONTRÔLEUSE

NOM DE LA CONTRÔLEUSE: _____ DATE: _____