Rwanda

2010 Demographic and Health Survey

Key Findings

This report summarizes the findings of the 2010 Rwanda Demographic and Health Survey (RDHS), which was implemented by the National Institute of Statistics of Rwanda (NISR) and the Ministry of Health (MOH). ICF International provided technical assistance for the survey through the USAID-funded MEASURE DHS program, which is designed to assist developing countries in collecting data on fertility, family planning, and maternal and child health. Funding for the RDHS was provided by the Government of Rwanda; the United States Agency for International Development (USAID); the United Nations Children's Fund (UNICEF); the Centers for Disease Control and Prevention/ Global AIDS Program (CDC/GAP); the Global Fund to fight AIDS, Tuberculosis and Malaria; the United Nations Population Fund (UNFPA); and World Vision. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the donor organizations.

Additional information about the survey may be obtained from the National Institute of Statistics of Rwanda (NISR), P.O. Box 6139, Kigali, Rwanda, (Telephone: +250-571-035; email: info@statistics.gov.rw, web: www.statistics.gov.rw).

Additional information about the DHS program may be obtained from MEASURE DHS, ICF International, 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, U.S.A. (Telephone: 1.301.572.0200; Fax: 1.301.572.0999; web: www.measuredhs.com)

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About the 2010 RDHS

The 2010 Rwanda Demographic and Health Survey (RDHS) is designed to provide data for monitoring the population and health situation in Rwanda. The 2010 RDHS is the fifth Demographic and Health Survey to be conducted in Rwanda (DHS in 1992, 2000, and 2005 and Interim DHS in 2007-08). The objective of the survey was to provide up-to-date information on fertility, family planning, childhood mortality, nutrition including anemia testing, maternal and child health, domestic violence, malaria including malaria testing, maternal mortality, awareness and behavior regarding HIV/AIDS and other sexually transmitted infections, and HIV prevalence.

Who participated in the survey?

A nationally representative sample of 13,671 women age 15–49 in all selected households and 6,329 men age 15–59 in half of selected households were interviewed. This represents a response rate of 99% for both women and men. This sample provides estimates at the national and provincial levels.

Household Characteristics

Household composition

Rwandan households consist of an average of 4.4 people. Almost half (45%) of the household members are children under age 15.

Housing conditions

Housing conditions vary greatly based on residence. Nearly half (45%) of urban households have electricity compared with only 4% of rural households. Almost all (90%) households in urban areas have access to an improved water source, compared with 71% of households in rural areas. Overall, 58% of households use an improved, not-shared toilet facility. One in four households have non-improved toilet facility.

Ownership of goods

Currently, 63% of Rwandan households own a radio and 40% have a mobile phone. Twenty-eight percent of urban households have a television, compared with 2% of rural households.

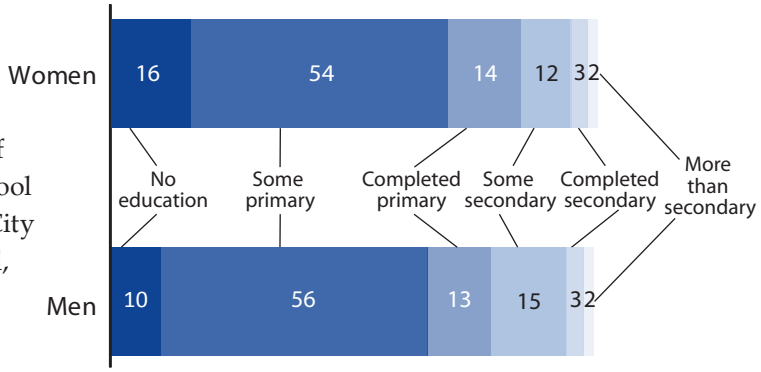
Fifteen percent of all Rwandan households own a bicycle (11% in urban compared with 16% in rural households). Nationwide, only 1% of households own a car or truck. Rural households are most likely to own agricultural land (87%).

Education of survey respondents

Sixteen percent of Rwandan women and 10% of Rwandan men have had no formal education; 16% of women and 21% of men have gone to secondary school or beyond. Urban residents and those living in the City of Kigali have the highest level of education. Overall, 77% of women and 82% of men are literate.

Education

Percent distribution of women and men age 15–49 by highest level of education



Fertility and its Determinants

Total Fertility Rate (TFR)

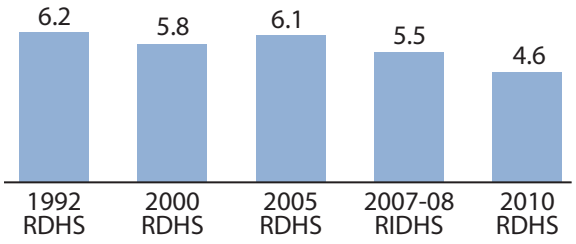
Fertility in Rwanda has declined over the past two decades. Currently, women in Rwanda have an average of 4.6 children, down from 6.1 in 2005.

Fertility varies by residence. Women in urban areas have 3.4 children on average, compared with 4.8 children per woman in rural areas.

Fertility also varies with mother's education and economic status. Women with no education have nearly twice as many children as women with secondary or higher education (5.4 versus 3.0 children per woman). Fertility increases as the wealth of the respondent's household* decreases. The poorest women, on average, have two more children than women who live in the wealthiest households (5.4 versus 3.4 children per woman).

Trends in Fertility

Births per woman

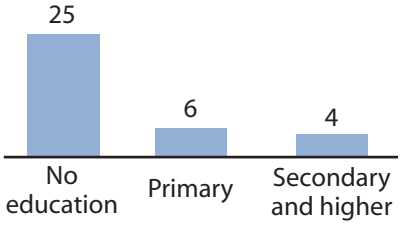


Teenage fertility

According to the 2010 RDHS, 6% of young women age 15–19 have already begun childbearing: 5% are mothers, and an additional 1% are pregnant with their first child. Young motherhood is slightly more common in rural areas than in urban areas. Young women with no education are more than six times as likely to have started childbearing by age 19 than those who have secondary or higher education (25% versus 4%).

Teenage Childbearing by Education

Percent of women age 15-19 who are mothers or pregnant with their first child



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

Age at first birth

The median age at first birth for all women age 25–49 is 22.4. Women living in urban areas have their first birth about one year later than women living in rural areas. Age at first birth increases with education and wealth. Women with no education have their first birth at a median age of 21.5 compared with 24.5 among women with secondary or higher education.

Age at first marriage

Seventeen percent of women age 25-49 in Rwanda are married by age 18, compared with just 3% of men age 25-49. The median age at first marriage is 21.4 for women age 25–49 compared with men age 25-59 who marry later, at a median age of 24.9. Age at marriage greatly increases with education; women with secondary or higher education get married on average three and a half years later than those with no education (median age of 23.6 years versus 20.1 years for women age 25–49).

Age at first sexual intercourse

Twenty-one percent of women age 25-49 and 16% of men age 25-49 were sexually active by the age of 18. Three percent of women and men have had sex by the age of 15. Women start sexual activity about a year earlier than men (median age of 20.7 years for women age 25-49 and 21.6 years for men age 25-59).

Polygamy

Eight percent of women are married to a man with more than one wife. Polygamy is most common in the West and East provinces and among women with no education.

Desired family size

Rwandan women and men want about three children, on average. Women's ideal family size is similar regardless of residence, province or wealth. Women with secondary or higher education desire fewer children than women with no education (2.9 versus 3.8).

Family Planning

Knowledge of family planning

Knowledge of family planning methods in Rwanda is universal; all women and men age 15–49 know at least one modern method of family planning. The most commonly known methods are male condoms, injectables, and the pill.

Current use of family planning

More than 4 in 10 married women (45%) currently use a modern method of family planning. Another 6% are using a traditional method. Injectables (26%), the pill (7%), and implants (6%) are the most commonly used methods. Similarly, sexually-active unmarried women are equally as likely to use family planning—40% are using a modern method, with 18% using injectables and 12% using male condoms.

Modern method use varied little by urban-rural residence. However, use of modern family planning methods varies by province from a low of 36% in West to a high of 52% in North provinces.

Modern contraceptive use increases with education and wealth. Over half (52%) of married women with secondary or higher education use modern methods, compared with 37% of married women with no education. Fifty percent of married women in the richest households use modern methods, compared with 39% of married women in the poorest households.

Trends in family planning use

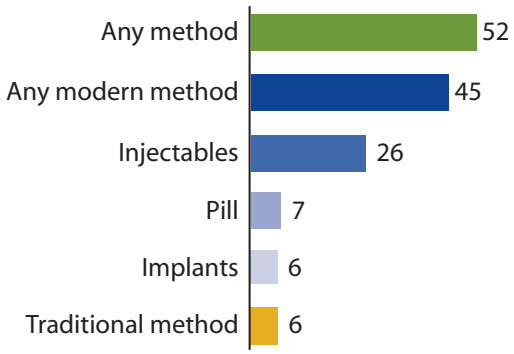
Family planning use has increased dramatically in the past decade. This is primarily due to a continued increase in the use of injectables.

Source of family planning methods

Public sources, such as government hospitals and health centers, currently provide contraceptives to the majority (92%) of current users. Condoms are most commonly obtained at health centers (38%) and kiosks (30%), while most other methods are obtained at government hospitals and health centers.

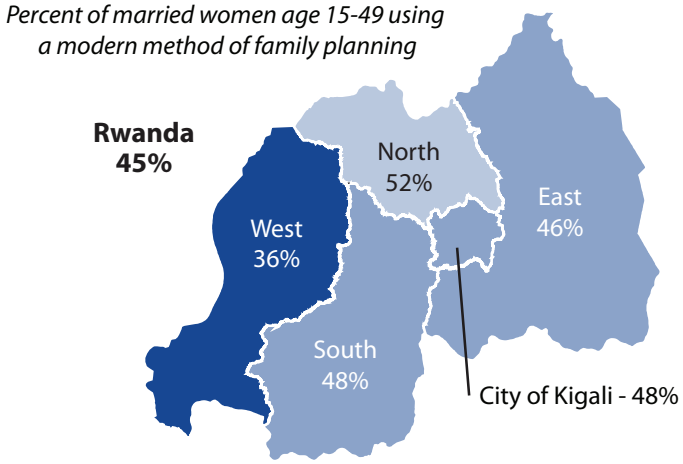
Family Planning

Percent of married women age 15–49 using family planning



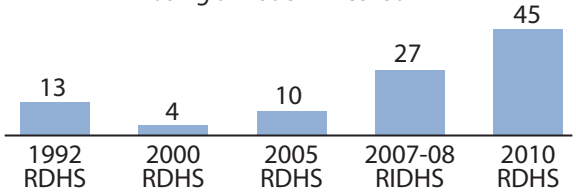
Modern Method Use by Province

Percent of married women age 15-49 using a modern method of family planning



Trends in Use of Modern Methods of Contraception

Percent of currently married women using a modern method



Need for Family Planning

Desire to delay or stop childbearing

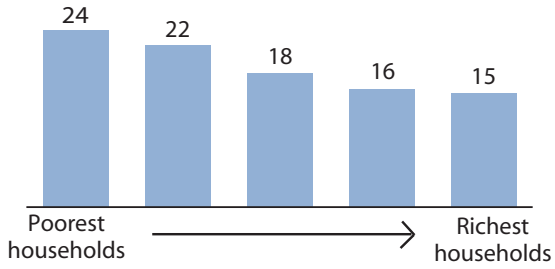
Fifty-two percent of currently married Rwandan women want no more children. Another 36% want to wait at least two years before their next birth. These women are potential users of family planning.

Unmet need for family planning

Unmet need for family planning is defined as the percentage of married women who want to space their next birth or stop childbearing entirely, but are not using contraception. The 2010 RDHS reveals that 19% of married women have an unmet need for family planning—10% of women have a need for spacing births and 9% for limiting births. Unmet need is highest among poorer women and those with no education. West and East provinces have the highest unmet need for family planning (25% and 20%, respectively).

Unmet Need by Wealth

Percent of married women 15–49 with unmet need for family planning



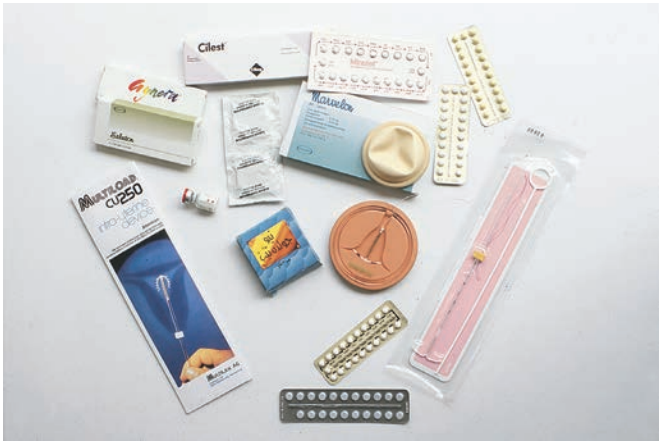
Missed opportunities

Overall, 66% of women and 83% of men heard a family planning message on the radio in the months before the survey. One third of women did not hear or see any family planning message on radio, television or newspaper.

Among all women who are not currently using family planning, 15% were visited by a field worker who discussed family planning, and 20% of women visited a health facility where they discussed family planning. Overall, 73% of non-users did not discuss family planning with any health worker.

Informed choice

Family planning clients should be informed about the side effects of the method used, what to do if they experience side effects, and told about other family planning methods. Two in three Rwandan women were informed about possible side effects of their method, and 68% were informed about what to do if they experience side effects. Seventy-eight percent of women were informed about other family planning methods.



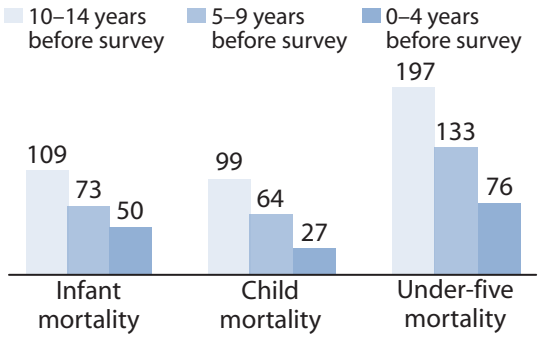
Infant and Child Mortality

Levels and trends

Childhood mortality levels are decreasing in Rwanda. Currently, infant mortality is 50 deaths per 1,000 live births for the five-year period before the survey, compared with 73 deaths for the five-to-nine-year period before the survey. Under-five mortality levels have also decreased from 133 deaths per 1,000 live births to 76 over the same time period.

Trends in Childhood Mortality

Deaths per 1,000 live births



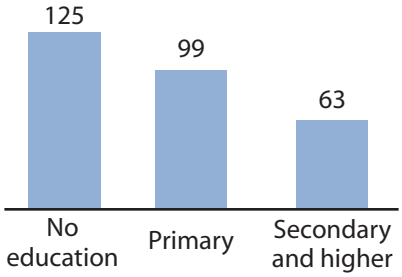
Mortality rates differ slightly by province. The under-five mortality rate for the ten-year period before the survey ranges from 79 deaths per 1,000 live births in the City of Kigali to 125 in the East Province. Under-five mortality differs dramatically by a mother's level of education. Children born to a mother who has secondary or higher education are markedly less likely to die before their fifth birthday than children whose mothers have received no education (63 and 125 deaths per 1,000 live births, respectively).

Birth intervals

Spacing children at least 36 months apart reduces the risk of infant death. In Rwanda, the median birth interval is 32.7 months. Infants born less than two years after a previous birth have particularly high under-five mortality rates (156 deaths per 1,000 live births compared with 76 deaths per 1,000 live births for infants born three years after the previous birth). Twenty percent of infants in Rwanda are born less than two years after a previous birth.

Under-five Mortality by Mother's Education

Deaths per 1,000 live births for the 10-year period before the survey by mother's level of education



Maternal Health

Antenatal care

Almost all (98%) Rwandan women receive some antenatal care (ANC) from a skilled provider, most commonly from a nurse or medical assistant (94%). However, only 38% of women had an antenatal care visit by their fourth month of pregnancy, as recommended and just 35% received the recommended four or more ANC visits. Seven in ten (73%) women took iron supplements during pregnancy; 39% took intestinal parasite drugs. Seven in ten women were informed of signs of pregnancy complications during an ANC visit. Seventy-nine percent of women's most recent births were protected against neonatal tetanus.

Delivery and postnatal care

Over two-thirds (69%) of Rwandan births occur in health facilities, primarily in public sector facilities. Home births are twice as common in rural areas (31%) as in urban areas (16%).

Sixty-nine percent of births are assisted by a skilled provider (doctor, nurse/medical assistant, or midwife). Another 16% are assisted by untrained relatives or friends, and another 10% are unassisted.

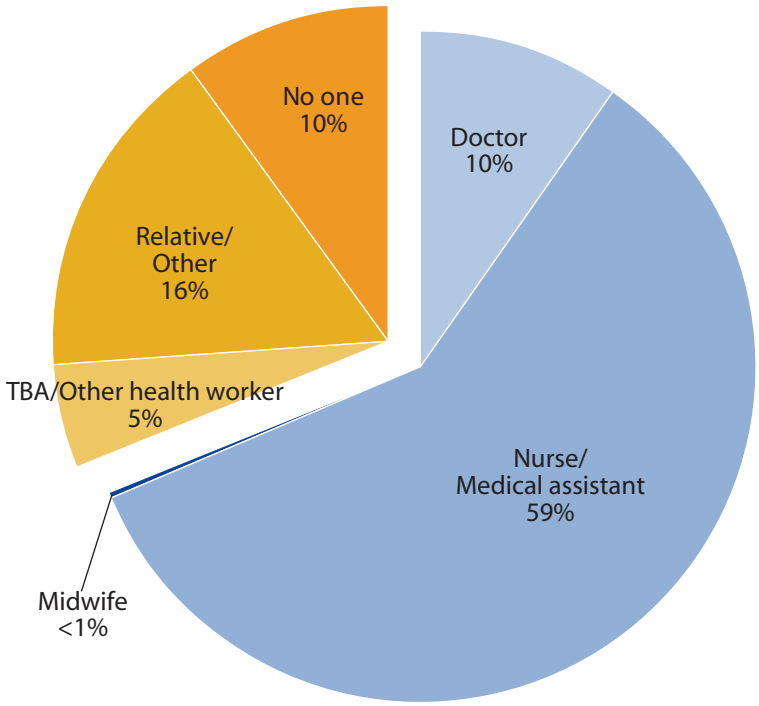
Postnatal care helps prevent complications after childbirth. Only 18% of women received a postnatal checkup within two days of delivery, as recommended. The majority of women (80%) did not have a postnatal checkup.

Maternal mortality

The 2010 RDHS asked women about deaths of their sisters to determine maternal mortality—deaths associated with pregnancy and childbearing. The maternal mortality ratio for Rwanda is 487 deaths per 100,000 live births. The 95% confidence interval for the 2010 maternal mortality ratio ranges from 393 to 581 deaths per 100,000 live births.

Assistance During Delivery

Percent distribution of births in the 5 years before the survey



69% of births were assisted by a skilled provider

Child Health

Vaccination coverage

According to the 2010 RDHS, 90% of Rwandan children age 12–23 months have received all recommended vaccines—one dose each of BCG and measles, and three doses each of DPT or pentavalent (DPT-HepB-Hib) and polio. Less than 1% of children did not receive any of the recommended vaccines.

Vaccination coverage is slightly higher in urban areas than rural areas (93% versus 90%). There is more variation in vaccination coverage by province, ranging from only 81% of children fully vaccinated in West Province to 96% in the City of Kigali. Coverage increases with mother's level of education; 97% of children whose mothers have secondary or higher education are fully vaccinated compared with 87% of children whose mothers have no education.

Trends in vaccination coverage

Vaccination coverage has increased substantially over the past five years. Vaccination coverage has increased from 75% in 2005 to 90% in 2010.

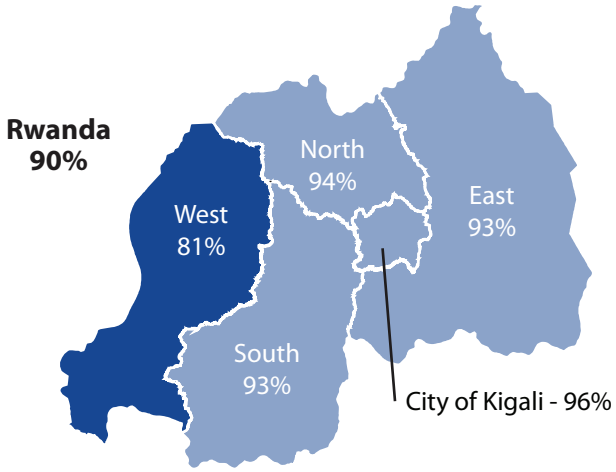
Childhood illnesses

In the two weeks before the survey, 4% of children under five were ill with cough and rapid breathing, symptoms of an acute respiratory infection (ARI). Of these children, 50% were taken to a health facility or provider.

During the two weeks before the survey, 13% of Rwandan children under age five had diarrhea. Prevalence of diarrhea is highest among children age 12-23 months (25%) and age 6–11 months (22%). Thirty-seven percent of children with diarrhea were taken to a health provider. Children with diarrhea should drink more fluids, particularly through oral rehydration salts (ORS). Nearly half of children with diarrhea were treated with ORS or increased fluids. However, 1 in 4 children received no treatment (from a medical professional or at home) at all.

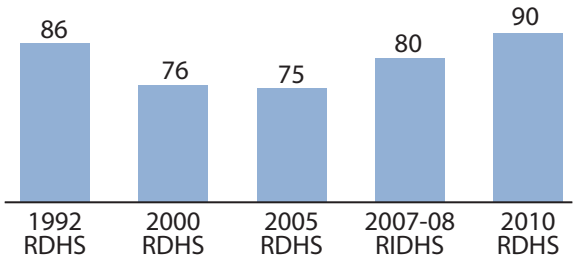
Vaccination Coverage by Province

Percent of children age 12-23 months with all basic vaccinations
(BCG, measles, and 3 doses each of DPT-HepB-Hib and polio)



Trends in Vaccination Coverage

Percent of children 12-23 months who have received all basic vaccinations
(BCG, measles, and 3 doses each of DPT-Hep B-Hib and polio)



Feeding Practices and the Nutritional Status of Women and Children

Breastfeeding and the introduction of complementary foods

Breastfeeding is very common in Rwanda, with 99% of children ever breastfed. WHO recommends that children receive nothing but breast milk (exclusive breastfeeding) for the first six months of life. Over 8 in 10 children under six months in Rwanda are being exclusively breastfed. On average, children breastfeed until the age of 29 months and are exclusively breastfed for 5.3 months.

Complementary foods should be introduced when a child is six months old to reduce the risk of malnutrition. In Rwanda, 61% of children ages 6–8 months are eating complementary foods.

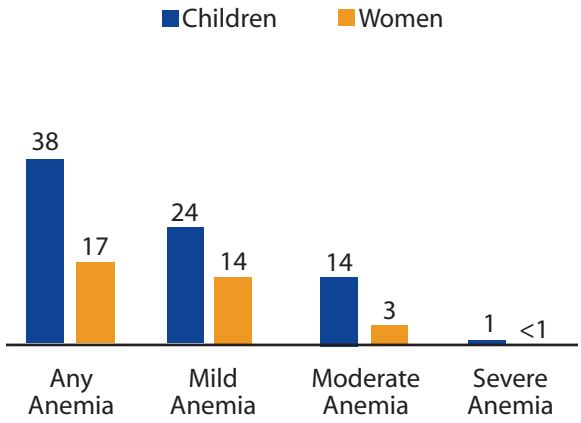
The Infant and Young Child Feeding (IYCF) practices recommend that breastfed children age 6–23 months be fed four or more food groups daily. Non-breastfed children should be fed milk or milk products, in addition to four or more food groups. IYCF also recommends that children be fed a minimum number of times per day.* However, less than 1 in 5 breastfed children in Rwanda are receiving four or more food groups daily and receive the minimum number of feedings. Just 10% of non-breastfed children are being fed in accordance with IYCF recommendations.

Anemia

The 2010 RDHS tested over 4,000 children age 6 to 59 months and 6,945 women for anemia. About 4 in 10 children are classified as having any anemia, most of whom have mild anemia. Anemia has decreased from 52% of children in the 2005 RDHS to 38% of children in 2010. Seventeen percent of women are anemic, most of whom are mildly anemic (14%). Anemia is higher among pregnant women (20%) than among women who are neither pregnant nor breastfeeding (17%). Mild anemia is the most common form of anemia among both groups of women.

Anemia in Women and Children

Percent of children age 6-59 months and women age 15-49 years with anemia



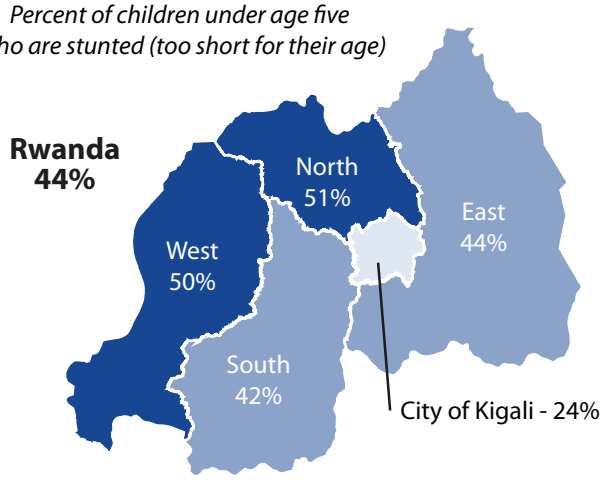
*At least twice a day for breastfed infants age 6-8 months and at least three times a day for breastfed children age 9-23 months. For non-breastfed children age 6-23 months, the minimum number of times is four times a day.

Children's nutritional status

The RDHS measures children's nutritional status by comparing height and weight measurements against an international reference standard. According to the 2010 survey, 44% of children under five are stunted, or too short for their age, which indicates chronic malnutrition. Stunting is most common among children age 18-23 months (55%). Stunting is least common among children of more educated mothers and those from wealthier families. Wasting (too thin for height), which is a sign of acute malnutrition, is far less common, only 3%. Eleven percent of Rwandan children are underweight, or too thin for their age.

Children's Stunting by Province

Percent of children under age five who are stunted (too short for their age)



Women's nutritional status

The 2010 RDHS also took weight and height measurements of women age 15–49. Few Rwandan women are too thin (7%), and 16% of women are overweight or obese. Overweight and obesity is higher in urban areas than in rural areas (25% and 15%, respectively) and increases with age, education, and wealth. Women in the City of Kigali are most likely to be overweight or obese (30%).

Vitamin A and iron supplementation

Micronutrients are essential vitamins and minerals required for good health.

Vitamin A, which prevents blindness and infection, is particularly important for children and new mothers. In the 24 hours before the survey, 73% of children age 6–23 months ate fruits and vegetables rich in vitamin A. Ninety-three percent of children age 6–59 months received a vitamin A supplement in the six months prior to the survey. Over half (52%) of women received a vitamin A supplement postpartum. Vitamin A supplementation has increased since the 2005 RDHS, when 84% of children age 6-59 months received a vitamin A supplement in the six months prior to the survey and 34% of pregnant women received a vitamin A supplement postpartum.

Pregnant women should take iron tablets or syrup for at least 90 days during pregnancy to prevent anemia and other complications. Only 1% of women took iron tablets or syrup for at least 90 days during their last pregnancy.

Malaria

Malaria prevalence

There has been remarkable progress in the decline of malaria prevalence in Rwanda, which has decreased by half in children under five and women compared with 2007-08 RIDHS.

Household ownership of mosquito nets

In Rwanda, 82% of households have at least one long-lasting insecticide-treated mosquito net (LLIN). LLIN ownership is highest in East Province (90%) and lowest in North Province (70%). Household ownership of insecticide treated mosquito nets (ITN) is similar. 82% of households have at least one ITN. ITN ownership is highest in East Province (90%) and lowest in North Province (70%).

Use of mosquito nets by children and women

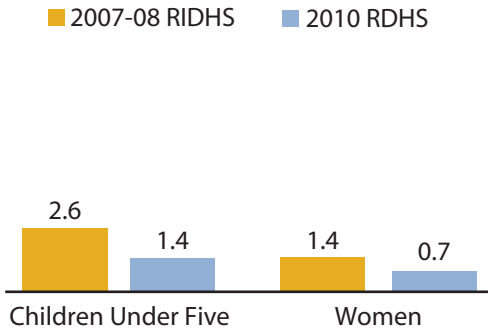
Overall, 70% of children under age five and 73% of pregnant women slept under a LLIN the night before the survey. Use of insecticide treated mosquito nets (ITN) is similar: 70% of children under age five and 72% of pregnant women slept under an ITN the night before the survey.

Antimalarial drug use

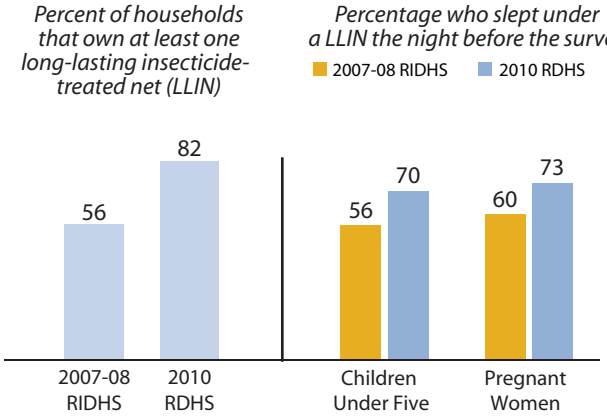
Sixteen percent of children under age five had a fever in the two weeks preceding the survey. Among these children, 21% had blood taken for testing, 11% were given antimalarial drugs and 8% were given antimalarial drugs the same day or the day following the onset of the fever. The majority of children took Primo and Coartem, artemisinin-based combination therapy (ACT) drugs, which are the recommended course of treatment for malaria in children in Rwanda.

Trends in Malaria Prevalence

Percentage who have been classified as having malaria

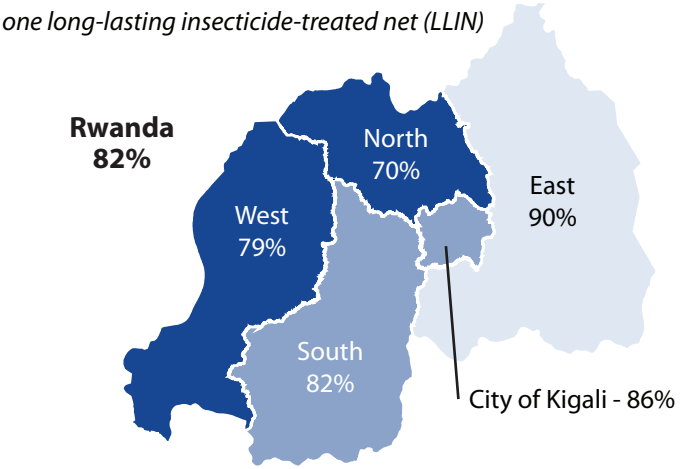


Trends in LLIN Ownership and Use



LLIN Ownership by Province

Percent of households with at least one long-lasting insecticide-treated net (LLIN)



Gender Based Violence

Two in five women (41%) in Rwanda have suffered from physical violence at some point since age 15. Women with no education are twice as likely to have ever experienced physical violence than women with secondary or higher education. Ever-married women report that current or former husbands/partners are the most common perpetrators of physical violence, while never-married women report that neighbors or community members are the most common perpetrators of physical violence.

One in five women have ever experienced sexual violence. Women who are divorced, separated, or widowed are twice as likely to have ever experienced sexual violence than never-married women.

Spousal Violence

Fifty-six percent of ever-married women have suffered from spousal or partner abuse (physical and/or sexual) at some point in time. Forty-four percent of ever-married women report having experienced some form of physical and/or sexual violence committed by their husband or partner in the past year.

Rural women are more likely than urban women to have ever experienced spousal physical and/or sexual violence.

Fifty-six percent of women and 25% of men believe that wife beating is justified when wives neglect the children.

Women's Empowerment

Employment

The majority (90%) of married women age 15–49 interviewed in the RDHS are employed, compared with almost all married men. Among those who are employed, men are more likely to earn cash, while women are more likely than men to be paid only in-kind for their work. The majority of women who receive cash payment earn less than their husbands or partners.

Participation in household decisions

For the most part, Rwandan women have the power to make some household decisions. Four in five women have sole or joint decisionmaking power about visiting family or friends, while 71% participate in decisions about major household purchases. Seventy-four percent of women participate in decisions about their own health care.

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HIV/AIDS Knowledge, Attitudes, and Behavior

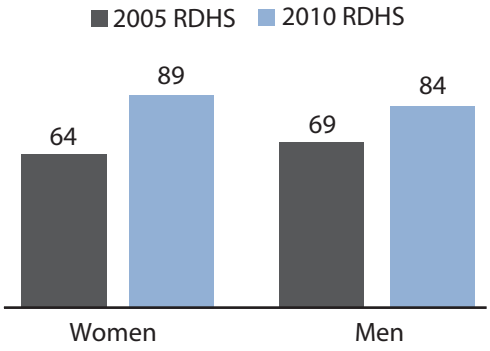
Knowledge

According to the 2010 RDHS, 79% of women and 74% of men age 15–49 know that the risk of HIV infection can be reduced by using condoms and limiting sex to one faithful, uninfected partner. This knowledge varies by province, from 68% of women in the West Province to 89% of women in the City of Kigali.

Eighty-nine percent of women and 84% of men know that HIV can be transmitted by breastfeeding and that the risk of mother-to-child transmission can be reduced by taking drugs during pregnancy.

Trends in Knowledge of Mother-to-Child Transmission

Percent who know that HIV can be transmitted by breastfeeding and that the risk can be reduced by mother taking special drugs during pregnancy



Multiple sexual partners and concurrent sexual partners

Less than 1% of women and 4% of men age 15-49 report that they had sex with two or more partners in the past 12 months. More than one-quarter of these women and men reported using a condom at last sexual intercourse.

Among the women who had two or more partners in the past 12 months, almost two-thirds (63%) had overlapping (concurrent) sexual partnerships. Concurrent sexual partnerships may increase the risk of HIV transmission because they allow the virus to pass quickly through multiple individuals. Nearly 8 in 10 men who had two or more partners in the past 12 months had concurrent sexual partnerships.

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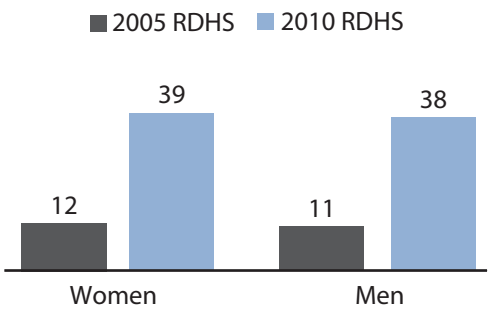
HIV testing

HIV testing is increasing rapidly in Rwanda. Three times more women and men tested for HIV and received their test results within the 12 months before the survey in 2010 compared with 2005. Currently, 76% of women and 69% of men have ever been tested and received their test results. Among young women and men age 15-24, 59% of women and 49% of men have ever been tested and received the results.

Nearly 9 in 10 (88%) women who were pregnant in the two years before the survey received HIV counselling, were offered and accepted an HIV test and received their test results during ANC. HIV testing during antenatal care is slightly more common in urban areas (93%) than rural areas (88%).

Trends in HIV Testing

Percent of men and women age 15-49 who tested for HIV and received the results of the last test taken in the past year



HIV Prevalence

HIV Prevalence

The 2010 RDHS included HIV testing of over 6,900 women age 15-49 and over 6,300 men age 15-59. Ninety-nine percent of women and 98% of men agreed to be tested for HIV.

There has been essentially no change in Rwanda's HIV prevalence since 2005. According to the 2010 RDHS, HIV prevalence is 3.0% for women and men age 15-49, compared with 3.0% in the 2005 RDHS. In Rwanda, HIV prevalence is 3.7% for women and 2.2% for men.

HIV prevalence is three times as high in urban areas (7.1%) as in rural areas (2.3%). HIV estimates vary by age, with HIV prevalence highest among women age 35-39 and men age 40-44. HIV prevalence is highest in the City of Kigali, where 7.3% of adults age 15-49 are HIV-positive. HIV prevalence is fairly uniform throughout the rest of Rwanda and ranges from 2.1% to 2.5%.

HIV prevalence is particularly high among widows and those who are divorced or separated; 16.6% of widowed women and men are HIV-positive.