

Unintended Pregnancy And Induced Abortion In Rwanda

CAUSES AND CONSEQUENCES



Unintended Pregnancy and Induced Abortion in Rwanda: Causes and Consequences

Paulin Basinga
Ann M. Moore
Susheela Singh
Lisa Remez
Francine Birungi
Laetitia Nyirazinyoye



National
University of
Rwanda

nur

School of Public Health

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Table of Contents

Executive Summary	4
Chapter 1: The Troubling Reality of Unsafe Induced Abortion	6
Chapter 2: Current Incidence and Practice of Induced Abortion	9
Chapter 3: Health Consequences of Unsafe Abortion	16
Chapter 4: The Root Cause of Induced Abortion: Unintended Pregnancy	19
Chapter 5: Conclusions and Implications	23
Appendix Tables	26
References	30

Executive Summary

In Rwanda, unsafe abortion poses a grave risk to women's health and, by extension, to the well-being of families and society. Although induced abortion is legal in very limited circumstances, virtually no safe legal abortions take place in the country. Examining the hidden and stigmatized practice of induced abortion is very difficult, so its incidence can be estimated only indirectly. This report presents the first attempt to quantify the incidence of abortion in Rwanda, by using a methodology that builds on the only accessible data on the subject—the number of women who seek care at health facilities for abortion-related complications. The report also discusses progress in and remaining constraints on Rwandan women's ability to plan their pregnancies, which is key to enabling them to avoid the unintended pregnancies that can lead to induced abortions.

Progress has been made on several fronts

- Increased access to reproductive health services has helped to rapidly expand women's use of contraceptives to prevent unwanted pregnancy: As of 2010, 44% of Rwandan women in union were using a modern method of contraception, compared with 4% just one decade earlier.
- The progress made in assuring equitable access to health care—including to modern contraceptive services—is evident in the virtual absence of commonly found differentials in levels of modern contraceptive use between urban and rural areas.
- The proportion of married women with an unmet need for contraception—that is, they want to postpone or stop childbearing, but are not using any contraceptive method—has fallen from 36% in 2000 to 19% in 2010.

- As a result, Rwandan women have an average of one child fewer now than they did just 10 years ago (4.6 lifetime births as of 2010, compared with 5.8 as of 2000).

Yet unintended pregnancy and unplanned births are widespread

- Unfortunately, the improvements in contraceptive use are not occurring fast enough, given that women in Rwanda continue to have more children than they desire: Women's average family size is 4.6 children, compared with their wanted family size of 3.1.
- A gap between wanted and actual fertility implies unintended pregnancy. Each year, nearly half (47%) of all pregnancies in the country are unintended, meaning they come too soon or are not wanted at all.
- This translates to an annual rate of 114 unintended pregnancies per 1,000 women aged 15–44. This rate is very similar to the rate of 118 unintended pregnancies per 1,000 women estimated for Eastern Africa as a whole in 2008.
- Unintended pregnancy often leads to unplanned births. Some 37% of births in Rwanda each year are unplanned—a proportion that varies slightly by province, from 34% in the West and the North to 37–40% in Kigali City, the South and the East.

Some unintended pregnancies end in abortion

- Despite legal restrictions on and strong stigma around abortion, an estimated 22% of unintended pregnancies in Rwanda end in induced abortion.

- This means that each year there are 25 induced abortions per 1,000 women aged 15–44 (or one for every 40 women in this age-group). This rate is lower than the 36 abortions per 1,000 estimated for all Eastern Africa by the World Health Organization.
- The province containing the nation's capital, Kigali City, accounts for a disproportionate number of abortions relative to its population: An estimated one-third of Rwanda's induced abortions occur there, despite its having only one-tenth of the country's women of reproductive age. This finding is likely explained by both Kigali City residents' stronger motivation to avoid unplanned births and by women from surrounding provinces traveling to the capital in search of anonymity and quality health services.

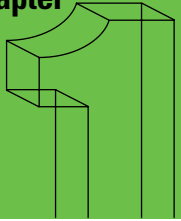
Unsafe abortion endangers women's health and burdens the health system

- Each year, approximately 26,000 women are treated in health facilities for complications of both induced and spontaneous abortions; some 9,000 (35%) of these complications are likely the result of late spontaneous abortions (and are thus removed from the analysis of abortion incidence) and 17,000 (65%) are likely from induced abortions.
- The annual number of treated complications from induced abortion translates to a treatment rate of seven cases per 1,000 women of reproductive age. The rate is highest—and the drain on scarce medical resources strongest—in Kigali City, where 18 cases per 1,000 women of reproductive age are treated annually.
- An induced abortion performed outside the law often is unsafe. In Rwanda, an estimated 40% of clandestine abortions lead to complications requiring treatment in a health facility.
- Unfortunately, one-third of women experiencing abortion-related complications do not receive treatment, and these women are especially likely to suffer debilitating consequences.
- Abortions among poor women—in both rural and urban areas—are far more likely to result in complications (an estimated 54–55%) than those among nonpoor rural women (38%) or nonpoor urban women (20%).
- The likelihood of complications is directly linked to who performs the abortion. In Rwanda, half of all abortions are performed by untrained individuals—the 34% by traditional healers plus the 17% that are self-induced by women. The other half of abortions are provided by physicians (19%), nurses or medical assistants (16%) and midwives (14%).

Action is needed to improve women's health and lives

Our findings on the incidence of unintended pregnancy and unsafe induced abortion point to the need for concerted efforts to help women better prevent unintended pregnancy—the root cause of most abortions. Several steps could help reduce unintended pregnancy and lighten the burden that unsafe abortion creates for women's lives and for the nation's medical system.

- *Strengthen contraceptive services.* Women and service providers need better information about correct and consistent method use, so current methods are used as effectively as possible. Couples currently using a traditional method (8%) should be given better access to contraceptive services so they can switch to a modern one. Emergency contraception use, which is rare in Rwanda, needs to be expanded to improve women's ability to avoid unwanted pregnancy after unprotected intercourse. Tailored interventions are needed for women at the highest risk for unwanted pregnancy because of their high unmet need: single and sexually active 15–29-year-olds (56% of whom are not practicing contraception despite not wanting to become pregnant). Other women with high levels of unmet need—at roughly one-quarter—are the poorest women, the least educated and women living in the West.
- *Improve postabortion care services.* Postabortion services need to be extended and their quality improved. The country's postabortion care protocol, newly issued by the Ministry of Health, should be followed by all facilities providing postabortion care. Implementing the protocol would ensure that the relatively safe and inexpensive method of manual vacuum aspiration quickly replaces the currently widespread use of dilation and curettage in hospitals and digital curettage in health centers. Medical personnel should be trained in providing compassionate postabortion care, so women need not forgo care out of fear of being mistreated.
- *Improve implementation of current provisions defining legal abortion.* Public education campaigns are needed to educate women, providers, law enforcement and the judiciary about the circumstances under which abortion is legally permitted. It is also vital to continue to carry out studies to document and understand the types of barriers to legal abortion that women and providers currently face.



The Troubling Reality of Unsafe Induced Abortion

Throughout the world, women cope with the heavy burden of unintended pregnancy. In each country, the particular cultural, legal, economic and health-services context influences women's ability to avoid unintended pregnancy and mediates their response if they experience one. Rwanda is no exception: The nation's penal code severely restricts induced abortions and punishes women who have them. Yet, thousands of Rwandan women likely resolve unwanted pregnancies through induced abortions each year.

Rwanda is an exception, however, in terms of its recent history. No other nation has had to put itself back together after a genocide that claimed more than one million lives, destroyed much of its infrastructure and either killed or forced the exile of a large proportion of its health professionals.¹ The result is a nearly transformed society in this East African nation of roughly 11 million.² In the aftermath of the 1994 genocide, Rwanda adopted some of the most progressive social and health policies on the continent. As of 2011, it had the world's highest representation of women in parliament.³ It has made great strides in rebuilding its health sector, specifically creating a pyramid-shaped, decentralized system that aims to provide universal health care. In the community-based insurance scheme, known as Mutuelles de Santé, government subsidies enable the poorest to access health care. As of 2010, 91% of Rwanda's population had enrolled in such health programs,⁴ which have increased the likelihood of getting care regardless of wealth and have narrowed the usual gap in health care use between rich and poor.⁵

The Rwandan government recognizes that its vision for lifting the most densely populated country on mainland Africa⁶ out of poverty cannot be realized without slowing its high population growth. In stressing the link

between increasing population and diminishing land and resources, the national vision strategy⁷ and poverty reduction plan⁸ have emphasized the importance of lowering fertility. Rwandan couples' desired family size has steadily declined over the past decade, and the country's investment in health services has gone a long way toward meeting the growing need for contraceptives. As a result, the average family size has dropped rapidly in just five years: Women have gone from having an average of 6.1 children in 2005⁹ to 4.6 in 2010.¹⁰

Desire for smaller families has outpaced adoption of contraception

Despite this important progress, increasing motivation to have smaller families and better-spaced births appears to have outpaced the consistent use of effective contraceptive methods: According to the three most recent Rwanda Demographic and Health Surveys (RDHS), at least one-third of births (34% in 2000,¹¹ 40% in 2008*¹² and 37% in 2010¹³) are described as unplanned—that is, wanted but at a later date or not wanted at all. When women do not avail themselves of the means to prevent unintended pregnancy, they can end up having more children than they want or can care for. Indeed, the gap between the number of children Rwandan women have and the number they want has grown from 1.0 in 2000¹⁴ to 1.5 in 2010.¹⁰

Overall risk of unintended pregnancy rises with growing preferences for smaller families, and trends in wanted family size are clear. Rwandan women's ideal family size is now just three children, down from five children a decade

*Because nearly all of the data for the 2007–2008 Rwanda Interim Demographic and Health Survey were collected in 2008 (just two weeks correspond to 2007), we refer to the survey year as 2008 for brevity.

ago.¹⁴ And the younger the woman, the smaller her ideal family size. Moreover, although still small in absolute numbers, the proportion of unmarried 15–29-year-olds who are sexually active increased by more than half from 2000 to 2010.^{11,13} As of 2010, two-thirds of these women were not practicing contraception—making them especially vulnerable to clandestine abortion, given the strong stigma against unwed childbearing in Rwanda. Should the proportion of young unmarried women who are sexually active continue to increase, so could their risk of unintended pregnancy. Furthermore, rising expectations that young women become better educated and contribute economically to the country’s development could lead to a strengthened motivation to plan births more precisely.

No woman ever wants to have an abortion. Yet, when faced with an unintended pregnancy, many women—unmarried women in particular—see no other way out. At the time of our study, the Rwandan penal code in effect permitted voluntary interruption of pregnancy only when two physicians certified that it was needed to protect a pregnant woman’s physical health or save her life.¹⁵ In May of 2012, an organic law instituting the new penal code was signed.¹⁶ The code contains some expanded grounds for legal abortion—in medically certified cases of fetal abnormalities incompatible with life, and in court-approved cases of pregnancies resulting from rape, incest and forced marriage (see box, page 8; and Chapter 5). Because virtually no time has elapsed between the new code’s approval and the time of this writing, it is safe to say that the overwhelming majority of abortions taking place do not meet the legal

criteria. Because they do not, and because legal abortions are very difficult to obtain even when women do qualify for one, abortions are almost always performed outside the law—often under unsafe conditions that can harm women’s health. Thus, the practice of clandestine abortion can directly threaten the well-being of women and of the families they care for.

A lack of knowledge about the extent of induced abortion in Rwanda prevents the formulation of meaningful policies to address the issue and its causes. To fill this crucial data gap, the National University of Rwanda’s School of Public Health and the Guttmacher Institute, in collaboration with the Ministry of Health, conducted a study in 2010 to estimate the incidence of induced abortion in the country.¹⁷ This report highlights what we now know about abortion in Rwanda and its consequences, and examines the context in which women experience what is directly behind most abortions—an unintended pregnancy.

In this report, we provide estimates of the burden of unsafe abortion on women and the medical system of Rwanda. Because accurate information on a deliberately hidden activity such as induced abortion is so difficult to obtain, it was necessary to indirectly estimate the number of procedures that occur each year. A valuable benefit of this methodology is that it also produces estimates of the incidence of unintended pregnancy and spontaneous abortion. We started with the only directly measurable, readily available abortion-related data: the number of women receiving care in health facilities from compli-

FIGURE 1.1

Rwanda and its regions



cations of all abortions (induced and spontaneous abortions). From this total, we subtracted the spontaneous abortion cases (described in further detail in the methodology box, page 14) to ultimately arrive at the number of induced abortions.

Having current evidence on the incidence of induced abortion is essential for assessing whether women are experiencing difficulties preventing unintended pregnancy. Knowing the number of women who are being treated for complications of induced abortion is a good measure of unsafe abortion's toll on women's health and on the health care system. This evidence is needed to inform public health policies and programs to reduce the damage caused by unsafe abortion. The report also aims to inform policies on the provision of contraceptive information and services, by shedding light on the incidence and causes of unintended pregnancy.

Guide to the report

The following chapter, Chapter 2, provides estimates for 2009 of the incidence of induced abortion in Rwanda overall, as well as in each of the country's five provinces—Kigali City, South, West, North and East (Figure 1.1, page 7). Chapter 3 details the health consequences of unsafe abortion and presents information on the incidence of abortion complications that are treated in health facilities each year. Chapter 4 discusses the social, economic, behavioral and service-related factors that contribute to unintended pregnancy—the overarching cause of induced abortion. Finally, Chapter 5 offers recommendations for the way forward. We believe that having the results of sound social science as the foundation for public policy and programs best serves the needs of Rwandans. We hope that this report will add depth and accuracy to the public discourse on the topic.

From the Organic Law Instituting the Penal Code (No. 01/2012/OL)

SECTION 5 : CRIME OF ABORTION

ARTICLE 162: SELF-INDUCED ABORTION

Any person who carries out self-induced abortion shall be liable to a term of imprisonment of one (1) year to three (3) years and a fine of fifty thousand (50,000) to two hundred thousand (200,000) Rwandan francs.

ARTICLE 163: CAUSING A WOMAN TO ABORT WITH OR WITHOUT HER CONSENT

Any person who causes a woman to abort without her consent shall be liable to a term of imprisonment of ten (10) years to fifteen (15) years.

In case of mutual consent, a person who causes a woman to abort shall be liable to a term of imprisonment of two (2) years to five (5) years.

Any person who, through recklessness or negligence causes a woman to abort shall be liable to a term of imprisonment of six (6) months to one (1) year and a fine of two hundred thousand (200,000) to five hundred thousand (500,000) Rwandan francs or one of these penalties.

ARTICLE 164: ABORTION RESULTING IN DEATH

A person who administers, delivers or orders a substance which he/she knows the effect, to a woman and causes abortion which results into death shall be liable to a term of imprisonment of fifteen (15) years to twenty (20) years, if the woman had consented to the abortion or to life imprisonment, and a fine of two hundred thousand (200,000) to two million (2,000,000) Rwandan francs, if such a woman had not consented to the abortion.

ARTICLE 165: EXEMPTION FROM CRIMINAL LIABILITY FOR ABORTION

There is no criminal liability for a woman who commits abortion and a medical doctor who helps a woman to abort if one of the following conditions is met:

- 1° when a woman has become pregnant as a result of rape;
- 2° when a woman has been subjected to forced marriage;

3° when a woman has become pregnant due to incest in the second degree;

4° when the continuation of pregnancy seriously jeopardizes the health of the unborn baby or that of the pregnant woman.

The exemption from criminal liability under items 1°, 2° and 3° of Paragraph One of this Article shall be permitted only if the woman who seeks abortion submits to the doctor an order issued by the competent Court recognizing one of the cases under these items, or when this is proven to the Court by a person charged of abortion.

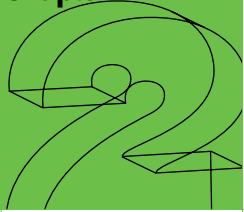
The Court where the complaint is filed shall hear and make a decision as a matter of urgency.

ARTICLE 166: REQUIREMENTS FOR EXEMPTION FROM CRIMINAL LIABILITY FOR A MEDICAL DOCTOR WHO PERFORMS AN ABORTION OR A WOMAN WHO CONSENTS TO AN ABORTION

A medical doctor who performs an abortion or a woman who consents to an abortion or her legally recognized representative if she cannot decide for herself whether to abort is not criminally liable in accordance with item 4° of Paragraph One of Article 165 of this Organic Law if the following conditions are met:

- 1° after the medical doctor finds that continuation of the pregnancy would seriously endanger the health of the woman or that the unborn child cannot survive;
- 2° the medical doctor has sought advice from another doctor where possible, and:
 - a. the medical doctor makes a written report in three (3) copies signed by him/herself and the doctor he/she consulted;
 - b. one copy is given to the interested party or her legal representative if she cannot decide for herself;
 - c. another copy is kept by the medical doctor who consulted her;
 - d. the third copy is given to the hospital medical director.

Source Reference 16.



Current Incidence And Practice of Induced Abortion

It is not known how many women obtained legal abortions in Rwanda in 2009, because the country's Health Management Information System does not record this information; however, the number is undoubtedly very small, given the narrow legal criteria and the two-physician certification requirements then in effect. (Rwanda has only 660 doctors in the entire country, or one per 15,750 inhabitants.¹⁸) Furthermore, most women were likely unaware when they would medically qualify for a legal abortion, and even if they were aware and met the criteria, stigma might prevent many from seeking an abortion under the existing legal indications. The few eligible women who met the criteria would likely have had trouble finding an equipped health facility and even one physician to certify a legal abortion. Such restricted access to legal procedures can lead even women who meet the criteria to carry a dangerous pregnancy to term or seek a clandestine abortion.

As there are no data on abortion provision in Rwanda, a robust indirect estimation methodology was used to generate the country's first national-level estimates of all induced abortions—safe and unsafe (see box, page 14). The Abortion Incidence Complications Methodology (AICM) combines data from two major sources (see box, page 12): a nationally representative survey of facilities that provide postabortion services (the Health Facilities Survey, or HFS) and a survey of key informants knowledgeable about current conditions of induced abortion (the Health Professionals Survey, or HPS). The methodology yields estimates of the total number of induced abortions in Rwanda in 2009, by directly measuring the number of complications from unsafe abortions treated in health facilities (from the HFS) and then applying a multiplier based on the proportion of induced abortions that are not reflected in treated postabortion cases (from the HPS). Data on the total number of abortions is combined with

available data on births and estimates of miscarriages to create new estimates of pregnancies and their outcomes.

What is the incidence of abortion in Rwanda?

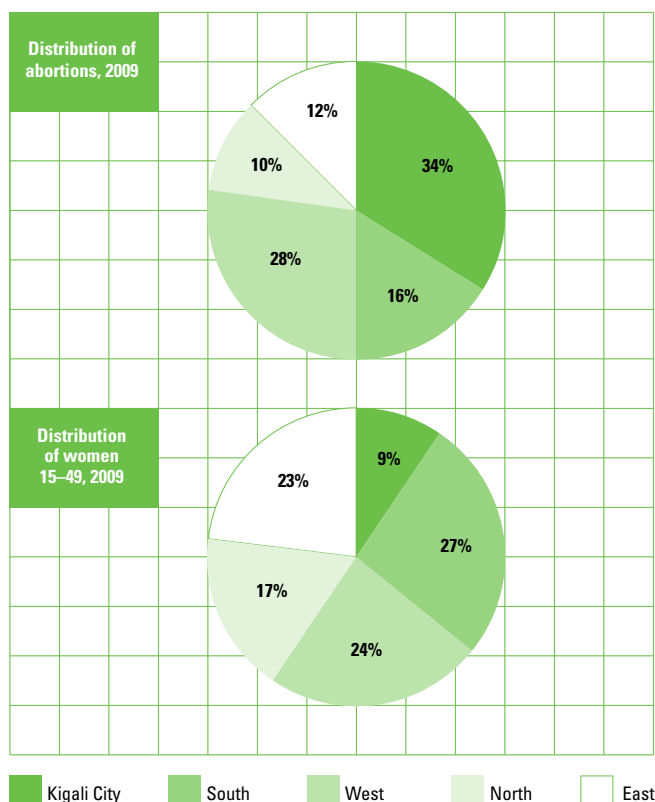
To estimate the number of women treated for complications of induced abortions, we first needed to estimate the number of women treated for complications of spontaneous abortions. We assumed that only the complications of late miscarriages (as opposed to all miscarriages) would be serious enough to warrant treatment. Because complications resulting from unsafe abortions and from late miscarriages are often similar, women—and the personnel who provide postabortion care—generally prefer to attribute abortion-related complications to miscarriages, which do not carry the stigma attached to induced abortions. We based our estimates of the rate of treated late miscarriages on the medical literature and on Rwanda-specific estimates of the likelihood of obtaining facility-based care. We then subtracted treated spontaneous abortions from the overall total of treated postabortion complications (see box, page 14).

Using the steps outlined above, we estimate that in 2009, approximately 9,000 treated cases—or 35% of all postabortion cases—corresponded to late miscarriages.¹⁷ This estimate for Rwanda is roughly the same as that found in two other Sub-Saharan African countries—Malawi and Burkina Faso (37%¹⁹ and 40%,²⁰ respectively); it is somewhat higher than the proportion in Uganda (23%),²¹ and far higher than that in Ethiopia (9%).²²

Removing late miscarriages from the total of 26,000 postabortion cases leaves an estimated 17,000 women who were treated for complications of induced abortion¹⁷ (Appendix Table 1). According to the HPS, for every woman treated for such complications, an additional 2.6

FIGURE 2.1

A disproportionate number of the country’s abortions occur in Kigali City.



Source Reference 17.

had an induced abortion but did not receive treatment or develop complications (a multiplier of 3.6; see box, page 14). Thus, applying the multiplier, we estimate that some 60,000 induced abortions occurred in Rwanda in 2009.

With a rough estimate of the number of induced abortions, we were able to add them to data on births and the expected patterns of miscarriages from the medical literature^{23,24} to calculate the total number of pregnancies. Of an estimated 587,000 pregnancies in 2009 (Appendix Table 1), some 94,000 likely ended in miscarriages (including stillbirths), 433,000 ended in live births and 60,000 in induced abortions.*

This number of induced abortions translates to an annual rate of 25 abortions per 1,000 women aged 15–44, or one for every 40 women in this age-group. Put another way, for every 100 births annually, there are 14 abortions. Rwandan women have abortions at a rate well below the average abortion rate projected by the World Health Organization (WHO) for all of Eastern Africa—36 per 1,000 women aged 15–44 for 2008.²⁵ According to recent national-level data for other Sub-Saharan countries with similarly restrictive legislation, Rwanda’s abortion rate is roughly the same as Burkina Faso’s (25 per

1,000 15–49-year-olds in 2008),²⁰ Ethiopia’s (23 per 1,000 15–44-year-olds in 2008)²² and Malawi’s (23 per 1,000 15–44-year-olds in 2009).¹⁹ However, Rwanda’s rate is much lower than that of Uganda (54 per 1,000 women aged 15–49 in 2003),²¹ which borders Rwanda’s North and East provinces. (These rates translate to the following annual numbers of abortions: 87,000 in Burkina Faso,²⁰ 382,000 in Ethiopia,²² 67,000 in Malawi¹⁹ and 297,000 in Uganda.²¹)

Very little is known about the characteristics of the Rwandan women who have an induced abortion. One prospective study conducted in a single Kigali hospital of the relatively few women who admitted having had a “criminal abortion” found that most were younger than age 25, unmarried and pregnant for the first time.²⁶ Unfortunately, the only other information on who may be having abortions in Rwanda comes from the testimonies of women serving multiyear prison terms for the crime of abortion—clearly a nonrepresentative sample, because only a small number of women who have abortions are prosecuted. Nonetheless, it is noteworthy that the overwhelming majority (90%) of those serving time in one prison in the South were younger than 25.²⁷

Abortion incidence varies markedly by province

Abortions in Rwanda are unevenly distributed across the country’s five provinces. An estimated one-third (34%) of procedures are obtained in the capital province, Kigali City, despite its accounting for only 9% of the country’s women of reproductive age (Figure 2.1).^{2,17} The far more populous provinces of the South (with 27% of women), the East (with 23%) and the North (with 17%) each account for just 16%, 12% and 10% of all abortions, respectively.

What explains the disproportionately high numbers of abortions in Kigali City relative to its population? First, women living in the capital province—like urban women throughout the world—tend to be better educated and want fewer children than other women.²⁸ These strong preferences may lead to a higher likelihood of resorting to an induced abortion should they experience an unintended pregnancy. On the basis of their actual childbearing levels, women living in Kigali City appear to be the most motivated to have small families: They have fewer than four children over their lifetime (3.5), compared with at least four or five among women living in any other province.¹⁰

Another indicator of exposure to unintended pregnancy is the gap between the ages when a woman first becomes sexually active and when she marries. On average, women in Kigali City begin sexual activity at age 21.7, nearly three years before they marry (24.5);¹³ by comparison, the gap between those two important events is just one year nationally. Therefore, women in Kigali City experience a

*All numbers in the text have been rounded to the nearest 1,000. As such, they do not always add up to the exact numbers in Appendix Table 1.



longer period of time during which they are at risk of unintended pregnancy—and thus, abortion. In addition, an urban environment provides for more social interaction among young people and less monitoring by adults than is the norm in the rest of this predominantly rural country (85% of the population live in rural areas²⁹). This greater freedom of movement and opportunity to meet other young people can lead to premarital sexual relationships, from which resulting pregnancies would likely be unwanted.³⁰

Traveling to get an abortion may also be behind the disproportionately high level of abortion that occurs in Kigali City relative to its population. Because of the stigma surrounding abortion, women who live in rural communities may seek anonymity by coming to Kigali City to terminate a pregnancy. Rwanda is small and densely populated, so motivated women can reach Kigali City, where private-sector doctors who provide facility-based abortions are concentrated.¹⁸ In sum, Kigali City's outsized contribution to the overall total of abortions likely reflects a concentration there of women (residents and nonresidents) seeking an abortion, of women with the means to pay for the procedure and of the specialized personnel most likely to provide the safest abortions. (Indeed, as of the end of 2010, two-thirds of the country's total of 25 obstetrician-gynecologists were based in Kigali City.³¹)

It is important to note that our methodology (see box, page 14) estimates abortions indirectly through facility-based treatment of their complications, and assumes that the procedure and its care occur in the same place. Thus, the data may actually capture women who have an abortion

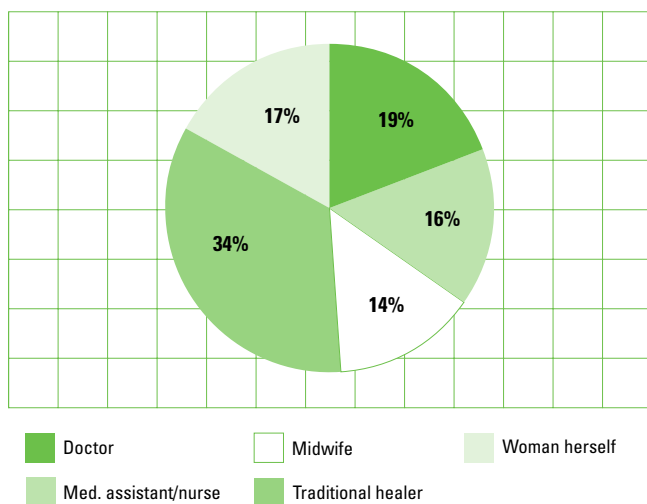
in their home province, but then come to Kigali City for treatment of complications. On the basis of our methodology, these women would be counted as having had an abortion in Kigali City.

The companion result to more abortions occurring in Kigali City is that fewer take place in the North, South and East. That the one province not bordering Kigali, the West (Figure 1.1, page 7), contributes a number to the total that is more commensurate with its population of reproductive-age women supports our hypothesis, but also tells a more complicated story. Fewer women may be traveling to Kigali City for an abortion (or postabortion care) from this province, which is the furthest away from the capital. Furthermore, the level of modern contraceptive use in the West is lower than in other regions (34% vs. 46–52%).¹⁰ Both probably explain the West's contribution of abortions to the total, but we cannot say to what extent each plays a role.

Rwanda's total abortion count is also likely affected to some degree by individuals traveling outside of the country for procedures. Some women who grew up in exile in neighboring countries (Figure 1.1, page 7) during the decades of political violence may seek an abortion in those countries, where they may still have family and friends. Still other women may simply wish to avoid being recognized in Rwanda, by seeking an abortion in cities just over the border, such as Goma or Bukavu in the Democratic Republic of Congo, despite the extra travel costs involved. However, we have no way of quantifying such travel outside of the country or assessing the direction of its effect. (For example, receiving a safe abortion outside of the country would lower the total number of abortions estimated in Rwanda. On the other hand, going outside the country for an unsafe procedure that leads to treatment in Rwanda would not bias the estimates, but appropriately reflect the number of abortions among Rwandan citizens.)

FIGURE 2.2

In Rwanda, abortions obtained from providers with no medical training plus those induced by the woman herself account for half of all abortions.



Note The “woman herself” category includes abortions induced by a friend, relative or neighbor.

Source Reference 32.

How is abortion currently practiced in Rwanda?

The safety of an abortion is directly related to how and by whom it is performed.²⁵ According to the perceptions of the experts interviewed in the HPS, half of abortions in Rwanda are performed by untrained providers (Figure 2.2).³² These abortions—which are especially likely to be unsafe—comprise the 34% performed by traditional healers (by drugs taken orally or vaginally, or by insertion of sharp objects) and the 17% induced by women themselves (including abortions induced by women's friends, family or neighbors.) Of the remaining abortions, the safest are surgical procedures (likely dilation and curettage) provided by physicians (19%), while less safe procedures are provided by midlevel providers, such as nurses and medical assistants (16%), and by trained midwives (14%).

Data Sources

To estimate how many abortions occur in Rwanda, the conditions under which they are provided and the health consequences of the procedures, this report uses data primarily from two surveys conducted in 2010: one of health facilities and another of experts in the field. Because women in Rwanda are understandably reluctant to openly admit to a highly stigmatized and illegal behavior, it was necessary to apply an indirect estimation technique, the Abortion Incidence Complications Method (AICM).¹ Other key data sources include Rwanda Demographic and Health Surveys from 2000 through 2010 and population projections from the Rwandan National Institute of Statistics.

HEALTH FACILITIES SURVEY

Between May and August 2010, researchers surveyed a nationally representative sample of public, private and Agréé* health facilities that are likely to provide postabortion care. Potential providers of postabortion care were identified on the basis of the Ministry of Health guidelines on services that each type of facility is permitted to provide, as well as key experts' opinions on what services are provided by different types of facilities. Health facilities included referral hospitals, district hospitals, private polyclinics, private health clinics and health centers. At each participating facility, a representative—typically, the head of the gynecology and obstetrics department or another senior professional knowledgeable about services provided—was interviewed in person using a structured questionnaire. Of the 167 facilities sampled, representatives from 165 were surveyed, resulting in a participation rate of 98%. Participants were asked about services provided at the facility in the previous year; therefore, the data are for 2009. Data were weighted to adjust for sampling and nonresponse.

HEALTH PROFESSIONALS SURVEY

Over the same fielding period as the Health Facilities Survey, researchers conducted a survey of 56 Rwandan professionals, each purposefully selected on the basis of their professional affiliation, extensive knowledge of the conditions of abortion provision and expertise in postabortion care. Particular effort was made to ensure inclusion of experts familiar with the context of abortion in rural areas. Roughly three-quarters of key informants were health professionals, and one-quarter worked in other fields (i.e., government, social work, program planning, hospital administration and community activism). Professionals from all of Rwanda's five provinces were included. Informants were asked about the types of providers that offer abortion services, women's likelihood of suffering abortion complications according to type of provider and their likelihood of being treated in a health facility if they have a complication. Answers to questions on conditions of abortion service provision and postabortion care were assumed to apply to informants' current local experience, so that the 23 experts living in Kigali City would be describing conditions in the capital province for 2009, and the remaining 33 respondents (14 from the South, eight from the West, seven from the East and four from the North) would be describing conditions in the rest of the country.

RWANDA DEMOGRAPHIC AND HEALTH SURVEYS

Nationally representative data on contraceptive use, unmet need for contraception and unplanned births were taken from Rwanda Demographic and Health Surveys (RDHS) for 2000, 2005, 2007–2008 and 2010; the sample sizes of women aged 15–49 were 10,421,² 11,321,³ 7,313⁴ and 13,671,⁵ respectively. The definition of administrative units used in the 2000 and 2005 surveys (12 provinces and 106 districts) was different from that used in the subsequent cycles (five provinces and 30 districts). To make the 2000 data comparable for time-trend analysis, the boundaries of the 12 old provinces were mapped onto the five new ones, which worked for the nine old provinces whose borders fell completely within the new provinces (i.e., Kigali Ville in Kigali City; Butare, Gikongoro and Gitarama in the South; Kibuye, Gisenyi and Cyangugu in the West; and Kibungo and Umutara in the East). Each of the remaining three old provinces was assigned to the new province in which the majority of its territory fell (i.e., Byumba and Ruhengeri to the North, and Kigali Rural to the East). The loss of precision in the comparability of the data for 2000 with later years because of this imperfect fit should be kept in mind when interpreting time trends by province.

The definitions of three key measures used in this report are slightly different from those used in the published DHS reports. First, for contraceptive prevalence by method type, we considered standard days and lactational amenorrhea as traditional methods, instead of modern ones, because of their high typical failure rates.⁶ Second, to capture the sporadic nature of relationships and sexual activity among unmarried women, we defined being sexually active as having had sex in the past three months, instead of the past month. And third, although the DHS includes current pregnancies in its measure of the “planning status of recent births in the past five years,” we excluded them, because some of these pregnancies will end in abortion and because planning status of births and current pregnancies are differentially affected by the time frame of the question.

OTHER PRIMARY DATA SOURCES

The number of women by age-group for 2009 comes from the Rwandan National Institute of Statistics' population projections.⁷ And the number of live births in 2009 was estimated by applying age-specific fertility rates from the 2008 RDHS to the number of women aged 15–49.³

*The category Agréé refers to the agreement whereby faith-based organizations and nongovernmental organizations own and operate health facilities that nonetheless fall under the aegis of the Ministry of Health. In this respect, Agréé facilities are neither purely public nor private, but combine features of each.



Because the conditions under which women obtain abortions vary widely by their socioeconomic status,²⁸ key informants were asked to assess these conditions for four subgroups of women: urban poor, urban nonpoor, rural poor and rural nonpoor (see box, page 14). The proportion of abortions that are safest—those performed by physicians—is higher among nonpoor women in Kigali than among all others (58% vs. 2–42%; Figure 2.3).³²

As expected, the HPS respondents estimated that the combined proportion of abortions induced by traditional healers and by women themselves—those most likely to cause serious complications—is higher among poor rural women than among others (74% vs. 15–61%). Except for abortions among nonpoor women in the capital (8%), there is little variation in the proportions that are self-induced among other women (13–23%). Reliance on self-induced abortions (usually using found plants and herbs, such as *Umuhoko* or cassava root, or nonprescription hormonal products) likely reflects strong motivation to keep abortion a secret, lack of money to pay for a safe abortion and a possible scarcity of providers.

How much does an abortion cost?

The HPS respondents were asked how much women typically pay for a first-trimester abortion; given broad economic disparities, the cost of abortion was estimated separately for urban and for rural areas. Not surprisingly, the

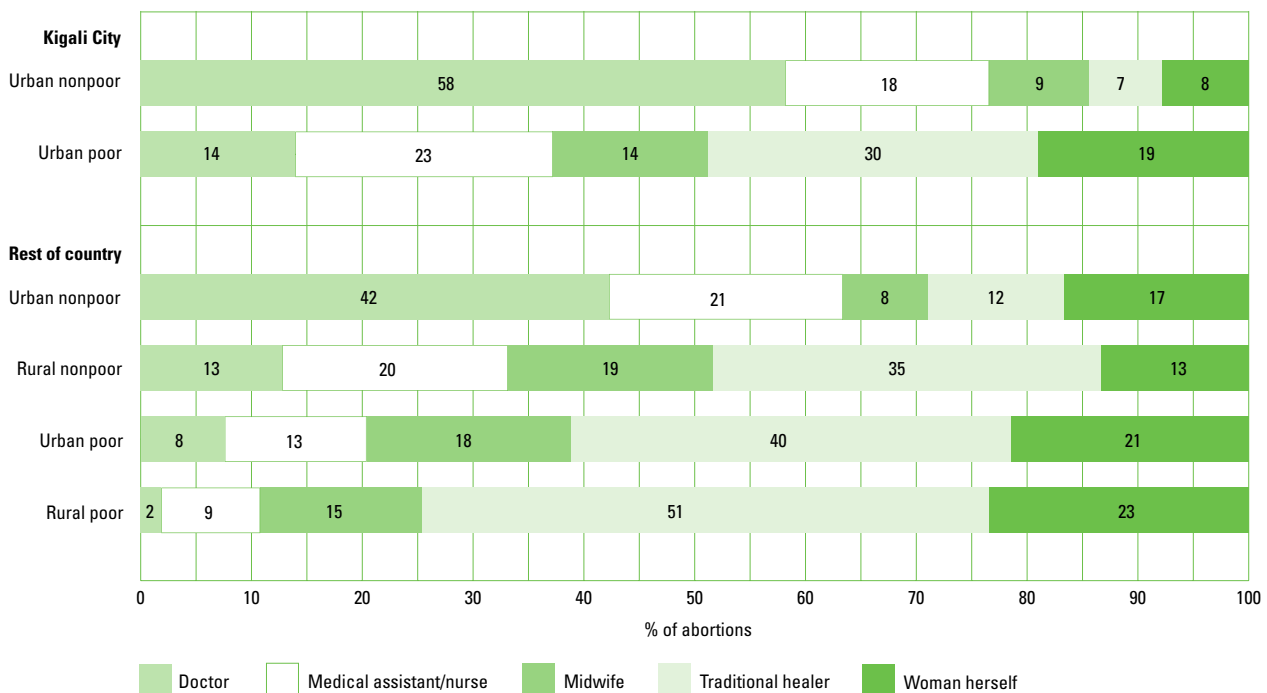
cheapest way to end a pregnancy in both urban and rural areas is the least safe: by self-induced abortion. Women typically spend an estimated 3,500 Rwandan francs (US\$6*) to attempt a self-induced abortion. Urban women pay from 29,000 francs or US\$51 (to a traditional healer) to 73,000 francs or US\$128 (to a physician). Abortions from midlevel providers in urban areas are estimated to cost 43,000–61,000 francs (US\$76–107).

Costs in rural areas span a narrower range, from an estimated 21,000 francs (US\$37) for an abortion from a traditional healer to 54,000 francs (US\$95) for one from a physician, with midlevel-providers charging 25,000–38,000 francs (US\$43–67). Considering that the gross monthly per capita income in 2010 was only 26,000 francs (US\$45),⁴ a safe abortion can be exorbitant and cause severe financial hardship. In addition, the costs reported above are for an abortion alone and do not account for additional expenses, such as travel or care for complications, should they result.

*At an average 2009 annual exchange rate of 568 Rwandan francs to the U.S. dollar (source: reference 4).

FIGURE 2.3

Area of residence and poverty status influence the type of abortion provider women use.



Note The “woman herself” category includes abortions induced by a friend, relative or neighbor. **Source** Reference 32.

Methodology for Estimating Abortion Incidence

This application of the Abortion Incidence Complications Method (AICM)¹ in Rwanda yielded the following estimates for 2009: the annual number of postabortion complications treated in health facilities per 1,000 women (treatment rate), the annual number of abortions per 1,000 women (abortion rate) and the annual number of abortions per 100 live births (abortion ratio). Using data on abortions, births, the planning status of births and the number of women of reproductive age, we also estimated the rates of unintended pregnancy and the distribution of pregnancies according to outcomes (i.e., planned births, unplanned births, abortions and miscarriages). To apply this methodology, two essential pieces of data were needed: the number of women treated in a health facility for complications from induced abortion over a one-year period and the proportion of all women having an induced abortion who are treated at a facility for complications.

The first measure—the number of women treated for induced abortion complications—was estimated using data from the Health Facilities Survey (HFS). Informants from a nationally representative sample of health facilities were asked about the number of women treated for complications from both induced and spontaneous abortions for two reference periods: the past month and a typical month. This was done to account for the likelihood that postabortion caseloads would fluctuate throughout the year.

By averaging these data and multiplying by 12, we arrived at an estimate of the total number of postabortion patients over a full year. To avoid double-counting, we subtracted the number of women who had been referred to another (likely higher-level) facility, under the assumption that these women obtained care elsewhere and, thus, would be included in that facility's count.

The HFS does not ask separate direct questions on the number of women treated for complications of spontaneous abortion, as opposed to induced abortion, because of important data constraints. That is, we could not expect a high degree of accuracy given the stigma attached to induced abortion and the difficulty of diagnosing the cause of pregnancy losses. Therefore, using a two-step, indirect estimation technique, we estimated the number of women treated for complications (from a miscarriage or an induced abortion). Data from clinical studies—the only ones available with the detailed information we need—were used to estimate the number of pregnant women who would have experienced a late miscarriage at 13–21 weeks' gestation, because only women miscarrying late would likely need care in a hospital or health facility; late miscarriages equal 3.41% of all reported live births.^{2,3}

Because not all women needing facility-based treatment for a late miscarriage succeed in obtaining it, we assumed that the proportion receiving such care is the same as the proportion receiving facility-based delivery care. We estimated the 2009 proportion delivering in a facility by interpolating between the values obtained in the 2008 and 2010 Rwanda Demographic and Health Surveys (RDHS). Thus, for the year of our study, 65% of deliveries overall occurred in health facilities. This proportion varied across provinces, from 52% in the Eastern province to 82% in Kigali City. Applying these assumptions, we estimate that almost 9,000 women (35% of all treated postabortion cases) received medical care in facilities for complications of spontaneous abortions in 2009.

By subtracting the number of women treated for late miscarriage complications from the total number of postabortion cases, we were able to derive the number receiving treatment for induced abortion complications only. These estimates were calculated for each province in addition to the country as a whole. The estimates by province reflect where women are treated, not necessarily where they live. To the extent that women travel from one province to another to obtain medical care, estimates for sending provinces would undercount the number of abortions and those for receiving provinces would overcount that number. Accordingly, in Rwanda, the induced abortion treatment and incidence estimates for Kigali City province appear to be inflated, and estimates for the surrounding provinces appear to be deflated.

The second measure—the estimated proportion of all women having an induced abortion who are treated at a facility for complications—came from the Health Professionals Survey (HPS). This information from interviews with 56 Rwandan key informants was used to calculate a multiplier—or adjustment factor—to account for women having an abortion who do not receive facility-based treatment for complications, either because they do not develop complications severe enough to require treatment, they obtain care at an informal facility, they do not obtain needed care or they die before being able to obtain care. The multiplier also accounts for the different likelihoods of complications with different types of abortion providers. By multiplying the number of women treated for induced abortion complications by the adjustment factor, we were able to estimate the total number of induced abortions.

Because health conditions differ so widely by socioeconomic status and area of residence, estimation of the multiplier builds in two important factors—whether a woman is poor or nonpoor* and whether she lives in an urban or rural area. These data were used to create weights for the proportion of women in each of four subgroups—poor rural, nonpoor rural, poor urban and nonpoor urban—for each province and nationally. On the basis of responses from the HPS, an estimated 27.8% of all women having an induced abortion are likely to receive treatment in a health facility. The national-level multiplier is the inverse of this proportion, $100/27.8 = 3.60$. This means that fewer than one out of four women in Rwanda who have an induced abortion are treated for complications in health facilities. (Because 20.4% of abortions occurring in Kigali City are estimated to be treated at facilities, the multiplier for the capital province is 4.9; for the rest of the country, treated cases reflect an estimated 31.3% of all induced abortions occurring there, yielding a multiplier of 3.2.) Because of the uncertainty involved in indirectly estimating a highly stigmatized activity such as induced abortion, the methodology produces a range of estimates by using multipliers one unit above and one unit below the national-level (midrange) multiplier of 3.6. Thus, applying the lower (2.6) and higher (4.6) multipliers yields a range of 44,000–77,000 induced abortions in Rwanda each year.⁴

Once we had an estimate of abortions from the midrange (most likely) multiplier above, we could generate information that was otherwise unknown—estimates of the total number of pregnancies each year—by summing all possible outcomes, which include births, miscarriages and abortions. To estimate the number of births, we applied age-specific fertility rates (from the RDHS) to the number of 15–49-year-old women in each 5-year age-group in 2009. To estimate the number of miscarriages,

we drew on clinical studies showing that spontaneous pregnancy losses equal approximately 20% of births plus 10% of abortions.²

The AICM allowed us to calculate unintended pregnancy rates by breaking out our estimates of pregnancies by whether they are intended or unintended. This was done by applying the proportions of births described as planned and unplanned from the 2008 RDHS to pregnancies (assuming that planning status of births applies equally to planning status of pregnancies). To obtain the number of miscarriages resulting from intended and unintended pregnancies, we applied the formula above with two assumptions: that intended and unintended pregnancies lead to miscarriages at the same rate and that only unintended pregnancies end in abortions. Thus, to calculate miscarriages from pregnancies that would otherwise end in abortions and unplanned births, we multiplied unplanned births by 20% and added 10% of abortions. Miscarriages from planned conceptions were calculated as 20% of planned births.

The values for each province were first calculated separately, and then summed to yield the national total. The above steps were followed using the 433,697 live births in 2009 to yield the following unrounded number of pregnancies for 2009:

173,297 unplanned births + 60,276 abortions + 40,687 miscarriages (that were unplanned at conception) + 260,400 planned births + 52,080 miscarriages (of what would have been planned births) = 586,740 pregnancies.

LIMITATIONS

The methodological approach and data have some limitations. The calculation of the number of women treated in Rwandan facilities for late miscarriages (at 13–21 weeks) was based on assumptions from clinical studies conducted in the developed world; data specific to the developing world in general, and Rwanda in particular, are unavailable. Moreover, these clinical studies date from the 1980s. Even though these biological patterns are stable, they may be somewhat different in Rwanda and may have changed over the past 25 years.

Other factors that are prevalent in the developing world and are thus not reflected in the studies cited above may influence women's risk of spontaneous abortion at fewer than 22 weeks' gestation. Malaria, for example, has been shown to have an impact on the rate of miscarriage overall, although data on the exact timing of these miscarriages are unavailable.⁵ However, the prevalence of malaria among Rwandan women aged 15–49 is too low—0.7% as of 2010⁶—for this association to have any impact on our estimates of the rate of late miscarriage in Rwanda. (Our estimates of late miscarriages in the country are similarly unrelated to the evidence of malaria's demonstrated association with the risk of stillbirths,^{7,8} because our data refer to spontaneous losses of up to 22 weeks only, and WHO defines stillbirths as occurring at weeks 28 or greater.⁹)

Of course, our overall assumption that women experiencing miscarriages late in pregnancy (not early on) likely receive facility-based care for complications—and at the same rate that women seek facility-based delivery care—may not apply equally in all countries. Indeed, Rwanda may be an anomaly, having recently instituted community performance-

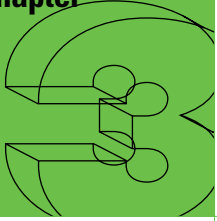
based financing in which female community health workers are paid for ensuring that women receive adequate prenatal and delivery care.¹⁰ However, even if incentives for deliveries were to somehow motivate health workers to bring women with miscarriages to facilities, the program was too sparsely implemented (in a pilot phase only) at the time of our fieldwork to have an impact on our data.¹¹

Indeed, evidence from other Sub-Saharan African countries where the methodology has been applied suggests that Rwanda is not an anomaly in terms of the proportion of postabortion cases that correspond to late miscarriages. Rwanda's proportion (35%) is nearly the same as that found in Malawi and Burkina Faso (37% and 40%, respectively),^{12,13} and is higher than that found in Uganda and Ethiopia (23% and 9%).^{14,15} Clearly, more research is needed to refine our understanding of both the extent to which women miscarry late in pregnancy and their likelihood of seeking facility-based care when they do.

Moreover, key data used in the analysis—the conditions of abortion provision in the country, the proportions of women needing facility-based postabortion care and the probability that these women would obtain such care—were based on informants' perceptions, given the lack of empirical data. Similarly, the facility-based data have a margin of error, because they rely on estimates and because they are based on a sample survey.

More important, in a small, densely populated country such as Rwanda, the use of regional postabortion treatment cases to generate regional abortion data can lead to data issues. In the specific case of the capital province being a destination for women who are seeking anonymity and high-quality care (for an induced abortion itself or for treatment of its complications), the regional data are vulnerable to overestimates in the receiving province (Kigali City) and to underestimates in the sending provinces (principally the North, South and East, which border on and are accessible to the capital). The problem is most visible when relating abortions to the number of reproductive-age women living in the province (i.e., abortion rates, expressed as the number of abortions per 1,000 residents of the province). Other regional abortion measures—including abortion ratios (the number of abortions per 100 live births in each province)—are also affected, though to a lesser degree. And because we applied the estimated numbers of abortions and births in each province to generate pregnancy rates and the proportions of pregnancies that are intended, the latter measures were also affected by the over- and underestimation of the numbers of abortions across provinces, though to a lesser degree than the measures of induced abortions themselves.

*We used income data from the 2005–2006 Integrated Living Conditions Survey that rescaled the baseline 2001 poverty threshold to 2006 prices to yield a poverty line of 90,000 Rwandan francs per adult per year (source: National Institute of Statistics of Rwanda [NISR], *Preliminary Poverty Update Report: Integrated Living Conditions Survey 2005/06 (Enquête Intégrale sur les Conditions de Vie des Ménages)*, Kigali, Rwanda: NISR, 2006). This translates to 250 Rwandan francs a day, or \$US0.45 a day using the average 2006 exchange rate of 558 francs to the dollar (source: NISR, *Statistical Yearbook, 2011 Edition*, Kigali, Rwanda: NISR, 2011).



Health Consequences Of Unsafe Abortion

No reliable Rwanda-specific data are available on the most dire consequence of unsafe abortion, a woman's death. This is because the event occurs relatively rarely, is extremely difficult (and costly) to measure and often goes underreported. Moreover, data on causes of mortality are often inaccurate, particularly when the cause is highly stigmatized (and highly restricted by law), as is induced abortion. Thus, we need to rely on international subregional-level data for an approximation of how many pregnant Rwandan women die each year from complications from unsafe abortion.

In 2008, the WHO estimated that 18% of maternal deaths in Eastern Africa—the subregion where Rwanda is located—were caused by unsafe abortion.²⁵ This proportion is the highest of the world's subregions. By applying that proportion to the two most widely accepted estimates of maternal deaths in Rwanda for 2008,^{33,34} we estimate that roughly 300–400 Rwandan women die each year due to complications from unsafe abortion—one of the most preventable causes of maternal mortality.

Rwanda has been working conscientiously toward the Millennium Development Goal (MDG) of a 75% reduction in maternal mortality from 1990 to 2015. Trends in estimates of mortality—rather than their absolute values—calculated from the two most reliable sources of data show clear progress: Rwanda reduced maternal mortality by roughly half from 1990 to 2008.^{33,34} (We must rely on trends within the same data set, otherwise changes over time can reflect different measurement techniques instead of actual changes in the safety of pregnancy, birth and abortion.) The country is moving toward meeting the maternal health MDG, although it needs to maintain the pace of decline in the years remaining to achieve this end.

In Rwanda, clandestine abortions often lead to serious complications

Although the progress to date is encouraging, the decline in maternal deaths in Rwanda would be even steeper if women could avoid the unintended pregnancies that lead to induced abortions in the first place. In settings where abortion is legal, the procedures performed by trained professionals under hygienic conditions are extremely safe.^{25,35} The situation is far different in Rwanda where, as is commonly found in Eastern Africa, provisions restricting legal abortion force women to seek services outside the formal health system, where safety cannot be assured. Prosecutions of women^{27,36–38} and of providers in the country^{27,39} likely push the practice further underground, making it even more risky.

The consequence of unsafe abortion that is more feasible to measure than mortality is treatment in a health facility for complications, which forms the basis for our estimation methodology. The incidence of facility-based treatment of abortion-related morbidity is a good measure of the toll that unsafe abortion takes on the health system, but it is not as good a measure of the toll on women, because it represents only those women who are able to obtain treatment. Many additional women will seek informal care outside of health facilities, not seek care or be unable to get it.

As described in the previous chapter, our methodology captures the number of late miscarriages treated at facilities, and then subtracts these from all postabortion cases to leave only cases of complications from unsafe induced abortions. Among induced abortions, some 40% are estimated to lead to complications requiring facility-based

care (Figure 3.1).³² Thus, a grand total of 24,000 women develop complications from an induced abortion in Rwanda annually. Unfortunately, because only 17,000 are seen in health facilities, roughly 7,000 Rwandan women (or almost one-third of those who need treatment for complications) do not obtain the services they need each year.

Because the likelihood of developing abortion-related complications is strongly influenced by where a woman lives and whether she can afford the services of a trained abortion provider, some subgroups of women are much more likely than others to have unsafe abortions and therefore have a greater chance of suffering complications. For example, 20% of the abortions among urban nonpoor women and 38% of those among rural nonpoor women are expected to result in complications that require treatment in a health facility. On the other hand, a slight majority of abortions among poor women (54–55%) lead to complications that require treatment in a health facility.

The much higher likelihood of abortion-related complications among poor women is primarily associated with their higher likelihood of attempting to induce their own abortions. Abortions that are self-induced (including those induced by women’s friends, relatives or neighbors) are estimated to have the highest likelihood of complications (67%; Figure 3.2, page 18), followed by those provided by traditional healers (61%).³² About one-third (34%) of the abortions performed by trained midwives in Rwanda are thought to lead to complications, whereas those provided by physicians are believed to be the least likely to lead to complications (9%).

Who is likely to get treatment?

Research conducted in countries with restrictive laws, including Rwanda, has uncovered several reasons why all women who experience abortion complications do not obtain the formal medical care they need.^{28,40,41} These may include being unaware of the need for care, preferring to see traditional practitioners, living too far from formal health services, being unable to afford out-of-pocket costs, needing the consent of a husband or partner to travel or seek care and fearing prosecution. Indeed, precisely the act of seeking care has resulted in prosecutions and jail sentences of 5–10 years in Rwanda,^{27,36–39} so Rwandans may be especially motivated to go without formal care.

From the HPS, we know that poor women in Rwanda are more likely than their nonpoor peers to suffer abortion complications and to go without the care they need. The estimated proportion of abortions among poor women that go untreated is 43% in urban areas and 38% in rural areas.³² Despite the considerable progress made by Mutuelles de Santé in making access to health care services more equitable, the poor are still at a disadvantage compared with the nonpoor, who can afford better health services and are more likely to use them (just 15–16%

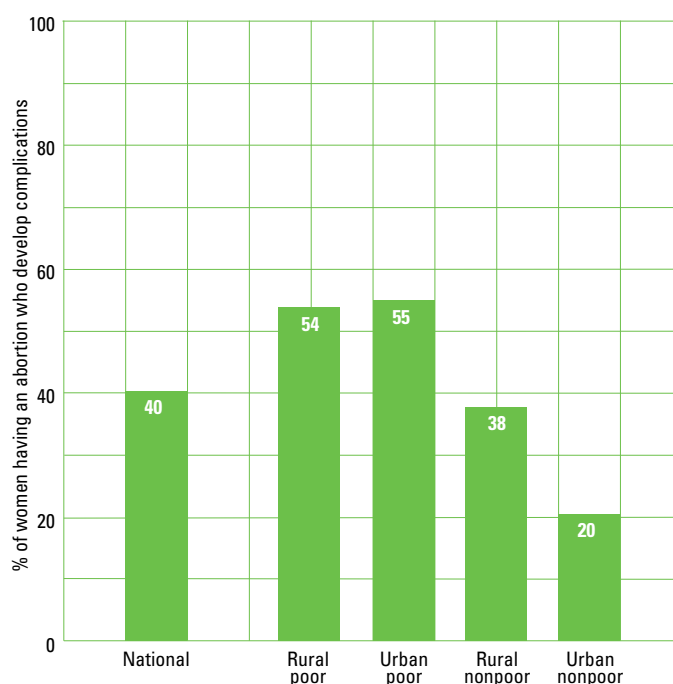
of nonpoor women are thought to forgo care should they experience abortion complications).

What about the women who do receive care? The total number treated in Rwanda for complications of unsafe abortion translates to an annual national rate of seven cases for every 1,000 women of reproductive age (Table 3.1, page 18).¹⁷ The treatment rate is highest in Kigali City—18 cases per 1,000 women. This substantial rate of postabortion cases is undoubtedly a drain on the capital’s maternal health services. In comparison, the treatment rate in the West is only half as high as in the capital (nine per 1,000), and rates in the South, North and East are one-third as high (4–5 per 1,000).

As mentioned in our earlier discussion of regional differences in the numbers of abortions (see Chapter 2), several factors explain why Kigali City—where abortions are likely safest—also has Rwanda’s highest complication treatment rate. First, it reflects the capital’s disproportionate concentration of the country’s medical services, including almost all private-sector services. Thus, residents of Kigali City who develop abortion complications are more likely than all others to seek and receive treatment. Second, large numbers of women from neighboring provinces who have undergone an unsafe abortion where they live likely travel to Kigali City for both the anonymity and high quality of treatment in the capital.

FIGURE 3.1

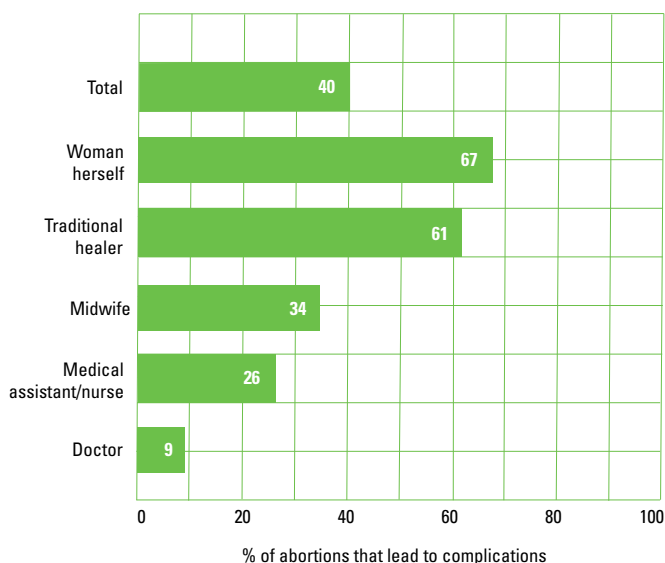
Poor women are much more likely than nonpoor women to experience abortion complications.



Source Reference 32.

FIGURE 3.2

The likelihood of an abortion-related complication is highest among women who induce their own or go to a traditional healer.



Note The “woman herself” category includes abortions induced by a friend, relative or neighbor.

Source Reference 32.

Where are women obtaining postabortion care?

When complications from induced abortions and miscarriages occur, women should seek treatment without delay. According to results from the HFS, overall, 92% of Rwanda’s 466 hospitals, clinics and health centers with the capacity to provide postabortion care reported providing it in 2009. Among the facilities that did not, most were in the private sector. Moreover, nearly one-fourth (22%) of facilities that cared for women with complications that year treated relatively few (i.e., fewer than 12).⁴² In reflection of the predominance of health centers as the facility type most accessible to Rwandan women, 56% of the 26,000 women treated received care at such facilities; 32% were treated at district hospitals, and 6% each were treated at referral hospitals and private clinics.

The average annual case load varies by facility type, ranging from 37 cases at health centers to 484 cases at the referral hospitals capable of providing postabortion care. The far larger case load at higher-level facilities likely reflects complex postabortion care needs that could not be met at lower-level facilities. (It should be remembered that our survey necessarily excluded the contribution to post-abortion care of private doctor’s offices because of the many difficulties of including them in a survey of this kind.)

Facility ownership is another important indicator of accessibility and quality of care. Sixty percent of women who receive postabortion care in Rwanda do so at public facilities, 33% at Agrée facilities, and 6% at private-sector facilities.⁴² The category Agrée is a unique feature of the

Rwandan medical system that refers to the agreement whereby faith-based organizations and nongovernmental organizations (NGOs) own and operate health facilities that nonetheless fall under the aegis of the Ministry of Health. As a result, all Ministry guidelines and regulations apply to the services provided. Thus, this substantial participation of Agrée facilities, which are neither purely public nor private, demonstrates that religiously affiliated institutions are contributing to the provision of postabortion care in the country.

The specific methods used to treat abortion complications vary by level of facility. According to the HFS data, Rwanda’s health centers—which supply more than half of all postabortion care—most commonly treat incomplete abortion by digital curettage, which means that the provider puts his or her fingers into the woman’s uterus to evacuate its contents. The technique most commonly used by hospitals is surgical dilation and curettage, despite it being far more costly and invasive than manual vacuum aspiration (MVA), the surgical technique recommended by the WHO for first-trimester cases of incomplete abortion.⁴³

As of August 2010, just 10% of all health facilities in Rwanda had the equipment to perform MVA. However, of this small proportion with the necessary equipment, almost 40% lacked staff trained in how to use it. Thus, taken together, only 6% of all the country’s facilities had both the equipment and the trained staff to provide MVA procedures. Only two of the three eligible referral hospitals could provide MVA at the time of the survey; 40% of district hospitals were able to do so, with government and Agrée district hospitals being equally likely to have the training and equipment to provide MVA.

The above findings clearly show that as of the time of the survey, Rwandan women suffered from and scarce resources were used to treat complications from a procedure that is almost entirely preventable by avoiding unintended pregnancy in the first place.

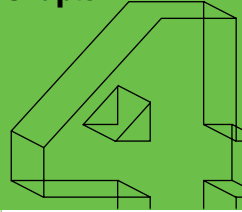
TABLE 3.1

Numbers and rates of women treated in health facilities for induced abortion complications, by province, 2009

Province	No. treated	Treatment rate*
Total	16,748	7.0
Kigali City	4,219	17.8
South	2,978	4.7
West	5,251	9.3
North	1,959	4.7
East	2,342	4.3

*Number treated per 1,000 women aged 15–44.

Source Reference 17.



The Root Cause of Induced Abortion: Unintended Pregnancy

Except for the rare situations when a desired pregnancy must be ended to save a woman's life or health, or because the fetus cannot survive outside the womb, the vast majority of induced abortions are sought to end pregnancies that are unintended. A pregnancy can be unintended for a variety of reasons: For example, because the pregnancy resulted from forced sex and incest; or because a woman is unable to afford to raise a child, has not yet finished school, is in an unstable relationship, is unmarried, has a partner who cannot or will not support a child, wants a healthy interval between her last and next birth, or has reached her desired family size.^{28,44} Most of these pregnancies could be prevented through the use of contraceptives, including emergency contraception.

Unintended pregnancy is common in Rwanda

As mentioned earlier, having an estimate of the number of induced abortions in Rwanda allows us to calculate how many pregnancies occur each year. Moreover, we know from the 2010 RDHS that 37% of all births are unplanned in the country (by province, 34% are unplanned in the West and the North, and 37–40% in Kigali City, the South and the East). Using this information, we estimate that of all pregnancies—both intended and unintended—44% end in planned births, 30% in unplanned births, 16% in miscarriages and the remaining 10% in induced abortions (Figure 4.1, page 20).¹⁷

Furthermore, 47% of all pregnancies in Rwanda are unintended—the same level as in Eastern Africa overall in 2008.²⁸ That is, nearly half of all pregnancies in the country end in unplanned births, abortions and miscarriages of unintended conceptions. Thus, Rwandan women have to contend with an estimated 276,000 unintended pregnancies each year, which translates to a rate of 114

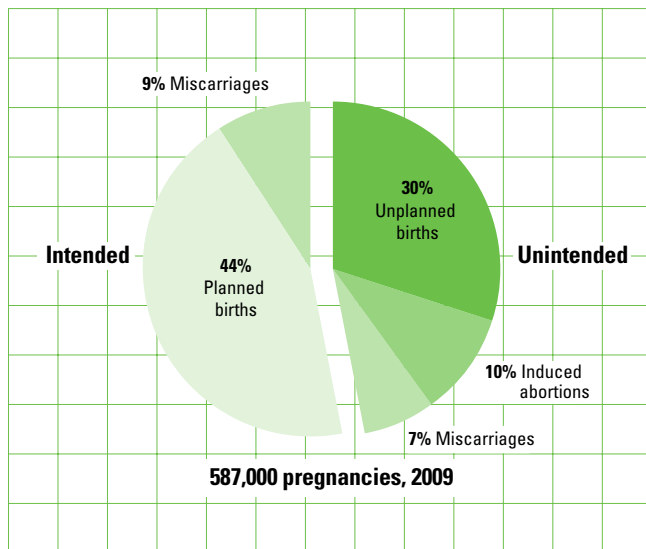
per 1,000 women aged 15–44.¹⁷ This rate is not far off from that for the Eastern Africa region as a whole (118 per 1,000 in 2008).²⁸

Probably because of Kigali City women's high level of education (Appendix Table 2)¹³ and their related high motivation to prevent an unplanned birth (with its potential negative impact on education or work-related goals), the capital province contributes a disproportionate number of unintended pregnancies relative to its population. That is, 15% of the country's unintended pregnancies occur in the province that accounts for less than 10% of the population of women aged 15–49 (Appendix Table 1).^{2,17} Another likely reason for the high level of unintended pregnancies in Kigali City is its relatively high proportion of unmarried 15–29-year-olds who are sexually active (9% vs. 5–7% in other provinces; Appendix Table 2).¹³ In the face of pervasive strong taboos against sexual activity and childbearing outside of marriage, the pregnancies of these young women are very likely to be unintended.

What do Rwandan women do when faced with unintended pregnancy? Overall, more than one-fifth (22%) of the country's unintended pregnancies end in induced abortion (Appendix Table 1).¹⁷ Unfortunately, because abortions among women living in other provinces contribute a large but unknown number of abortions to the total that occur in Kigali City, we cannot accurately know how often capital residents resort to induced abortion when faced with an unintended pregnancy. Despite this uncertainty, the differences in the abortion rates (the numbers of abortions per 1,000 women of reproductive age residing in each province) are so great that we can say with confidence that the proportion of pregnancies ending in abortion is highest among residents of Kigali City, and second-highest among residents of the West.

FIGURE 4.1

Nearly half of all pregnancies each year are unintended.



Note Unplanned births include births that were not wanted at all and those that were wanted but at a later time.

Source Reference 17.

As has been demonstrated elsewhere,⁴¹ the proportion of Rwandan women with an unintended pregnancy who attempt to induce an abortion is likely even larger than that of women who obtain one, given that some attempts are unsuccessful. Therefore, many women end up giving birth to children that they are unprepared for and did not want to have.

What explains high levels of unintended pregnancy in Rwanda?

■ *Growing preferences for smaller families.* As previously mentioned, when women's desire to have smaller families increases faster than their adoption and effective use of modern contraceptives, the inevitable result is a rise in unintended pregnancy, which in turn increases unplanned births and induced abortions. The average number of wanted* children has declined consistently in Rwanda over the past decade, at an annual rate of 3.4% (from 4.7 children in 2000 to 3.7 in 2008 and 3.1 in 2010; Figure 4.2).^{10,14,45} Unfortunately, the average number of children that women are having has declined at a slower pace, at just 2.1% each year (from 5.8 children in 2000 to 5.5 in 2008 and 4.6 in 2010). The result is that women continue to have more children than they say they want, which indicates that contraceptive use is not high enough or effective enough to prevent all unplanned births.

One group of women—the most educated—is consistently more able than others to have only the children they want. The difference between women's wanted family size and their actual family size systematically narrows with

increasing education, a clear indication of the impact of educational attainment.^{9,14,45} According to the most recent RDHS, women with no education have an average of 1.6 children more than they want, whereas women with at least a secondary education have an average of 0.8 children more.¹⁰

Moreover, findings from that survey indicate that women's desired number of children will continue to decline, given that the younger the woman, the smaller her ideal family size. On average, 15–19-year-olds indicated that their ideal family would have fewer than three children (2.7), but women 45–49 reported that more than four (4.3) children would be ideal.¹⁰ Indeed, the growing desire for smaller families is reflected in the steadily increasing proportion of married women who want to stop childbearing altogether—from 33% in 2000¹⁴ to 52% in 2010.¹⁰

■ *Contraceptive use rose rapidly, but barriers remain.* The immediate cause of an unintended pregnancy is the non-use, misuse or failure of a contraceptive method. To act on their preferences for fewer children, women need to obtain and successfully use modern contraceptives. Rwanda has made remarkable progress in this area: In 2000, just 4% of the country's married women were using a modern method,[†] whereas 44% were doing so in 2010 (Appendix Table 2).¹³ Rwanda's level of modern method use is now one of the highest in Eastern Africa.⁴⁶ The injectable accounts for three-fifths of all modern method use (the method is relied on by 26% of women in union); the bulk of the remaining modern use consists of the pill and implant (used by 7% and 6% of women in union, respectively). Use of sterilization is minimal, with fewer than 1% of married women having had a tubal ligation and no detectable use of vasectomy. Reliance on traditional methods‡—which have notably higher failure rates than modern methods⁴⁷ and thus carry greater risk of unintended pregnancy—has changed little over the past decade, and stands at 8% of women in union.

Although one might expect a difference in modern contraceptive use between Rwanda's rural and urban areas, none is found (44% vs. 45%; Appendix Table 2).¹³ This finding provides clear evidence of the country's progress in assuring equitable access to health care services, including contraceptive services. Widespread health insurance coverage and the novel approach of performance-based financing—linking funding to results—has undoubtedly helped extend access to traditionally underserved populations.^{48,49} In keeping with this anomalous uniformity in modern method use across

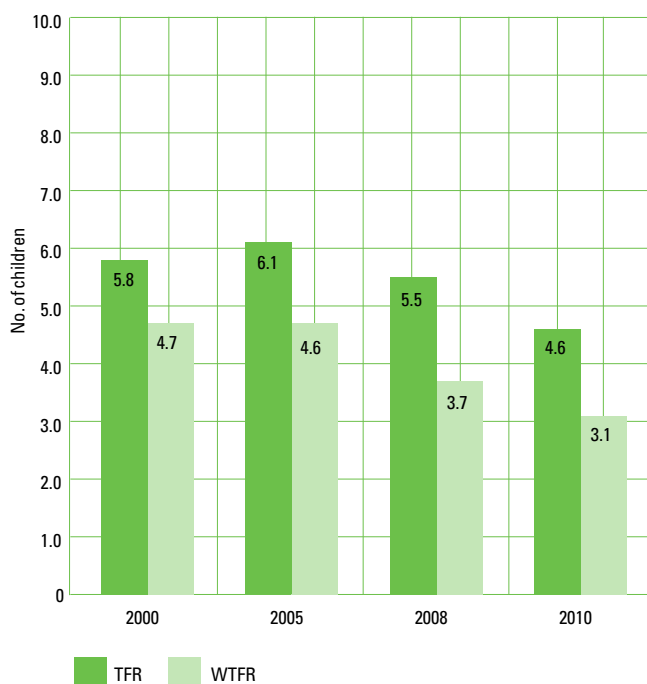
*Wanted family size measures how many children a woman would have if she could avoid having unwanted births. A birth is considered to be unwanted if, at the time it was conceived, the woman did not want to have any more children.

†Modern methods include the pill, sterilization (male and female), IUD, injectable, implant and male condom.

‡Traditional methods include rhythm, withdrawal, lactational amenorrhea method and the Standard Days method.

FIGURE 4.2

Wanted family size is falling faster than actual family size.



Notes TFR=total fertility rate (lifetime births per woman). WTFR=wanted total fertility rate. Wanted TFR is the number of births a woman would have if she avoided all unwanted births, which are defined as those conceived after having achieved reported ideal family size.

Sources References 9, 10, 14 and 45.

urban and rural areas, modern contraceptive prevalence in Kigali City is the same as it is overall. The only substantial exception to this regional uniformity is the low level of use in the Western province—34%—compared with 45–52% in the other four.¹⁰ The disadvantaged contraceptive profile of the West is discussed in further detail below.

■ *Unmet need for contraception is declining, but is still high.* Women who are not using any contraceptive method despite wanting no more children or wanting to wait at least two years to have a child are considered to have an unmet need for contraception. These women are especially vulnerable to unintended pregnancy and to possibly having an induced abortion. As of 2010, an estimated 19% of married women in Rwanda,¹⁰ or 250,000 women once we apply this proportion to the population,⁴ had an unmet need for contraception. Roughly half of these women wanted to space their next birth by at least two years, and half wanted to stop having children altogether (9.7% and 9.2%, respectively). The overall proportion of 19% represents an encouraging decline from the 36% measured by the 2000 survey.¹⁴

The current level of unmet need for contraception is not equal across the country, as the poorest and the least

educated women are consistently the most likely to be in need. For example, the proportion of married women with an unmet need systematically rises with declining wealth, from 15% among women in the highest wealth quintile to 24% among those in the lowest quintile.¹⁰ Furthermore, the level of unmet need goes up as the level of education goes down: Twelve percent of married women with at least secondary schooling have an unmet need for contraception, compared with 19% of women with no more than a primary education and 24% of those with no schooling whatsoever.¹⁰ These within-country differences highlight the greater need for contraceptive services among the more disadvantaged.

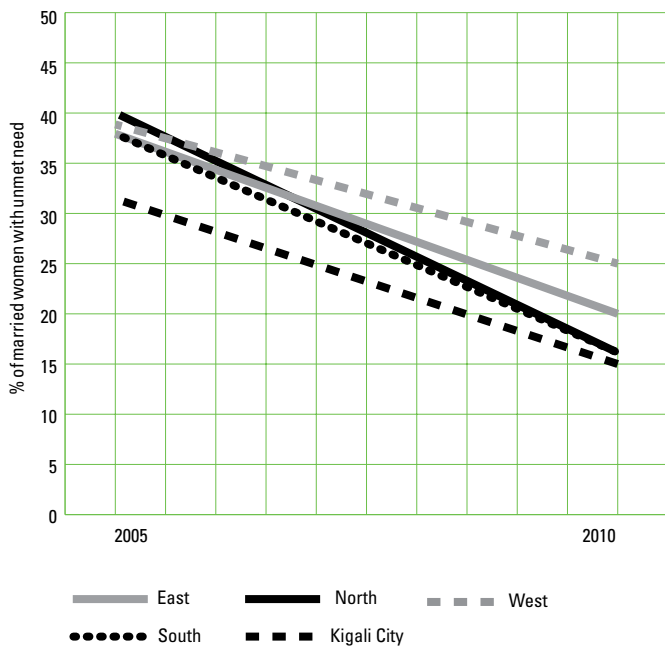
Nationally, the overall impressive decline in unmet need (by almost half from 2000 to 2010) reflects substantial and sustained increases in contraceptive use achieved over a short period of time. Unfortunately, unmet need did not decline as much in every province. Because the definition of province changed after the 2000 survey (see box, page 12), comparable regional data are available for just the two later surveys. Compared with the other four provinces, the West had a smaller than average drop in unmet need from 2005 to 2010 (a decline of 35% vs. declines of 48–61%; Figure 4.3, page 22).^{9,10} The level of unmet need in the West is currently at 25%, which is higher than the 15–20% in the four other provinces. The reasons why women who want to prevent pregnancy in the West have failed to increase their contraceptive use at the same pace as all other women are unclear, given the lack of substantive differences in access to services across provinces.^{10,29,50} Further research is needed to make recommendations on how to better serve the contraceptive needs of women in this region.

As mentioned above, unmet need in Rwanda is currently distributed equally between women wishing to space and those wishing to limit births, which represents a shift from the past, when need for methods to space births predominated (accounting for two-thirds of need in 2000 and 2005^{9,14}). Such a shift toward need for methods to stop childbearing tends to accompany declines in wanted family size and has implications for the national family planning program, as the availability of long-term and permanent methods will need to be assured to meet increased demand for them.

What barriers to modern contraceptive use may explain the persistence of unmet need? Encouragingly, fewer and fewer women cite barriers of access as reasons for nonuse. According to the available data on why women were not using a method in 2005 and 2008, roughly equal proportions cited culturally defined reasons (such as personal or religious opposition) as cited method-related reasons

FIGURE 4.3

Unmet need for contraception has declined by at least half in all provinces except the West, yet remains high.



Sources: References 9 and 10.

(such as fear of side effects or health concerns).^{45,51} A 2006 survey of roughly 6,000 women that assessed motivation to use contraceptives found that the vast majority of nonusers surveyed perceived that negative stories about methods kept women from practicing contraception.⁵² A somewhat different measure—why women discontinued using their method for reasons that were unrelated to pregnancy—shows that as of 2010, method side effects were the most commonly cited factor motivating women to stop (mentioned by 67% of those surveyed), followed by the desire to switch to a more effective method (21%).¹³

Unlike the cultural objections cited for nonuse, reasons related to side effects or negative stories about methods are amenable to intervention through improved provision of counseling and services. Another objection that can be addressed by better counseling is the common belief that women must resume menstruation after a pregnancy before restarting contraceptive use.⁵³

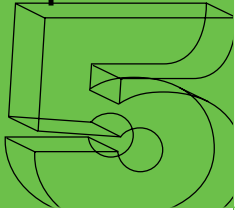
Some of the entrenched structural barriers to more widespread contraceptive use include the usual problems of insufficient funding, shortage of human resources and the related lack of adequate training of health care staff.^{52,54} As 40% of health facilities are religiously affiliated, women may be unable to obtain modern contraceptive services at those locations.⁵³ Yet, under the Agrée system, religiously affiliated facilities are responsible for referring women to nearby sites where modern methods

can be obtained; in areas that have no such nearby facilities, the government established primary-level health posts close to faith-run facilities. It is likely that this work-around has mitigated the problem to some degree, but not completely.

■ *The population of single, sexually active women is growing.* Although still small in absolute numbers, the proportion of unmarried 15–29-year-olds in Rwanda who are sexually active has increased from 2005 to 2010 in all five provinces (Appendix Table 2).¹³ Unfortunately, nearly two-thirds of these women overall—and nearly three-fourths in the West—are not using a contraceptive method, despite the serious social and economic consequences of becoming pregnant outside of marriage in Rwanda.

Unmet need for contraception is highest by far among this subgroup of women. Based on 2010 data, 56% of single, sexually active women aged 15–29 have an unmet need—roughly three times the level among married women (19%). And in the West, the province with the highest level of unmet need overall, the level of unmet need among young unmarried women reaches 69%. This means that at the national population level,² some 40,000 unmarried 15–29-year-olds were exposed to unintended pregnancy in 2010 because they had an unmet need for contraception.

One reason why unmet need might be so high among unmarried women is that social stigma against sexual activity outside of marriage discourages them from asking for and receiving contraceptive services. As long as this situation continues, young unmarried women will be at high risk of unintended pregnancy and, by extension, exposed to the dangers of unsafe abortion.



Conclusions and Implications

Rwanda has made extraordinary recent progress in improving the health and well-being of its women. The government is to be commended for undertaking direct action on a national scale to implement international goals. The result is safer childbearing with improved outcomes for both mothers and babies, and smaller, healthier families. Yet, these improvements in women's health have not yet eliminated women's need to resort to unsafe abortion to avoid an unplanned birth. Until now, however, there was no way to assess the extent of this practice for which no statistics are collected.

We estimate that approximately 60,000 induced abortions occur in Rwanda each year. Legally restricting abortion does not mean that abortions do not happen. Virtually none of these estimated abortions likely meet the narrow legal criteria under which abortion is permitted in Rwanda. These findings are consistent with evidence from around the world showing that legal restrictions do little to eliminate abortion, but much to push the practice underground, making it less safe.^{25,28}

An estimated two out of every five Rwandan women who have an abortion develop complications that require medical treatment. Unfortunately, nearly one-third of these women do not receive the facility-based care they need. Little is known about how this group of women fare or who they are; however, one can hypothesize that in a country with widespread access to health care and nearly universal health insurance enrollment, many women—especially young women—may avoid care for multiple reasons connected with the strong stigma against abortion. Primary among these reasons are fear of parents' reactions, judgmental attitudes of providers and fear of serving time in prison.

The disproportionate number of abortions that occur in the capital province—the place most likely to offer women anonymity from family and friends—provides evidence of the strength of the stigma surrounding abortion. That young women in particular are currently serving prison terms after seeking postabortion care shows that they have good reason to fear prosecution: In 2011, of the 114 women in one prison in Rwanda's South province, nearly 20% were serving multiyear sentences for the crime of having interrupted an unintended pregnancy.²⁷

Promising avenues for improving reproductive health

Rwanda's evident political commitment to improving health care in general—and reproductive health care in particular—can be seen in the rapid gains achieved in the use of maternal and contraceptive services. As of 2010–2011, maternal mortality had declined even further than as of 2008, to 335–340 maternal deaths per 100,000 live births.^{55,56} This progress is encouraging and gives hope that similar gains will soon be achieved in the area of abortion care and in preventing the unintended pregnancies that lead to unsafe abortions. To that end, we offer the following set of recommendations.

- *Expand contraceptive choice.* The large recent increase in contraceptive use is evidence of improvements in access to services and of the strong motivation among women and couples to determine the timing and number of their births. But to fulfill the still substantial unmet need for contraception, and to facilitate a woman's ability to switch methods if dissatisfied with the one she is currently using, Rwandan women should be given a wide range of methods to choose from. In recognition of the injectable's current high demand (it accounts for 60% of all modern use¹⁰), the

Ministry of Health's 2011–2015 Family Planning Policy proposes a fundamental shift in philosophy, by making better use of the extensive network at the base of the country's health system pyramid—community health workers—to provide injectable contraceptives at the community level.⁵⁷

The virtual absence of sterilization in the method mix is noteworthy, given that 52–54% of both women and men say they want no more children.¹⁰ Increased use of permanent methods could fulfill a great deal of this demand. Indeed, half of the current unmet need for contraception corresponds to need to stop having children. Promotion of vasectomy—a much less invasive and resource-dependent method than tubal ligation—would increase male involvement in contraception and reduce Rwanda's unmet need for limiting births. A recent pilot program to train providers in no-scalpel vasectomy was successful at showing how traditional taboos can be overcome with appropriate counseling and services.⁵⁸ This pilot led to scaled-up training of providers in the no-scalpel technique in all district hospitals.⁵⁹

Providers can be trained to better help couples improve use of their chosen contraceptive method through counseling on the importance of consistent and correct use; in addition, providers can assist couples in changing from traditional methods to more effective modern ones and in switching between modern methods if dissatisfied. Counseling and public education campaigns could help give women accurate information, so that they can recognize and reject myths and rumors. Providers can also explicitly educate women on when they can become pregnant again after pregnancy or childbirth, so they can start contraceptive use before becoming vulnerable to unintended pregnancy.⁵³ The full support and cooperation of male partners must also be fostered.

■ *Strengthen access to emergency contraception.* The use of emergency contraception after unprotected intercourse may reduce unintended pregnancies and subsequent induced abortions in Rwanda. Although the method is included in the country's minimum package of clinical family planning services,⁵⁷ it is still the least known method (fewer than one-quarter of women and two-fifths of men had even heard of it as of 2010)¹⁰ and remains the least available from facilities offering temporary methods.⁵⁰ Furthermore, emergency contraception is crucial to preventing pregnancy after rape, and thus should be offered to victims of gender-based violence as a standard practice, as is done at the model One Stop Isange Center within the Kacyiru Police Hospital.⁶⁰

■ *Target interventions to groups at high risk of unintended pregnancy.* Contraceptive education and services need to be directed to women who are not using contraceptives despite their not wanting a pregnancy—the 19% of all married women with an unmet need for contraception. Even closer attention needs to be paid to the populations with the highest level of unmet need—the 24% each of the

poorest and least educated women, and the 25% of women living in the Western province.

The additional 8% of married women who are using traditional methods—which have higher failure rates than modern methods—should be encouraged to better protect themselves from unintended pregnancy by switching to a modern method. Another important population, women living with HIV (now at 3.7% of 15–49-year-olds,⁶¹ and 5.1% of pregnant 15–19-year-olds⁶²), needs to have specialized contraceptive counseling and services integrated with their health care. Evidence suggests that HIV-positive women are more likely than HIV-negative women to want to end childbearing.⁶³ These women are entitled to act on their preferences for timing births and achieving their desired family size without transmitting the virus to another generation.

Most important, the proportion of unmarried young women who are sexually active is increasing, and in 2010, unmet need among these women reached 56% overall, and 69% in the West. Given that strongly held stigma against premarital sex likely prevents many unmarried young people from seeking out the contraceptive services they need, health authorities should work to improve contraceptive knowledge among youth, and to create contraceptive programs and services that are confidential, youth-friendly and nonjudgmental.

■ *Improve postabortion care services.* As of 2009, roughly one-third of women experiencing abortion-related complications went without treatment. Postabortion care should be fully integrated with other available maternal health services, and the government should continue its efforts to increase the availability of quality postabortion care at lower-level public facilities. For example, community health workers—who form the base of the pyramidal structure of the country's health system—are currently being educated about how to transport women without delay to the closest source of postabortion care. Further efforts to expand access should include equipping and training personnel in health centers, and training mid-level and auxiliary staff in relevant skills and techniques, including how to perform MVA and to recognize when to refer patients to higher-level facilities. Guaranteeing that women receive confidential and respectful treatment is key to overcoming the stigma and fear of prosecution that deters some from seeking postabortion care.

The quality of postabortion care should also be improved. At the time the HFS was fielded, providers' readiness and ability to treat incomplete abortion with MVA—the technique recommended by the WHO—was extremely limited: Just 6% of all the health facilities sampled had both the equipment and the trained staff to provide the procedure. In the past few years, the important involvement of the Ministry of Health in securing needed MVA kits and in scaling up training is improving the quality of postabortion care.⁶⁴ Momentum needs to be maintained to extend these gains.



In March of 2012, Rwanda released its first National Comprehensive Treatment Protocol for Postabortion Services.⁶⁵ This essential protocol intended for health care providers asserts that incomplete abortions be treated only with recommended procedures (i.e., misoprostol tablets at all facility levels and MVA for emergencies in hospitals and health centers). The protocol needs to be put into practice right away. To prevent repeat induced abortions, and to assure that women are fully recovered from a miscarriage before another pregnancy, the protocol directs providers to provide women with a highly effective contraceptive method of their choice. This is a welcome change, given that a 2010 assessment of postabortion care found no evidence of patients being discharged with a family planning method.⁴⁰ Evidence in other East African countries has shown that when high-quality models of post-abortion care are adopted, time-to-treatment and length of patient stay decrease, as do the costs per patient to the health system.⁶⁶

■ *Educate the public about the provisions for legal abortion.* In May of 2012, Rwanda lifted its reservation to Article 14 in the Protocol to African Charter on Human and People's Rights on the Rights of Women in Africa (Maputo Protocol).⁶⁷ The article explicitly directs countries that have signed the charter to “protect the reproductive rights of women by authorising medical abortion in cases of sexual assault, rape, incest, and where the continued pregnancy endangers the mental and physical health of the mother or the life of the mother or the foetus.”⁶⁸ In the same month, the country adopted a new penal code.¹⁶ Its revised grounds and penalties for abortion had led to widespread societal debate.

Public education campaigns are essential to educate women about the new criteria under which abortion is legal. The health system needs to assure that providers are properly trained in how to perform a legal procedure. To prevent women from having to undergo later-gestation abortions, the law enforcement and judicial officials responsible for implementing and enforcing the new criteria need to process court orders without delay. Studies gauging the extent of public knowledge about the new criteria for legal abortion would help direct such education campaigns to where they are needed most. To ensure that women entitled to a legal abortion receive a safe procedure, the country could consider adopting guidelines to help providers, who are likely unfamiliar with the provision of legal abortion, to use only recommended procedures. In this, Rwanda can follow the lead of other countries that have adapted WHO's *Safe Abortion: Technical and Policy Guidance for Health Systems*⁴³ to their country's specific needs.⁶⁹

Next steps

Rwanda has made undeniable progress toward giving women and couples the means to effectively plan their families. This progress is evident in the recent rapid rise of modern contraceptive prevalence and in the accompanying decline in family size. However, substantial gaps remain that deserve the government's attention.

The persistent difference between wanted and actual family size—even with rapidly improving contraceptive use—implies that women's adoption of effective contraceptive use is not keeping pace with their desires for smaller families. The current situation, whereby nearly half of pregnancies are unintended, needs immediate attention. To address the public health problem of unsafe abortion and make further progress toward meeting the maternal health MDG, a wide array of stakeholders must make concerted efforts. Among such efforts could be the following:

- Health facilities—from health centers to referral hospitals, operated by the government, religious organizations, NGOs or the private sector—should adopt the new postabortion protocol, with training of providers in recommended postabortion care techniques being given high priority.
- Providers—including physicians, midwives, nurses and medical assistants—can be better trained to improve the quality of essential contraceptive services and post-abortion care.
- The Ministry of Health and the country's family planning program can assure the steady availability of contraceptive commodities and medical supplies and equipment needed for contraceptive services and the provision of quality postabortion care.
- The Ministry of Education and private- and public-school officials should provide young people with the knowledge and skills they need to protect their reproductive health by avoiding unwanted pregnancy.
- Government agencies, NGOs and parliamentarians must monitor the application of the current provisions for legal abortion to ensure access and see that women and providers are adequately informed of the new criteria for legal abortion.

Only when all these forces come together can significant progress be made in reducing unintended pregnancy, assuring access to legal abortion and improving the provision of postabortion care. The tangible effects of these efforts will be fewer unintended pregnancies to lead to unsafe abortions, a less-burdened health system and healthier women to contribute to a more productive society.

APPENDIX TABLE 1

Measures of abortion and pregnancy among women of reproductive age in Rwanda, by province, 2009

Measure	Total	Province				
		Kigali City	South	West	North	East
ABORTION						
No. of women treated in facilities for complications of spontaneous and induced abortions	25,728	5,096	5,173	7,522	3,386	4,550
No. of women treated in facilities for complications of induced abortions	16,748	4,219	2,978	5,251	1,959	2,342
No. of induced abortions	60,276	20,560	9,439	16,645	6,210	7,422
% distribution of abortions	100.0	34.1	15.7	27.6	10.3	12.3
% distribution of women aged 15–49	100.0	9.5	26.5	23.7	17.3	23.0
Abortion rate (abortions per 1,000 women aged 15–44)	25.0	86.7	14.8	29.4	15.0	13.5
Abortion ratio (abortions per 100 live births)	13.9	60.3	8.4	15.6	8.6	15.6
Treatment rate for complications of induced abortions (no. of women treated per 1,000 women aged 15–44)	6.96	17.79	4.66	9.28	4.72	4.26
PREGNANCY						
No. of all pregnancies	586,740	63,538	144,874	146,289	93,562	138,476
No. of unintended pregnancies	275,768	40,664	59,398	61,441	47,717	63,699
% distribution of unintended pregnancies	100.0	14.7	21.5	22.3	17.3	23.1
PERCENTAGE DISTRIBUTIONS						
All pregnancies						
Unintended	47.0	64.0	41.0	42.0	51.0	46.0
% ending in births	29.5	23.7	28.2	24.9	36.6	33.7
% ending in abortions	10.3	32.4	6.5	11.4	6.6	5.4
% ending in miscarriages	6.9	8.0	6.3	6.1	8.0	7.3
Intended	53.3	35.9	59.0	57.6	48.8	53.6
% ending in births	44.4	29.9	49.2	48.0	40.6	44.7
% ending in miscarriages	8.9	6.0	9.8	9.6	8.1	8.9
Unintended pregnancies only						
% ending in abortions	22.0	50.5	15.9	26.8	13.0	11.6
% ending in births	63.2	37.0	68.8	58.8	71.5	72.7
% ending in miscarriages	14.8	12.5	15.3	14.4	15.6	15.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note Values may not add up to totals because of rounding.

Sources For population data—reference 2; for all other data—reference 17.

APPENDIX TABLE 2

Social, demographic and fertility characteristics of women of reproductive age in Rwanda, by province and area of residence, 2000, 2005, 2008 and 2010

Characteristic	Total	Province					Area of residence		
		Kigali City	South	West	North	East	Urban	Rural	
ALL WOMEN									
Social and demographic									
% living in rural areas									
	2000	82.8	0.0	92.9	85.0	85.7	85.5	na	na
	2005	83.0	14.6	86.1	92.1	90.2	94.8	na	na
	2008	83.1	12.8	86.1	90.9	91.9	93.5	na	na
	2010	84.9	19.3	88.8	95.7	94.4	95.8	na	na
% with secondary education or higher									
	2000	10.6	38.0	7.7	10.5	7.8	10.2	35.6	5.4
	2005	9.6	30.1	8.3	6.2	9.4	5.5	27.6	5.9
	2008	11.6	33.6	8.9	8.9	11.1	8.8	28.4	8.1
	2010	16.2	42.0	13.7	12.1	12.5	12.8	37.5	12.4
% living in poverty*									
	2000/2001	58.9	22.7	65.5	62.3	64.2	59.3	u	u
	2005/2006	56.7	20.8	66.7	60.4	60.5	52.1	u	u
	2010/2011	44.9	16.8	56.5	48.4	42.8	42.6	28.5	61.9
Fertility									
Total fertility rate (lifetime births per woman)									
	2000	5.8	4.9	5.1	6.4	6.6	5.5	5.2	5.9
	2005	6.1	4.3	5.6	6.6	6.4	6.5	4.9	6.3
	2008	5.5	4.4	5.5	5.8	5.4	5.8	4.7	5.7
	2010	4.6	3.5	4.6	5.0	4.1	4.9	3.4	4.8
Wanted total fertility rate (lifetime births per woman)†									
	2000	4.7	u	u	u	u	u	4.1	4.8
	2005	4.6	3.4	4.4	4.9	4.8	4.8	3.6	4.8
	2008	3.7	3.1	3.8	4.1	3.2	3.8	3.3	3.8
	2010	3.1	2.6	3.2	3.4	2.7	3.4	2.6	3.2
Distribution of unplanned births in the five years before the survey‡									
% mistimed									
	2000	21.7	24.5	20.4	21.2	20.3	24.4	21.6	21.8
	2005	23.0	18.5	23.0	22.6	21.2	26.3	22.1	23.1
	2008	14.5	16.9	13.6	15.0	14.3	14.4	13.2	14.7
	2010	24.6	26.6	25.5	24.1	21.6	25.3	26.8	24.3
% unwanted									
	2000	12.4	13.7	12.3	13.3	11.4	12.2	12.9	12.3
	2005	15.7	27.7	13.5	15.3	14.9	15.3	23.9	14.4
	2008	25.4	27.3	22.8	19.2	33.1	28.6	28.8	24.9
	2010	12.2	10.2	14.1	10.1	12.6	12.9	10.8	12.4
Prenatal and delivery care among births occurring in the five years before the survey									
% of women receiving professional prenatal care§									
	2000	92.3	92.0	92.2	89.7	94.8	93.2	94.8	91.9
	2005	94.3	92.5	94.9	92.9	96.7	93.9	92.6	94.6
	2008	95.8	95.8	95.3	96.6	96.6	94.9	95.9	95.8
	2010	98.0	99.1	97.7	97.9	98.3	98.0	98.3	98.0

Characteristic	Total	Province					Area of residence		
		Kigali City	South	West	North	East	Urban	Rural	
% of deliveries occurring in a health facility (most recent birth in past five years)									
	2000	25.7	68.2	22.6	27.7	20.8	24.2	64.7	19.0
	2005	29.3	58.1	29.2	25.7	30.2	22.4	55.0	25.0
	2008	49.6	66.9	45.1	50.0	47.9	48.6	68.1	46.4
	2010	71.9	85.7	70.4	72.2	67.3	70.6	82.9	70.3
Contraceptive use, unmet need for contraception and reproductive preferences among married women									
% using any contraceptive method									
	2000	13.2	31.9	12.5	11.1	10.5	15.7	26.9	10.9
	2005	17.4	35.5	14.8	14.5	16.0	19.0	31.6	15.2
	2008	36.4	41.7	33.5	33.8	43.9	34.2	44.6	35.0
	2010	51.6	53.6	55.3	42.7	56.9	52.3	53.1	51.3
% using a modern method**									
	2000	4.3	13.6	2.9	4.6	2.4	5.5	14.0	2.6
	2005	9.0	19.7	7.1	8.5	9.5	7.8	18.4	7.5
	2008	26.0	33.3	21.2	24.8	32.9	24.7	34.7	24.6
	2010	44.0	44.9	47.0	33.8	51.7	45.6	44.9	43.9
% using a traditional method††									
	2000	9.0	18.0	9.6	6.5	8.0	10.2	12.8	8.3
	2005	8.4	16.0	7.7	6.0	6.4	11.2	13.2	7.6
	2008	10.3	8.4	12.3	9.0	11.0	9.5	9.9	10.4
	2010	7.6	8.7	8.2	9.0	5.2	6.7	8.1	7.5
% with unmet need for contraception‡‡									
	2000	35.6	34.5	34.7	36.2	34.5	36.9	33.9	35.9
	2005	37.9	31.0	37.6	38.7	40.1	37.8	34.4	38.4
	2008	u	u	u	u	u	u	u	u
	2010	18.9	15.0	16.1	25.0	15.6	19.6	15.4	19.5
% wanting a child later§§									
	2000	50.3	47.6	48.1	55.3	52.0	46.0	47.9	50.7
	2005	42.4	35.1	44.4	44.0	42.9	40.1	37.4	43.1
	2008	37.7	38.5	35.7	44.0	31.5	38.1	35.9	38.0
	2010	37.8	36.6	35.3	42.1	39.2	35.4	36.8	37.9
% wanting no more children***									
	2000	33.7	35.0	35.0	30.0	34.0	36.2	36.7	33.2
	2005	42.7	52.0	40.7	39.5	44.0	44.6	49.3	41.7
	2008	49.2	47.6	50.2	43.6	56.1	49.0	50.4	49.0
	2010	52.9	48.6	55.4	48.7	52.2	56.8	49.8	53.4
ADOLESCENTS AND YOUNG ADULT WOMEN									
% of births among 15–24-year-olds in the past 5 years that were unplanned (mistimed plus unwanted‡)									
	2000	25.3	35.1	22.6	25.9	24.2	25.5	30.0	24.1
	2005	31.7	46.2	31.3	31.0	28.1	30.6	44.9	29.5
	2008	28.1	40.8	27.1	21.8	28.6	30.4	34.5	26.8
	2010	29.7	38.0	36.0	26.3	24.3	28.2	38.1	28.4
% of 15–19-year-olds who are already mothers or are currently pregnant									
	2000	6.8	6.9	4.0	7.6	10.6	6.1	6.8	6.8
	2005	4.1	6.9	3.7	4.1	1.8	5.2	5.1	3.9
	2008	5.7	9.0	5.7	5.3	6.0	4.5	5.5	5.8
	2010	6.1	6.6	5.0	5.4	5.8	7.9	5.4	6.2

Characteristic	Total	Province					Area of residence		
		Kigali City	South	West	North	East	Urban	Rural	
Median ages among 25–29-year-olds									
At first sex									
	2000	20.3	20.7	21.2	19.9	19.5	20.3	20.4	20.3
	2005	20.0	20.5	21.1	19.5	19.6	19.5	20.3	19.9
	2008	u	u	u	u	u	u	u	u
	2010	21.3	21.7	21.8	21.4	21.4	20.5	21.5	21.3
At first marriage									
	2000	21.0	22.3	21.7	20.7	20.0	20.9	21.6	20.9
	2005	20.6	22.6	21.9	20.0	19.9	19.8	22.0	20.3
	2008	u	u	u	u	u	u	u	u
	2010	22.3	24.5	22.9	22.3	21.9	21.2	24.3	21.0
At first birth									
	2000	22.0	22.7	22.8	21.6	20.9	20.7	22.0	22.0
	2005	21.7	22.4	22.9	21.2	21.2	21.0	22.2	21.6
	2008	22.2	22.8	23.3	22.3	21.6	21.4	22.6	22.2
	2010	22.9	24.3	23.3	23.2	22.7	22.0	24.0	22.8
% of single 15–29-year-olds who are sexually active††									
	2000	4.2	5.8	4.0	4.2	4.1	3.9	6.3	3.5
	2005	4.1	7.1	3.3	3.2	4.8	4.0	6.4	3.5
	2008	u	u	u	u	u	u	u	u
	2010	6.5	8.9	6.6	5.2	5.0	7.3	10.4	5.7
Among single, sexually active 15–29-year-olds									
% using any contraceptive method									
	2000	17.8	44.4	7.3†††	11.1†††	§§§	15†††	34.5	9.4
	2005	14.4	35.0	5.4†††	8.3†††	11.4†††	9.1†††	29.8	7.3
	2008	u	u	u	u	u	u	u	u
	2010	34.0	30.2	40.5	26.5	31.8†††	37.9	37.6	32.8
% using a modern method**									
	2000	14.8	38.9	2.5†††	8.6†††	§§§	12.2†††	32.7	5.7
	2005	12.2	27.5	5.4†††	8.3†††	8.6†††	9.1†††	24.6	6.5
	2008	u	u	u	u	u	u	u	u
	2010	33.1	28.6	39.2	26.5	29.5†††	37.2	37.2	31.6
% with unmet need for contraception****									
	2000	64.0	47.1	70.7†††	85.7†††	u	58.5†††	49.1	72.4
	2005	61.3	57.5	63.2†††	60.0†††	67.6†††	57.6†††	57.9	62.6
	2008	u	u	u	u	u	u	u	u
	2010	55.8	61.9	43.8	69.1	60.5†††	50.0	51.1	57.7

*For 2000/2001, defined as 64,000 Rwandan francs (RWF) per adult per year—the estimated cost in January 2001 prices of a minimum food basket to supply enough calories for a Rwandan to do physically demanding work, along with an allowance for nonfood items. For comparability with the later two surveys, this poverty line was rescaled to 90,000 RWF for 2005/2006 and 118,000 RWF for 2010/2011, respectively. †Wanted fertility is the number of births a woman would have if she avoided all unwanted births, which are defined as those conceived after a woman had already achieved her reported ideal family size. ‡Mistimed births are those that occurred earlier than a woman desired; unwanted births are those that occurred when a woman wanted no more children. §Professional prenatal care is that provided by a doctor or nurse; the data refer to prenatal care for the most recent birth among women who had a birth in the five years before the survey. **Includes the pill, IUD, injectable, female and male sterilization, implant, spermicides and male condom. ††Includes rhythm, withdrawal, lactational amenorrhea and Standard Days method. ††A woman has an unmet need for contraception if she is married, able to become pregnant (and is not currently pregnant or amenorrheic), and does not want to have a child in the next two years or wants to stop childbearing, but is not using any contraceptive method. §§Includes women who reported wanting to have a child later or who were unsure of timing/undecided. ****Includes women who are sterilized and those whose partners are sterilized. †††Defined as having had sex in the past three months. †††Based on an unweighted sample of 25–49 cases, so results should be interpreted with caution. §§§Data unavailable because of an unweighted sample of fewer than 25 cases. ****A young woman has an unmet need for contraception if she is sexually active, able to become pregnant (and is not currently pregnant or amenorrheic), and does not want to have a child in the next two years or wants to stop childbearing, but is not using any contraceptive method.

Notes na=not applicable. u=unavailable. For all province data from 2000—see box on page 12 for a description of how old provinces were mapped onto new. For brevity, the 2007–2008 Interim RDHS is referred to as having been conducted in 2008, because just two weeks of data collection occurred in 2007.

Sources For poverty data—reference 29; for all other data—references 9, 10, 11, 12, 13, 14 and 45 and Guttmacher Institute, special tabulations of data from the 2005 Rwanda Demographic and Health Survey.

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METHODOLOGY BOX

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Guttmacher Institute
125 Maiden Lane, 7th Floor
New York, NY 10038 USA
Telephone: +1-212-248-1111
Fax: +1-212-248-1951
Email: info@guttmacher.org
www.guttmacher.org

National University of Rwanda–School of Public Health
P.O. Box 5229
Kigali, Rwanda
Telephone: +250 (0) 252 500 014
Fax: + 250 (0) 252 530 121
Email: info@nursph.org
www.sph.nur.ac.rw



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