MINISTRY OF HEALTH

Incidence of Induced Abortions and the Severity of Abortion-related Complications in Kenya

Findings of a National Study

APRIL 2025

REPUBLIC OF KENYA

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Acknowledgments

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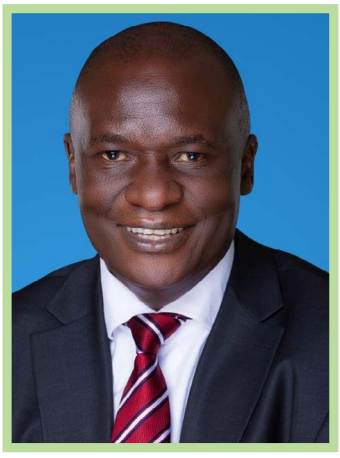
Foreword



The Kenyan government has made considerable progress in addressing the challenge of maternal morbidity and mortality in the country through a range of policies and actions that enhanced access to maternal health services and removed barriers to these critical services. Nonetheless, unsafe abortion remains a public health challenge. The government has invested in multiple interventions to prevent unsafe abortions and their health consequences. These include availing modern contraceptives to prevent unintended pregnancies, developing appropriate clinical guidelines to support health providers in the delivery of health services, and training health providers on post-abortion care.

Despite the importance of this issue, there is insufficient up-to-date and nationwide evidence on the incidence of induced abortions, the characteristics of women who seek abortion-related care in health facilities, the nature of abortion-related complications that women present with, and the care they receive. This study provides answers to some of these questions. This report summarizes the landscape of abortion in Kenya. It highlights the incidence of induced abortions, the severity of abortion-related complications, and the preparedness of health facilities to provide comprehensive post-abortion care in Kenya.

The study, which was conducted by partners including the Ministry of Health, the African Population and Health Research Center, and the Guttmacher Institute, provides valuable information on a preventable cause of maternal death and suffering in Kenya and elsewhere in Africa. The report provides a compelling rationale that expanding access to modern and effective family planning and contraception services is essential to preventing unintended pregnancy and unsafe abortion. Investing in improving access to effective family planning and contraception would generate critical gains, including a return on investment by eliminating the significant resources expended while providing treatment for complications from unsafe abortion. Consequently, the report also calls for the full implementation of the existing policies, clinical standards and guidelines for post-abortion care that would, among other things, ensure appropriate training for healthcare providers and the provision of equipment, supplies, and commodities for post-abortion care.

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List of Acronyms

AICM	Abortion Incidence and Complications Methodology
APHRC	African Population and Health Research Center
D&C	Dilation and Curettage
D&E	Dilation and Evacuation
DHS	Demographic and Health Survey
HFS	Health Facility Survey
KIS	Knowledgeable Informants Survey
LARC	Long-Acting Reversible Contraception
MA	Medication Abortion
MMR	Maternal Mortality Rate
NACOSTI	National Commission of Science, Technology and Innovation
PAC	Post-Abortion Care
PLTCs	Potentially Life-Threatening Complications
PMS	Prospective Morbidity Survey
RDS	Respondent-Driven Sampling survey
SARC	Short-Acting Reversible Contraception
SDGs	Sustainable Development Goals
SMOs	Severe Maternal Outcomes
SRHR	Sexual and Reproductive Health and Rights
WHO	World Health Organization
WRA	Women of Reproductive Age

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Executive Summary

About 355 women die annually per 100,000 live births in Kenya due to pregnancy and childbirth complications, highlighting the slow progress toward reducing the maternal mortality rates in the country. This maternal mortality ratio remains far from the Sustainable Development Goals (SDGs) target of fewer than 70 deaths per 100,000 live births. Whereas successive governments have implemented various programs and policies to improve maternal health indicators, the progress remains unsatisfactory as thousands of women continue to die from pregnancy-related causes.

Unsafe abortion remains an important concern for maternal morbidity and mortality. Thirteen years ago, a study by the Ministry of Health (MoH, the African Population and Health Research Center (APHRC), and the Guttmacher Institute reported close to 464,690 induced abortions in Kenya in 2012. Given the time that has passed since that study and changes in the landscape of abortion in the country (e.g., the increased availability of medication abortion drugs), among other reasons, there is a need for an updated study to provide up-to-date evidence on the incidence of abortion, severity of abortion-related complications, and the preparedness of health facilities to provide post-abortion care in Kenya.

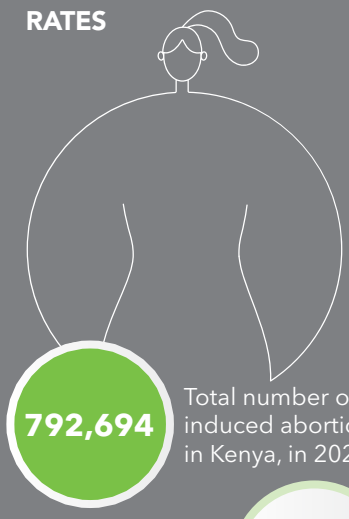
This report presents the findings from a nationwide study on the incidence of abortion and the severity of abortion-related complications in Kenya. We conducted several surveys between April 2023 and May 2024, including a health facility survey among a nationally representative sample of public and private health facilities, a survey of postabortion care patients and their providers, a survey of individuals knowledgeable about abortion in Kenya, and a survey of women who induced abortion in the last five years.

Findings show that an estimated 792,694 induced abortions occurred in Kenya in 2023, corresponding to an induced abortion rate of 57.3 abortions per 1000 women of reproductive age (15-49 years) and an induced abortion ratio of 48.1 induced abortions per 100 live births. Abortion rates varied significantly across the regions in Kenya. More than half of all the women with post-abortion complications were treated in public health facilities (50.6%), and 7 in 10 women were treated in primary-level facilities (69.3%). The Kenyan regions with the highest unintended pregnancy rates also had the highest induced abortion rates, further supporting the argument that to control induced abortions, we must prevent unintended pregnancies and promote the use of family planning, particularly modern contraceptive methods.

Considering patient-level clinical data, women who presented with abortion-related complications to the health facilities across Kenya over a 30-day observation period were socially, demographically, and economically diverse. Most participants were 25-34 years old (41.8%), married or living together with a partner (78.6%), had secondary-level education (36.7%), and identified as Christians (90.6%).

Further, about 65.6% had previously given birth, and 29.1% had 4 or more pregnancies in their lifetime. Regarding the severity of abortion-related complications, 1.4% of the women treated for post-abortion complications experienced severe maternal outcomes, about 16.4% presented with potentially life-threatening complications, 28.5% had moderately severe complications, and 53.7% had mild complications. Compared to the 2012 study, the proportion of women with more severe complications has reduced significantly. One possible explanation for this finding is that access to postabortion care services in Kenya has increased over the past decade, resulting in more women with less severe complications who are able to present at a health facility for post-abortion care.

01 INDUCED ABORTION AND UNINTENDED PREGNANCY RATES

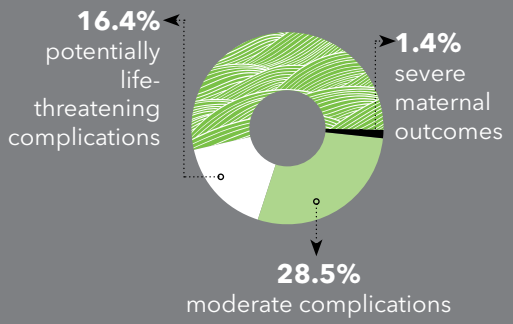


792,694 Total number of induced abortions in Kenya, in 2023

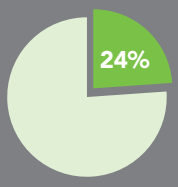
Induced abortion rate of 57.3 per 1,000 Women of reproductive age **57.3/1000 WRA**

02 SEVERITY OF POST-ABORTION COMPLICATIONS

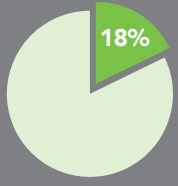
Among all women who received postabortion care



03 CAPACITY OF HEALTH FACILITIES TO OFFER PAC



Only **24%** of referral-level facilities could provide comprehensive PAC services



Only **18%** of primary facilities could provide basic PAC services.

More than 92% of women treated for post-abortion complications received contraceptive counseling before leaving the health facility; however, only 43.5% left the facility with a method of contraception. Only 1 in 4 women of those who left the facility without a method of contraception cited that they wanted to be pregnant again (26%), meaning that the vast majority of these patients could be in need of better-quality contraceptive services. This is a critical missed opportunity in the provision of quality post-abortion care and points to the barriers and gaps in the use of effective modern methods of postabortion contraceptives in Kenya.

The capacity of health facilities to provide basic and comprehensive postabortion care was low, with only 18.3% of primary health facilities providing all the elements of basic post-abortion care, and 24.1% of referral-level facilities providing the entire package of comprehensive post-abortion care. Among referral-level facilities, the lack of surgical capacity and the need for 3 or more contraceptive methods were the driving factors for the weak comprehensive post-abortion care capacity.

The finding that Kenya had an induced abortion rate of 57.3 per 1,000 women is relatively high and is among the highest in the region, using existing comparable estimates. Nevertheless, most of the studies were conducted almost a decade ago and may not reflect the current abortion rates in the region. High induced abortion rates may be reflective of the failure of couples to meet their desire for smaller family sizes using modern contraception. For instance, according to the 2022 Kenya Demographic and Health Survey, Kenyan women still have one more child than they would like to have, and the gap is more pronounced among rural residents and those of lower socioeconomic status.

Further, there are significant regional variations of induced abortions across the country. The Central and Nairobi regions and the Nyanza and Western regions had higher rates of induced abortion compared to other areas, and these two regions also had the highest unintended pregnancy rates. Our results also show that most women who induce abortions are either not using a method recommended by the WHO or not accessing their method from a formally trained health provider. In addition, almost half of the women surveyed report having some interaction with the formal health care system during the process of ending their pregnancy. Worldwide evidence shows that liberal abortion laws do not make abortion more common. The results of this study strengthen this argument and suggest that restrictive abortion laws do not regulate the occurrence of induced abortions; they only make abortions less safe.

There is a need to strengthen family planning services and the quality of post-abortion care while eliminating barriers to access, especially for adolescents and young women. There is also a need to strengthen the capacity of low-level health facilities, train mid-level providers, and equip health facilities with the appropriate post-abortion care supplies and commodities.

Background

Between 2015 and 2019, 121 million unintended pregnancies occurred annually worldwide, with 61% of these pregnancies ending in induced abortions (1). Of these abortions, about 45% (~25 million) were unsafe, heightening the risks to the health and well-being of women (2). The vast majority of unsafe abortions (97%) occur in low and middle-income countries, including in the African sub-regions (2).

In much of Africa, abortions are legally restricted and only allowed under a limited set of conditions (3). Nonetheless, evidence continues to show that abortion rates across the African sub-regions have either stagnated or slightly risen over the last two decades, even with declining rates of unintended pregnancies (1,4). Further, a 2014 WHO study suggested that unsafe abortion remains one of the leading causes of maternal mortality globally (contributing to 4-13% of maternal deaths) and a significant contributor to a range of morbidities (5).

In Kenya, abortion is similarly restricted and only permitted if, in the opinion of a trained health professional, there is a need for emergency treatment, the life or health of the mother is in danger, or if permitted by any other written law (6). The most recent national study on abortion in Kenya (2012) suggested that the vast majority of women needing abortions resort to clandestine and mostly unsafe abortion methods (7). The 2012 study reported a relatively high case-fatality rate at; 266 deaths per 100,000 unsafe abortions (7). Survivors can suffer lifelong severe morbidities, and some require treatment, prolonged hospital stays and intensive care, and attendance by highly skilled, yet scarce, health providers (8). Evidence demonstrates that abortion-related morbidities and deaths are preventable with improved access to safe abortion and family planning services (9).

Recent changes in the abortion landscape may be influencing abortion-related morbidity and mortality, as well as care-seeking behaviors. Over the past decade, access to medication abortion (MA) from pharmacies, drug shops, or other informal sources has increased dramatically, even in contexts where abortion is highly legally restricted (10). Available research suggests high levels of safety among abortions induced using MA, with the vast majority of cases resulting in complete abortions with little evidence of severe health complications (11). Despite these low levels of adverse health outcomes, several factors may be leading women to seek postabortion care after taking MA when this care is not clinically indicated, including insufficient information on what to expect after taking MA, wanting confirmation that the abortion is complete, or a desire to interact with a medical provider in the formal healthcare system. Both of these outcomes, abortion-related morbidity and mortality and increases in postabortion care-seeking behavior after MA, result in substantial and avoidable costs to public health systems (12).

The progress towards reducing the maternal mortality rate (MMR) has been slow in Kenya. The MMR of 355 maternal deaths/100,000 live births is still far from the target of below 70/100,000 live births committed to in the Sustainable Development Goals (SDGs) by 2030 (13). Evidence is critical in accelerating policy and programming towards reducing maternal mortality. Twelve years ago, a study by the Ministry of Health, the African Population and Health Research Center (APHRC), and the Guttmacher Institute reported close to 464,690 induced abortions in Kenya in 2012 (7), and about 75% of women experienced complications that needed care within health facilities (14).

Since that study, there have been several changes in the landscape of abortion in the country, including the availability of medication abortion drugs, the enactment of the 2017 Health Act that defined "trained providers" to include medical officers, clinical officers, nurses, and midwives, and the 2019 High Court ruling that reinstated the previously withdrawn Standards and Guidelines for Reduction of Maternal Mortality from Unsafe Abortion. As such, there is a need for an updated study to provide new evidence on the incidence of abortion, the severity of abortion-related complications, and the preparedness of health facilities to provide post-abortion care (PAC) in Kenya. This study aims to estimate the incidence of abortion, understand the circumstances in which women seek abortion, the methods they use, and the complications that result from induced abortion, and measure the capacity of the health system to provide PAC in Kenya. Findings from this study offer insights into the current state of abortion, the severity of postabortion complications, and the quality of PAC in Kenya. These findings also be used to guide public debate, not only on abortion and PAC, but also sexual and reproductive health and rights at-large.

The study offers insights into the current state of abortion, the severity of postabortion complications, and the quality of PAC in Kenya

Data and Methods

Data Sources and Sampling Procedure

To achieve the study objectives, we conducted four separate surveys: a nationally representative Health Facility Survey (HFS), a Knowledgeable Informants Survey (KIS), a Respondent Driven Sampling survey (RDS) of women who have had an induced abortion in the past five years, and a Prospective Morbidity Survey (PMS). The first three components are geared towards estimating the incidence of induced abortions, while the last component (PMS) captures complications of both induced and spontaneous abortions. We describe each component in detail below.

Health Facilities Survey (HFS)

The primary purpose of the HFS is to estimate the number of women who receive treatment in facilities for abortion-related complications, as well as provide information on the capacity of the Kenyan health system to provide postabortion care.

We used stratified random sampling (by region and facility level) to select a nationally representative sample of all health facilities in Kenya classified as capable of providing PAC services. Table 1 presents the universe of health facilities with the potential to provide PAC in Kenya, the total number of health facilities sampled, the total number of health facilities that participated, and the response rates. Of the 13,594 total facilities in Kenya as of July 2022, our final adjusted universe was 11,648 after removing facilities that were non existing, specialized or closed. A total of 694 facilities were sampled, of which 658 participated in the survey (94.8% overall response rate). Nationally, 79% of participating facilities reported they provided PAC. Public and Level II facilities were less likely to provide PAC (78.6% and 73.8%. respectively) (Table 1).

Table 1: *Facility sample and response rate in Kenya*

	Universe of health facilities with potential capacity to provide PAC	Adjusted universe of health facilities with potential capacity to provide PAC	Health facilities sampled*	Participating health facilities**	Response rate	Proportion of health facilities that provide PAC
	n	n	n	n	%	%
National	13,594	11,648	694	658	94.8	79.2
Ownership						
Public	6,375	-	346	339	97.4	78.6
Private-for-profit	5,811	-	261	239	91.2	76.8
Private-not-for profit	1,408	-	87	80	92.0	92.5
Facility levels						
Level II	10,544	8,552	133	125	94.0	73.8
Level III	2,159	2,308	124	121	96.8	91.4
Level IV	830	721	370	350	94.1	99.7
Level V	57	63	63	59	93.7	100.0
Level VI	4	4	4	3	75.0	100.0

**The sample is based on the adjusted universe of facilities*
***Includes three facilities conveniently sampled*

A senior health provider knowledgeable about PAC provision was interviewed in each selected health facility. Participants were asked whether their facility provided treatment for complications following induced or spontaneous abortions. If the facility provided treatment, they were asked the number of abortion patients (induced and spontaneous abortions (miscarriages), combined) treated in an average month and in the past month. Specifying these two periods increases the likelihood of accurate recall and also allows for month-to-month variation, as there is seasonality to abortions. To estimate the year, these two numbers are averaged and multiplied by 12.

The HFS does not ask respondents to distinguish between induced abortions and miscarriages because these two types of cases often have similar clinical presentations and because health personnel may be reluctant to classify women as induced abortion patients (15). To arrive at the facility's caseloads for induced abortions, we used population estimates of the incidence of miscarriage, and an estimate of the proportion of miscarriages for which women obtain treatment in facilities, to subtract miscarriages from the number of cases seen at facilities.

In addition to data on PAC patient caseloads, the HFS also contains questions aimed at measuring the facility's capacity to provide basic and comprehensive PAC (as defined by the previously established Signal Functions Approach) (16), the provision of post-abortion family planning and access to services for patients who have physical disabilities.

Prospective Morbidity Survey (PMS)

The purpose of the PMS was to provide the data necessary to describe the characteristics of women receiving treatment for abortion complications, the type of treatment received for complications, and the delays in access to post-abortion care. Since the completeness of medical records for PAC patients varies from facility to facility, the PMS relied on a facility-based, prospective approach for data collection. Efforts were made to interview all women receiving PAC in the selected facilities within four weeks (or 30 days). The study population was women receiving PAC (patient survey) and their care providers (providers' survey). Further, to ensure the completeness of clinical data captured, the PMS included a medical record review (MRR) that abstracted data on laboratory measurements, clinical indicators and management of complications for PAC patients.

PMS facilities were sampled from the facilities that successfully participated in the HFS and indicated that they provided PAC. (Level II facilities were excluded from the sampling frame due to their low monthly PAC caseloads.). Patients were interviewed about their reproductive history and their abortion pathways. Patient's providers were also interviewed to explore the nature of their complications and the treatment offered, and these responses were combined with information from the MRR to estimate the severity of postabortion complications.

Knowledgeable Informants Survey (KIS)

The KIS has traditionally been used in AICM approaches to generate information for the proportion of all women who have abortions that do not receive PAC from a formal health facility. The KIS is administered to a purposive sample of professionals knowledgeable about abortion provision and post-abortion care who are asked for their expert opinions on several factors, including the distribution of abortion methods and providers in a given context and the proportion of women having abortions who receive facility-based treatment for abortion-related complications. However, increasing access to medication abortion and other changes in the abortion landscape in recent years have raised concerns that the KIS approach is becoming less effective in estimating the multiplier. To address these concerns, this study additionally tested a novel approach for calculating the multiplier, which utilizes Respondent Driven Sampling (RDS) to generate more representative samples of women who have abortions. Ultimately, we determined that the RDS approach created a more accurate estimate of the multiplier. (For a comparison of the KIS and RDS results, see Appendix A). As such, we do not use the KIS data in the results presented in this report.

Respondent Driven Sampling Survey (RDS)

The purpose of the RDS was to understand the experiences of women who have abortions in Kenya, as well as to generate information used in an alternative approach for calculating the multiplier. Survey topics included the circumstances under which the abortions occurred (methods used, providers, place of access, etc.), care-seeking behaviors, and experiences with abortion stigma. In brief, RDS is a form of chain referral sampling that takes advantage of respondents' social networks to sample and recruit members of hidden populations for which no sampling frames exist (17,18). Initial "seed" participants are purposely identified through key informants. After participating in the survey, seeds are asked to recruit up to three members of their social networks (aka "peers") that meet the study criteria. Any peers that successfully participate in the study become recruiters and attempt to invite their peers into the study. This process continues until equilibrium is reached, meaning that adding additional people to the sample does not change the sample characteristics by more than 2% in either direction.

Eligibility criteria for this study was women aged 15-49 who have had an induced abortion in the past 5 years. In order to gather data that represents the diversity of experiences of women in Kenya, separate RDS data collection efforts occurred in four counties: Nairobi, Mombasa, Nakuru, and Kisumu. In each county, 8-11 initial "seed" participants were purposely selected from diverse sources (i.e. health providers, pharmacies, community organizations, etc.) After participating, each participant was given three coupons with QR codes (that link to a unique ID), which they used to recruit additional participants. All interviews took place in a private location agreed upon by the respondent. In total, 2,022 women were successfully recruited into the sample, and sample sizes ranged from 472 in Nakuru to 519 in Mombasa.

Data Analysis

We use data from the HFS, RDS, and PMS components to provide the data necessary for calculating the incidence of induced abortions (total cases, incidence rates and ratios), the severity and magnitude of abortions, and the health system's capacity to provide postabortion care. The measures needed from these components include: 1) the total number of post-abortion patients treated in health facilities/hospitals annually; 2) the distribution of post-abortion patients according to diagnosis and complication severity; 3) the proportions of post-abortion patients who obtain each specific component of treatment and supplies according to diagnosis and complication severity; 4) health facility capacity to provide PAC. Health facility capacity was assessed based on the availability of equipment and supplies, and analyzed following the Signal functions approach (19). All findings are presented by region, facility level and ownership.

Ethical Approval

Ethical approval was sought and obtained from the AMREF Ethics and Scientific Research Committee, the Kenyatta National Hospital-University of Nairobi Ethics Review Committee, Jaramogi Oginga Odinga Teaching and Referral Hospital-ISERC and the Moi Teaching and Referral Hospital-Institutional Research and Ethics Committee. A research permit was also obtained from the National Commission of Science, Technology and Innovation (NACOSTI). All study investigators completed a course on research ethics involving human subjects before engaging in the study. All research assistants received rigorous training on research ethics, equipping them with skills to handle very sensitive SRHR issues.

Findings

Postabortion Care Caseloads by Facility Type and Ownership

Using responses to the HFS, we estimate that a total of 304,159 women received care for PAC (both induced and spontaneous) in health facilities in Kenya in 2023. Most of these women were treated at public health facilities (51%), and 69.3% received care at lower-level or primary-level facilities (Level II=39.5%, Level III=29.8%) (Figure 1). These results suggest that public and primary facilities bear a high burden of providing PAC services in Kenya.

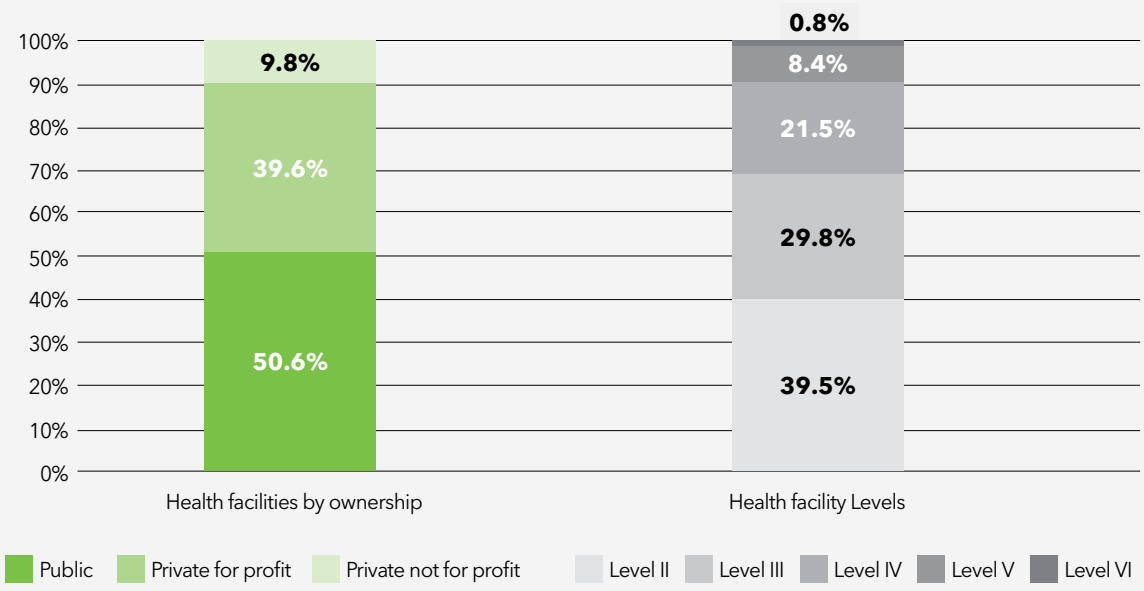


Figure 1: *Distribution of PAC patients by facility ownership and level, Kenya 2023*

PAC Caseload and Treatment Rates

Nationally, the treatment rate for all PAC was 22 per 1000 Women of Reproductive Age WRA (Table 2). The treatment rate was highest in the Eastern region (27.1 per 1000), followed by Nyanza and Western region (24.9 per 1000) and Nairobi and Central region (23.3 per 1000). The Rift Valley region has the lowest abortion complication treatment rate, of 16.9 per 1000 Women of Reproductive Age (WRA). Of the 304,159 women who received postabortion care in Kenya in 2023, approximately 256,620 were for complications of induced abortion, while the remaining 47,540 were for complications of spontaneous abortion.

Table 2: *Postabortion care caseload and provision rates, by region, 2023*

	Total PAC caseloads	PAC treatment rate per 1,000 WRA	PAC cases due to spontaneous abortions	PAC caseloads from induced abortions
National	304,159	22.0	47,540	256,620
Region				
Nairobi & Central	69,695	23.3	9,041	60,654
Coast & North Eastern	38,120	19.9	6,701	31,420
Eastern	53,175	27.1	6,433	46,742
Nyanza & Western	79,655	24.9	12,118	67,537
Rift Valley	63,514	16.9	13,247	50,267

Induced Abortion and Unintended Pregnancy

Using responses to the RDS survey, we observed regional variation in the proportion of women who received postabortion care (Figure 2). While only one in four women in Central/Nairobi (25.9%) received any care at a formal health facility during their most recent abortion, this proportion increases to over 40% in the Coast/ North Eastern (42.3%) and Eastern (43.0%) regions. Differences in these proportions may reflect differences in the safety of induced abortions, access to postabortion care services, or women's preferences for interacting with the healthcare system during their abortion experience.

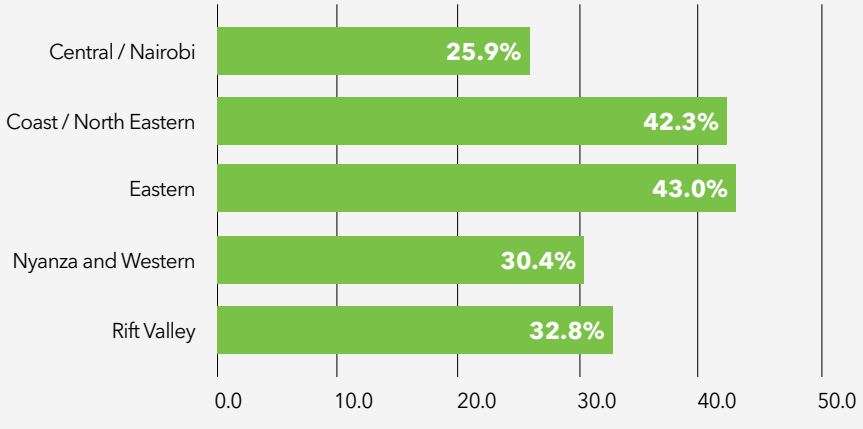


Figure 2: *Proportion of women with induced abortion who received PAC in health facilities in Kenya, by region, 2023*

To get the total number of induced abortions in each region, we adjust the PAC caseloads by taking the inverse of the proportion of women who receive post-abortion care (presented above). This results in regional "multipliers", which ranged from 2.33 in the Eastern region to 3.86 in the Nairobi and Central region (Table 3).

After applying the regional multipliers to the regional PAC caseloads due to induced abortion, we estimate that there was a total of 792,694 induced abortions in Kenya in 2023, which corresponds to an induced abortion incidence rate of 57.3 per 1,000 women of reproductive age (Figure 3, Table 3). There is substantial regional variation in the incidence of abortion. The abortion rate is highest in Nairobi and Central region (78.3 per 1,000), followed by Nyanza and Western (69.4), and the Eastern region (55.6), respectively. The Coast and North Eastern region had the lowest abortion rate of 38.7 per 1000 women of reproductive age.

Table 3: *Induced abortion rates and ratios, for Kenya overall and by region, 2023*

	Total Population of WRA	PAC caseloads due to induced abortion	Multiplier	Number of induced abortions	Induced Abortion Rate per 1,000 WRA	Induced Abortion Ratio per 100 live births
National	13,835,077	256,620	-	792,694	57.3	48.1
Region						
Nairobi & Central	2,990,568	60,654	3.86	234,125	78.3	86.8
Coast & North Eastern	1,917,796	31,420	2.36	74,150	38.7	25.8
Eastern	1,959,703	46,742	2.33	108,910	55.6	50.2
Nyanza & Western	3,202,658	67,537	3.29	222,196	69.4	57.5
Rift Valley	3,764,352	50,267	3.05	153,314	40.7	31.4

According to the 2022 Kenyan DHS, 39% of recent births were unplanned, corresponding to a total of 643,294 unplanned births nationally in 2023 (Figure 3, Table 7). (See Appendix B for DHS data and calculations of all unintended pregnancies.) Once we combine this number with the total number of induced abortions, we estimate that there was a total of 1,435,988 intended pregnancies in 2023 and that the unintended pregnancy rate was 103.8 per 1,000 women of reproductive age (Figure 3). The unintended pregnancy rate was highest for the Nyanza & Western Region (135.1 per 1,000) and lowest for Coast and North Eastern (71.7 per 1,000).

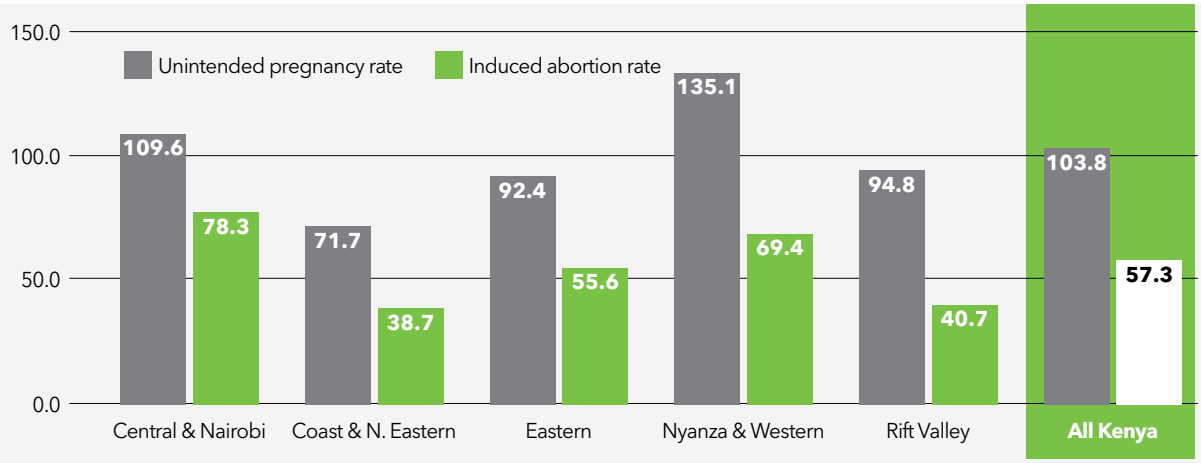


Figure 3: *Rates of Induced Abortion and Unintended Pregnancies (per 1,000 WRA), for Kenya overall and by region, 2023*

After accounting for all induced abortions, births, and miscarriages, we estimate that there was a total of 2,850,346 pregnancies in Kenya in 2023 (Figure 4). Among these pregnancies, approximately 27.8% ended in an induced abortion, 14.3% ended in a miscarriage, 22.6% ended in an unplanned birth, and 35.3% ended in a planned birth.

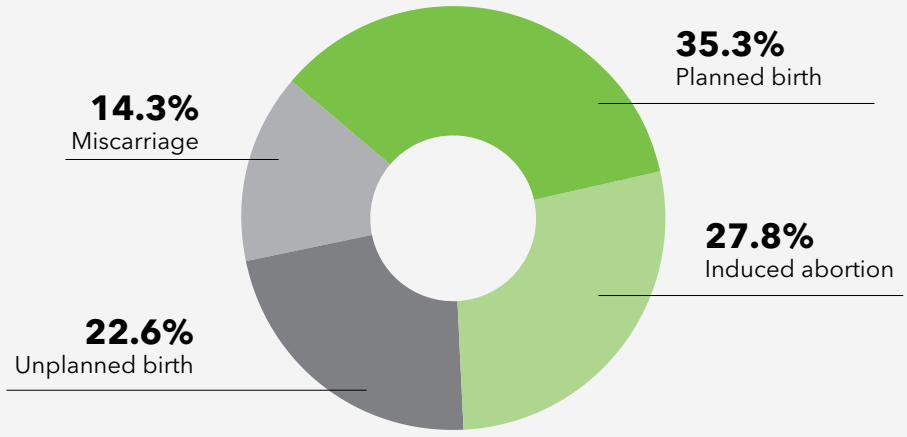


Figure 4: *Distribution of pregnancy outcomes in Kenya before 2023 (n=2,850,346)*

Comparing the results from this study to those from the previous national abortion study (conducted in 2012) suggest that there have been changes in several sexual and reproductive health outcomes among women in Kenya over the past decade. The unintended pregnancy rate decreased from 120.0 per 1,000 women of reproductive age in 2012 to 103.8 per 1,000 in 2023, indicating potential improvements in access to contraceptives and other family planning services over the intervening years (Table 4). At the same time, the induced abortion incidence rate increased from 48.0 in 2012 to 57.3 per 1,000 women of reproductive age in 2023.

Similarly, the abortion incidence ratio also rose from 30.0 to 48.1 per 100 live births. This increase is not surprising given the expanded access to medication abortion drugs over the past 15 years in many settings. The proportion of unintended pregnancies that end in an induced abortion increased from 40.5% to 55.2%. While this increase likely reflects the increased abortion incidence rate, some of this increase may also be a result of the decrease in the unintended pregnancy rate and thus fewer women having unplanned births as a result of these unintended pregnancies. According to the KDHS, the proportion of all births that were mistimed or unwanted dropped from 43.0% to 39.0%.

Table 4: *Differences in key sexual and reproductive health indicators from 2012 to 2023, Kenya*

	2012*	2023
Unintended pregnancy rate per 1,000 WRA	120.0	103.8
Induced abortion incidence rate per 1,000 WRA	48.0	57.3
Induced abortion ratio per 100 live births	30.0	48.1
Proportion of unintended pregnancies that result in an induced abortion	40.5	55.2
KDHS estimates for the proportion of births that are mistimed or unwanted	43.0	39.0

**Results from 2012 draw from Incidence and Complications of Unsafe Abortion in Kenya: Key Findings of a National Study (Nairobi, Kenya: African Population and Health Research Center, Ministry of Health, Kenya, Ipas, and Guttmacher Institute, 2013).*

Severity and Management of Abortion Complications

Table 5 presents the socio-demographic characteristics and reproductive history of women who presented with abortion-related complications to the health facilities over a 30-day observation period. The majority of PAC patients were women 25-34 years (41.8%), married or living together with a partner (78.6%), had secondary-level education (36.7%), and identified as Christian (90.6%). Further, about 65.6% had previously given birth and 29.1% had 4 or more pregnancies in their lifetime.

Table 5: *Socio-demographic and reproductive characteristics of women treated for abortion-related complications in Kenyan health facilities, 2023 (n=3,710)*

Characteristics	N	%
Age		
<20 years	403	13.6
20-24 years	1031	29.1
25-34 years	1546	41.8
≥35 years	730	15.6
Marital status		
Never married	506	16.6
Married/Living together	2643	78.6
Divorced/Separated/Widowed	183	4.8
Education		
Primary or less	1134	33.3
Secondary	1325	36.7
Post-secondary	888	30.0
Religion		
Christian	3028	90.6
Muslim	303	9.1
Other	16	0.3
Birth history		
Has not previously given birth	1276	34.4
Has previously given birth	2713	65.6
Number of past pregnancies (including this one)		
1	1064	29.3
2	935	22.9
3	755	18.8
4+	1243	29.1

As shown in Table 6, the most used uterine evacuation method was MVA, with approximately two-thirds of women (65.2%) treated using this procedure. Medication abortion drugs were used in treating 18.9% of women. Dilation and Curettage (D&C), which is not recommended by the WHO as a PAC management method, was only used in 1.9% of cases. Approximately 11.6% of women did not receive any uterine evacuation procedure, either because they had expelled all the products of conception prior to arriving at the facility or because they needed more advanced care. (See Appendix B for a breakdown of uterine evacuation methods by facility type, ownership, and region).

About 80% of PAC patients received pain medication during their treatment. The majority of patients were in their first trimester of pregnancy (74.7%) and nearly half were treated as outpatients (49.8%). Most patients (92.3%) received contraceptive counseling prior to being discharged, although only 43.5% left with a method of family planning for one reason or another.

Table 6: *Management of postabortion cases (n=4,105)*

	N	%
Method of uterine evacuation		
MVA/EVA	2,259	65.2
MA	831	18.9
D&E	57	2.3
D&C*	72	1.9
No evacuation procedure	282	11.7
Patient received pain medication	2,666	80.4
Provider type		
General medical doctor	677	15.9
Obstetrician-B/Gynecologist	222	3.7
Nurse/Trained midwife	725	28.9
Clinical officer	1,544	51.5
Gestational age		
First trimester	2,816	74.7
Second trimester	1,096	25.3
Number of nights in facilities		
0	1,051	49.8
1	1,114	25.2
2	696	13.4
3+	627	11.6
Postabortion care family planning**		
Patient received contraceptive counseling	3,524	92.3
Patient left facility with a method of contraception	1,735	43.5

**Among these D&C cases (n=72), the majority (81%) were performed in private for-profit facilities, and 76% were performed in level IV facilities.*
***Patients who were unable to receive counseling because they died, were referred to a higher-level facility, or were left against medical advice are excluded from these variables.*

Figure 5 shows reasons for not receiving a contraceptive method after receiving postabortion care. About two-thirds did so because they did not want to use a method, either because they wanted to get pregnant again soon (25.6%) or because they were against using family planning for various reasons (41.8%) (i.e. fear of side effects, partner opposition, personal opposition, preference for traditional methods/abstinence, etc.) Some 17% were interested in using a method but needed more time to either consult with their partner, decide on which method to use, or wait until their body recovered from the pregnancy loss. A similar proportion of patients did not leave with a method due to issues with service availability and quality (12.7% did not receive counseling and 3.4% reported method stock-outs or staffing shortages).

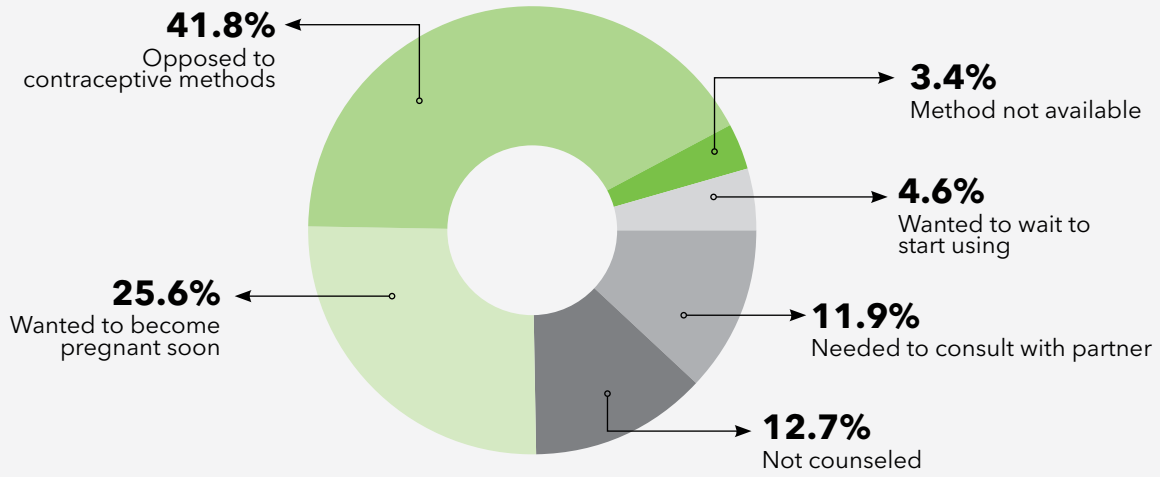


Figure 5: *Reasons for leaving without a contraceptive method after PAC (n=2,186)*

Table 7 displays the definitions that were used to classify the level of complication severity of each postabortion care patient. (For more detailed clinical explanations of these definitions, see Appendix B). We applied previously used WHO definitions to classify patients into four severity categories: mild complications, moderate complications, potentially life-threatening complications (PLTCs), and severe maternal outcomes (SMOs) (8,20).

Table 7: *Classification of severity categories of abortion complications*

Classification	Signs and symptoms
Method of uterine evacuation	
Mild complications	Any abnormal physical examination findings on initial assessment (Abnormal vital signs, appearance, mental status, abdominal examination, gynecological examination, any bleeding)
Moderate complications (requires ≥1 criterion)	• Severe vaginal bleeding • Abdominal syndrome • Uterine infection
Potentially Life-Threatening Complications (requires ≥1 criterion)	• Severe systemic infection • Generalized peritonitis • Uterine perforation • Other intra-abdominal perforation • Severe hemorrhage
Severe Maternal Outcomes (requires ≥1 criterion)	Death Near miss case • Neurologic dysfunction (e.g., coma, paralysis, etc.) • Cardiovascular dysfunction (e.g., shock, cardiac arrest, etc.) • Respiratory dysfunction (e.g., acute cyanosis, severe bradypnea, intubations, etc.) • Renal dysfunction • Coagulation dysfunction (e.g., failure to clot, etc.) • Uterine dysfunction (e.g., uterine rupture, hysterectomy, etc.) • Hepatic dysfunction

Overall, we estimate that 1.4% of PAC patients experienced a Severe Maternal Outcome (Figure 6). This includes five women who died and eight who were in a coma. Approximately 16.4% of cases were classified as Potentially Life-Threatening complications, 28.5% as moderate complications, and more than half of cases (53.7%) were classified as having mild complications. Among this group, more than half (54.5%) only presented with bleeding and did not have any abnormal signs or symptoms upon examination (i.e. vital sign readings, physical/mental appearance indicators. etc.) (See Appendix B for the proportion of patients with each individual sign/symptom).

The distribution of severity outcomes in this study is very different from what was estimated in the 2012 study (21). A much larger proportion of PAC patients in 2012 were estimated to experience the most severe outcomes (37.1% in 2012 vs. 17.8% in 2023). Further, the proportion of women classified in the mild complication category is more than double in 2023 than in 2012 (53.7% vs. 22.9%, respectively).

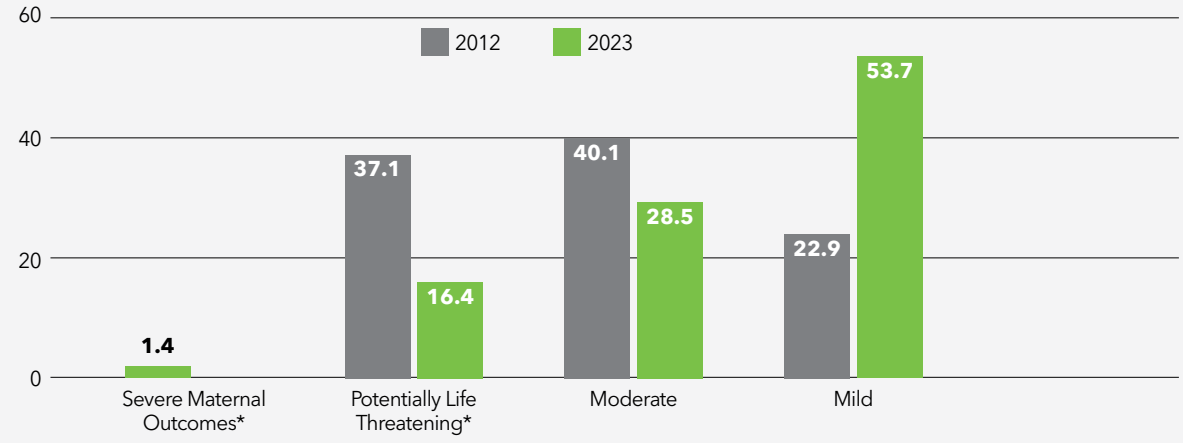


Figure 6: *Severity of abortion-related complications among PAC patients in Kenya in 2023*

**In 2012, the "severe maternal outcomes" and "potentially life threatening" were combined into an overarching "severe complications" category*

We examined the factors associated with experiencing the most severe complications (Severe Maternal Outcomes + Potentially Life-Threatening Complications vs. moderate/mild complications). There were no differences in complication severity by age and marital status. However, women with lower levels of education and those who experienced food insecurity were more likely to experience the most severe complications. Additionally, experiencing delays to accessing postabortion care was associated with more severe outcomes, including seeking care at an informal provider prior to going to the health facility, not having enough money, childcare concerns and road infrastructure problems.

Lived experiences of women who induce abortion

Of the 2,022 women who participated in the RDS survey, about 12% were adolescents aged 15-19 years (Table 8). After factoring in when the respondents' abortion occurred in the last 5 years, 28% were adolescents at the time of their only/most recent abortion. Approximately 58.4% of women were currently in a relationship, 69.0% had at least one child, and more than half (56.4%) had completed secondary school or higher. The majority of women (82.3%) only had one lifetime abortion. Focusing on women's only/most recent abortion, two-thirds of women (66.0%) were not using any method of family planning when they became pregnant, and the most commonly reported reason for non-use was a fear of side effects or other health concerns (41.9%). Intimate partner violence was also common; approximately one in four women reported experiencing any physical violence (28.1%) or any sexual violence (23.2%) in the six months prior to their abortion.

Table 8: *Characteristics of women who have abortions in Kenya (n=2,022)*

Characteristics	N	Weighted (%)
Age at the time of survey interview		
15-19	253	12.1
20-24	590	29.7
25-34	799	37.9
35+	380	20.3
Respondent was an adolescent (age 15-19) at the time of most recent abortion	**542**	**28.0**
Marital status		
Currently in relationship	1138	58.4
Widowed/divorced	475	22.3
Never in a relationship	408	19.3
Highest level of education completed		
No education	55	3.4
Less than primary education/Primary/Post primary Vocational training	850	40.2
Secondary	836	41.0
Post-secondary	281	15.4
Number of living children		
0	597	31.0
1	562	27.6
2-3	703	32.8
4 and above	160	8.6
Number of lifetime abortions		
1	1,560	82.3
2 and above	462	17.7
Contraception use at the time of most recent abortion		
None	1,327	66.0
SARC	524	26.5
LARC	91	4.2
Traditional method	78	3.4
Reasons for non-use (n=1,327)		
Fear of side effects/health concerns	581	41.9
Unable to access	144	12.2
Did not think could get pregnant/menopausal/	382	31.0
Infrequent sex /Unmarried	298	23.9
Husband/partner opposed	233	16.4
Experience of intimate partner violence in the 6 months prior to most recent abortions		
Any physical violence	608	28.1
Any sexual violence	523	23.2
Any emotional violence	878	42.7
Number of abortion methods used		
1	1,738	85.1
2-4	284	14.9

Most women (89.4%) only reported using one method to end their pregnancy. The most common method women used was medication abortion (61.8%), which includes misoprostol alone or in combination with mifepristone (Figure 7). Traditional methods were the next most used (26.7%), followed by MVA (12.5%). Known harmful methods were rare, with only 7.8% of women reporting doing something such as inserting something sharp into the vagina or drinking a caustic substance to end their pregnancy.

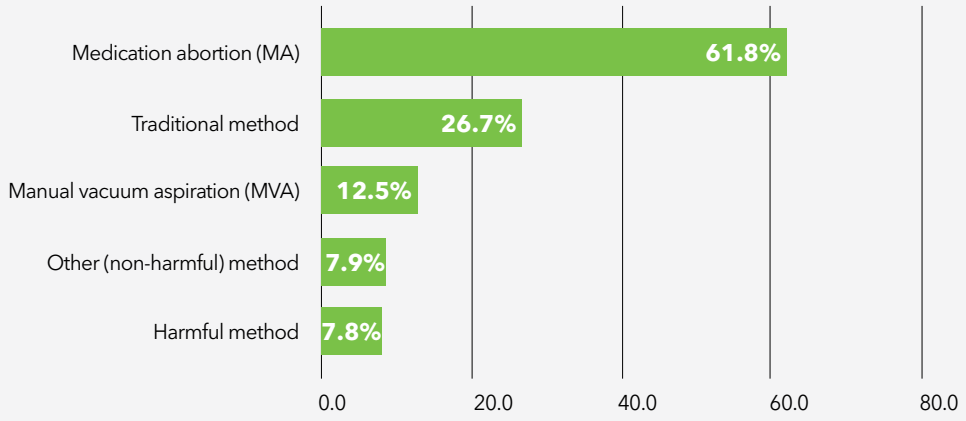


Figure 7: *Distribution of abortion methods used**

**Abortion method definitions: Medication abortion (Misoprostol alone or in combination with mifepristone); Traditional methods (herbs, tea, massage); MVA (manual vacuum aspiration); Other (non-harmful) methods (include imbibing non-toxic substances like soda, strong tea, alcohol; vigorous exercise, etc.,); Harmful methods (include inserting something sharp into the vagina, drinking a caustic or toxic substance like bleach, taking more than the recommended dose of other medications)*

Preparedness of health facilities to provide basic and comprehensive PAC

Figure 8 shows that among primary-level health facilities in Kenya, only 18.3% met the criteria for providing basic PAC, which includes removal of retained products of conception, parenteral antibiotics, and uterotonics, IV fluids, short-acting contraceptives, staff available who had received specialized PAC training, and could offer referral services. Consequently, the vast majority (81.7%) could only offer some elements of basic PAC but not the full complement of basic PAC services.

Further, only about one-quarter of referral-level facilities (24.1%) could offer all comprehensive PAC services, which include all basic PAC services, in addition to surgical procedures (such as laparotomy), blood transfusion, and provision of long-acting reversible contraceptive methods. (See Appendix B for differences in PAC capacity by facility level, ownership, and region.)

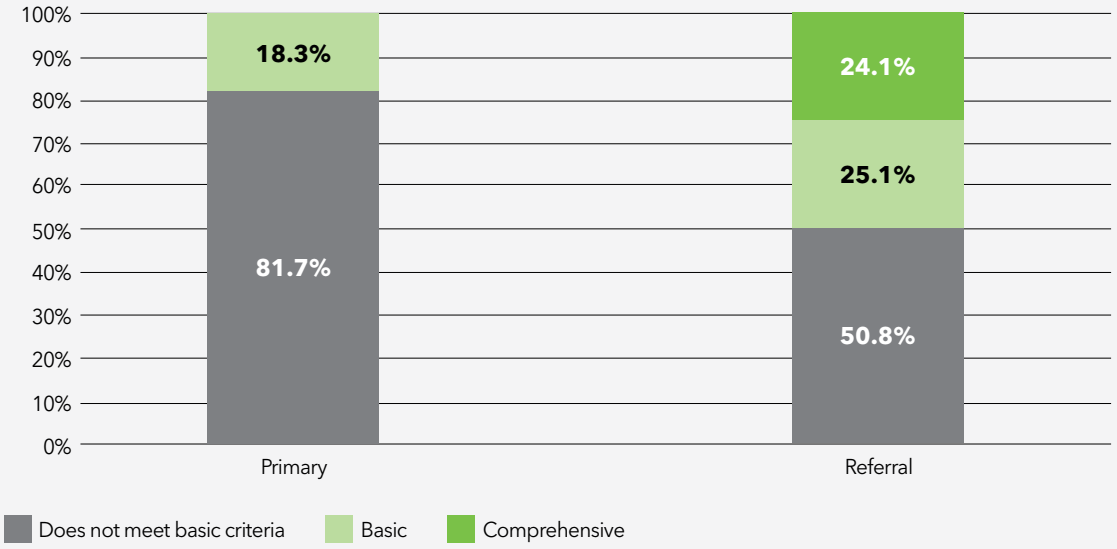


Figure 8: *Capacity of health facilities to provide postabortion care in Kenya, 2023*

Among primary-level facilities, no facility could provide all basic PAC indicators. Among referral-level facilities, the primary factor contributing to the reduced availability of comprehensive PAC was surgical capacity. If we remove this signal function from the definition, the proportion of facilities able to provide comprehensive PAC would increase from 24.1% to 39.3%. The provision of short-acting contraceptives was similarly problematic for referral-level facilities. Excluding this signal function would not only increase comprehensive capacity by 7.6 percentage points but also would increase the proportion of referral level facilities meeting the criteria for providing basic PAC from 25.1% to 43.2% (Figure 9).

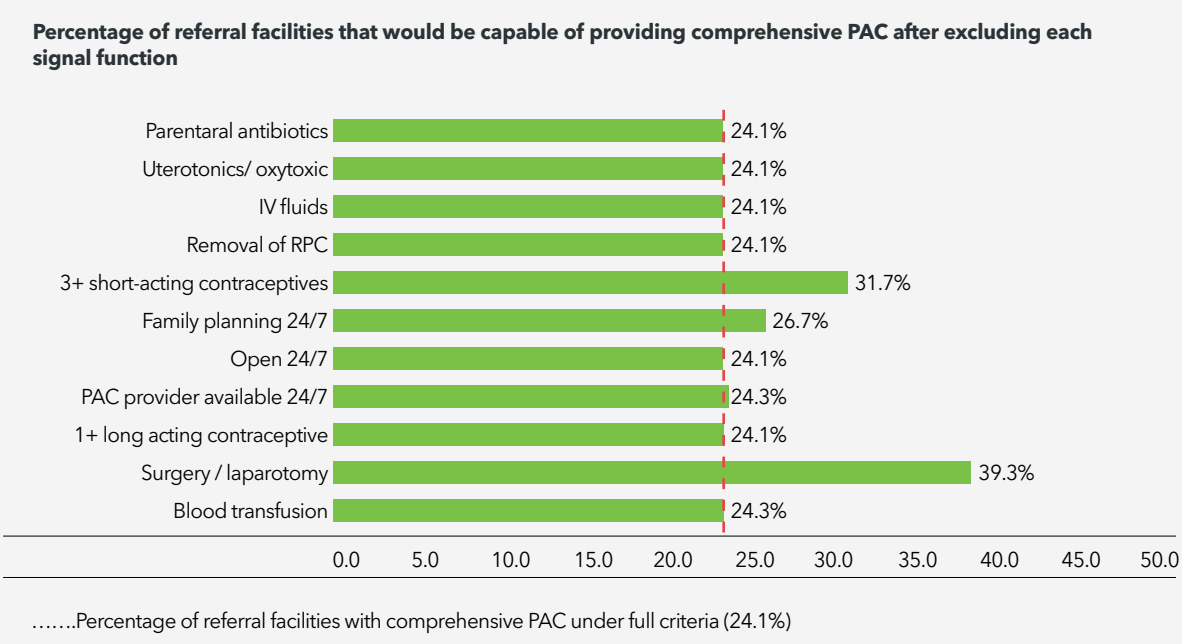


Figure 9: *Proportion of referral facilities that offer each individual signal function*

Program and Policy Implications

The results of this study have several important implications for the state of women's sexual and reproductive health and access to postabortion care in Kenya.

01 **Induced abortion continues to be a common experience among women in Kenya, with significant regional variations.** While the unintended pregnancy rate has decreased from 2012 to 2023, we estimate that approximately 792,694 induced abortions occurred in Kenya in 2023, equivalent to an abortion rate of 57 per 1,000 women of reproductive age. More than half of all unintended pregnancies ended in induced abortions. Unintended pregnancy and induced abortion rates were highest in the Central & Nairobi and Nyanza & Western regions.

Recommendations:

a. Strengthen of family planning / contraceptive service delivery at the primary health care level, and especially where this burden is heaviest;

b. Enhance capacity-strengthening and mentorship of health providers in charge of post-abortion care;

c. Enhance the readiness of the health facilities to respond to abortion-related complications;

d. Scale up provision of quality sexual and reproductive health and rights education;

e. Conduct further research on wantedness of pregnancy and induced abortion;

f. Mobilize additional resources for support in SRHR advocacy.

02 **Access to postabortion care has increased in Kenya.** Our results suggest significant improvements in access to postabortion care. The PAC treatment rate (number of women per 1,000 who are treated for postabortion complications) increased from 2012 to 2023. Notably, our results suggest that this increase is not necessarily due to more women experiencing severe postabortion complications, as we see that the proportion of women seeking care for mild complications more than doubled over the past decade. Instead, we see increases in women accessing care at public facilities and lower-level facilities for mild complications. The Ministry of Health, in partnership with other stakeholders, has strengthened efforts around postabortion care service delivery through expansive training of health providers and distribution of essential commodities. In addition, the observed increase in the PAC treatment rate may also be partially due to the increased use of misoprostol to induce abortions since access to this method outside of the formal health system has increased.

Recommendations:

a. Continue to enhance on the supply side of health service delivery, including the expansion of PAC provider capacity, facility preparedness and response, and service delivery advocacy

b. Promote inclusive coverage by the 3 SHA-operated funds (SHIF, ECCIF & PHCF) to reduce out-of-pocket expenditure by PAC clients;

c. Strengthen SRHR advocacy efforts at the community level through CHPs to boost PAC service utilization for better outcomes.

03 **The quality of postabortion care can be improved.** While more women can access postabortion care, there is room for improvement in the quality of the care provided. Less than 20% of primary-level facilities met the definition for providing basic postabortion care, and only 24% of referral-level facilities were capable of providing comprehensive PAC. Two main areas for improvement are increasing the availability of short-acting contraceptives and surgical capacity. In addition, while most women received postabortion care family planning counseling, less than half left the health facility with a contraceptive method. It is likely that some of this difference is due to poor quality family planning counseling.

Recommendations:

a. Strengthen the task-shifting policy implementation of PAC services;

b. Provide additional technical support to counties for better RH service coordination

c. Mainstream the practice of quality PAC service delivery;

d. Focus on the sustainability of FP commodity supply within PAC services;

e. Establish PAC service centers in primary health care facilities

f. Improve the quality of postabortion family planning counseling

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Appendices

Appendix A. Justification for using the RDS multiplier over the KIS multiplier

We investigated two methods for calculating the multiplier. First, we use the traditional approach that has been implemented in every AICM study. This method estimates the multiplier using the expertise from individuals knowledgeable about abortion in the study setting. In this approach, data is collected through the Knowledgeable Informant Survey (KIS). However, increasing access to medication abortion and other changes in the abortion landscape in recent years have created increasing criticisms of the KIS approach to calculating the multiplier. As such, this study tested a novel approach for calculating the multiplier, which utilizes Respondent Driven Sampling to generate more representative samples of women who have abortions.

Sampling and data collection

- *KIS:* The purpose of the KIS is to collect information on the proportion of all women who have abortions and receive facility-based treatment for abortion-related complications. The KIS has traditionally been used to generate information for calculating the multiplier, or the number by which the number of PAC cases (estimated with the HFS described above) must be multiplied to arrive at the total number of induced abortions in Kenya. The multiplier considers two factors: the safety of the procedure and accessibility to health care. Data from three key questions provides the basis for the multiplier:

    1. The percentage distribution of all women who obtain an induced abortion according to the type of abortion provider;
    2. The proportion likely to experience complications requiring medical care according to the type of abortion provider;
    3. The probability that women with complications will receive medical care at a health facility.

    The multiplier considers two factors: the safety of the procedure and accessibility to health care. Since women's area of residence and economic status affect their access to abortion methods as well as access to (and attitudes toward) post-abortion providers, this information is obtained for four key subgroups of women—poor urban, non-poor urban, poor rural, and non-poor rural.

    The KIS was conducted with a purposive sample of professionals knowledgeable about abortion provision and post-abortion care in both the public and private sectors, as well as in rural and urban areas in Kenya. The KIS sample includes both health and non-health professionals who are nevertheless well-informed about the context of abortion (access, safety, care-seeking behavior) in their regions. The research team created an initial list of potential respondents working in different parts of Kenya that was later refined in discussion with the county Reproductive Health Coordinators and partners working in the SRHR space.

- *RDS:* The RDS methodology employed in this study is described in detail in the main body of the report.

Calculating the multiplier

To determine which method for calculating the multiplier should be used in this study, we first assessed how well the RDS performed in each site and also compared the RDS responses to the KIS. In total, 2,022 women who had a recent abortion were successfully interviewed in the RDS (approximately 500 per site). The RDS performed well in each site, with equilibrium being reached in between 6 to 8 weeks.

As hypothesized, KIS respondents' perceptions of abortion in Kenya differed from women's actual experiences (Table A1.). Notably, KIS respondents estimated that only 45% of abortions are performed using medication abortion, whereas women reported that 62% of abortions are completed using medication.

Table A1: *Comparison between RDS and KIS data used to calculate the multiplier*

	RDS (n=2,022)		KIS (n=297)	
	%	n	%	n
Distribution of abortion method use				
Uterine evacuation procedure (MVA/EVA/D&E)	12.5	276	26.8	n/a
Medication abortion	61.8	1,241	45.6	n/a
Other methods	36.6	712	27.7	n/a

Further, while KIS respondents estimate that only 18.2% of women received postabortion care after an induced abortion, we found that more than one in three women (36.1%) received postabortion care at a health facility in the RDS samples (Figure A1.). Based on the strong performance of the RDS methodology and the discrepancies between women's reports of their own experiences versus knowledgeable informants' perceptions, we used the RDS generated multipliers to calculate abortion incidence in Kenya.

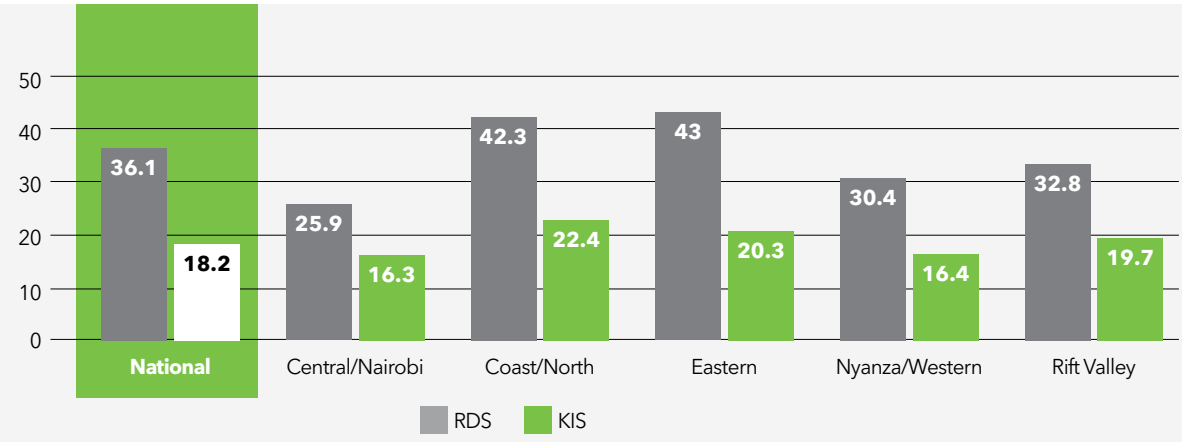

Figure A1: *Comparing the RDS and KIS estimated proportion of women who received postabortion care for Kenya overall and by region, 2023*

Appendix B: Supplemental Tables

Table B1. *Unintended pregnancy rates, for Kenya overall and by region, 2023*

	Total births	% of births mistimed or unwanted	# of unplanned births	# of unplanned pregnancies (induced abortions + unplanned births)	Unintended pregnancy rate per 1000 WRA
All Kenya	**1,648,652**	**39.0**	**643,294**	**1,435,988**	**103.8**
Central & Nairobi	269,807	34.7	93,729	327,854	109.6
Coast & N. Eastern	286,948	22.1	63,355	137,505	71.7
Eastern	217,066	33.2	72,156	181,066	92.4
Nyanza & Western	386,270	54.5	210,545	432,741	135.1
Rift Valley	488,561	41.7	203,509	356,823	94.8

Table B2: *Health facility capacity to provide PAC by level, ownership, and region, Kenya 2023*

	Primary (n=228)						Referral (n=411)					
	Does not offer PAC		Offers PAC, does not meet basic criteria		Basic PAC		Offers PAC, does not meet basic criteria		Basic PAC		Comprehensive PAC	
	N	%	N	%	N	%	N	%	N	%	N	%
Overall	**25**	**14.31**	**155**	**70.01**	**48**	**15.68**	**203**	**50.78**	**101**	**25.14**	**107**	**24.08**
Level of facility												
Level II	19	16.91	79	71.53	13	11.56						
Level III	6	5.46	76	64.82	35	29.72						
Level IV							180	51.94	95	26.61	74	21.45
Level V							22	38.34	6	9.95	31	51.7
Level VI							1	37.5	0	0	2	62.5
Health facility ownership												
Public	25	22.67	84	66.51	23	10.82	83	42.38	68	35.3	55	22.1
Private-for-profit	0	0	52	72.01	22	27.99	77	51.48	26	17.4	45	31.2
Private-not-for-profit / faith based	0	0	19	92.12	3	7.88	42	75.9	7	12.5	7	11.6
Region												
Central & Nairobi	9	21.7	28	72.05	3	6.26	50	58.04	10	12.2	26	29.76
Coast & North Eastern	0	0	20	80.35	6	19.65	23	45.36	13	25.77	17	28.87
Eastern	0	0	40	88.06	5	11.94	40	65.04	12	19.69	11	15.27
Nyanza & Western	2	4.2	33	72.97	20	22.83	50	43.91	39	33.62	29	22.47
Rift Valley	14	32.57	34	49.38	14	18.05	40	44.53	27	31.78	24	23.7

Table B3. *Uterine evacuation method used for PAC by facility level, ownership, health provider, and region, in Kenya, 2023 (n=3,219)*

	MVA/EVA		Medical abortion		D&C		D&E		Digital evacuation		Surgery/ laparotomy	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Level of facility												
Level III	134	78.68	30	16.37	2	1.43	0	0.00	6	3.52	0	0.0
Level IV	1038	68.91	374	25.31	53	3.48	14	0.92	17	1.18	3	0.2
Level V	990	68.77	410	28.81	17	1.13	3	0.20	12	0.83	4	0.3
Level VI	92	79.07	16	17.44	0	0.00	4	3.49	0	0.00	0	0.0
Health facility ownership												
Public	1840	73.48	665	23.08	12	0.25	10	0.23	28	2.83	6	0.1
Private-for-profit	280	74.95	80	16.89	28	5.74	8	0.84	4	1.59	0	0.0
Private-not-for-profit / faith based	134	72.52	85	21.27	32	4.97	3	0.50	3	0.52	1	0.2
Cadre of health worker												
General medical doctor	406	64.42	210	25.59	48	8.92	5	0.59	4	0.33	1	0.1
OB/Gyn	145	60.75	43	22.17	15	7.64	12	6.38	3	1.54	4	1.5
Nurse/trained midwife	480	70.42	232	25.35	3	1.05	1	0.08	9	3.10	0	0.0
Clinical officer	1216	80.90	296	16.24	6	0.32	3	0.12	17	2.42	0	0.0
Region												
Central & Nairobi	402	63.64	234	31.20	2	3.00	1	0.09	11	1.86	1	0.2
Coast & North Eastern	180	48.61	183	47.04	6	1.09	5	0.77	4	2.40	1	0.1
Eastern	375	82.09	76	13.14	16	3.21	4	0.88	4	0.27	4	0.4
Nyanza & Western	563	78.46	151	17.27	19	1.96	3	0.20	5	2.12	0	0.0
Rift Valley	734	78.88	186	15.55	29	1.84	8	0.43	11	3.24	1	0.1
TOTAL	**2254**	**73.69**	**830**	**21.41**	**72**	**2.14**	**21**	**0.41**	**35**	**2.24**	**7**	**0.1**

Overall, 273 patients did not receive any evacuation procedure, and 9 providers refused to answer this question. They are not included in the overall N of this table

Table B4. *Clinical definitions of indicators used for severity categorizations*

Severity Category	Indicator	Definition
Mild Complications	Abnormal physical examination findings on initial assessment	Abnormal vital signs, appearance, mental status, abdominal examination, gynecological examination
Moderate Complications	Severe vaginal bleeding	**Indicated "yes" to severe vaginal bleeding with evidence of either:** • Heavy bright red vaginal bleeding (with or without clots) • Pads, towels, or clothing blood-soaked within five minutes • Pallor
	Abdominal syndrome	**Indicated "yes" to abdominal syndrome with evidence of either:** • Shoulder pain • Guarding/hard abdomen +/- distended/tense abdomen • Rebound, ileus (decreased/no bowel sounds) • Abdominal pain/cramping
	Uterine infection	**Indicated "yes" to uterine infection with evidence of either:** • Chills, fevers, sweats with fever (T >=38°C) • Foul-smelling vaginal discharge, +/- history of interference with pregnancy
Potentially Life-Threatening Outcomes	Severe systemic infection	**Indicated "yes" to severe systemic infection with evidence of all of the following:** • Fever (T >=38°C) • Confirmed or suspected infection (e.g. septic abortion, endometritis, chorioamniotis, generalized peritonitis) • At least one of the following signs: • new/worsened altered mentation • respiratory rate ≥ 22 • systolic blood pressure ≤ 100 mm Hg
	Generalized peritonitis	**Indicated "yes" to generalized peritonitis plus fever (T >=38°C) with evidence either:** • Abdominal guarding (contracture = hard abdomen like roc) • rebound +/- ileus (decreased/no bowels sound, tenderness)
	Uterine perforation	**Uterine perforation confirmed by laparotomy**
	Other intra-abdominal perforation	**Evidence of bladder, rectum, bowel perforation confirmed by laparotomy or exam**
	Severe hemorrhage	**Indicated "yes" to severe hemorrhage with evidence of either:** • Blood loss greater than 1000mL • Any blood loss requiring blood transfusion • systolic blood pressure < 100 mmHg • bleeding + Hb < 4 g/dL

Severe Maternal Outcomes	Death at discharge	**Patient died during care**
	Near miss case (organ/ system dysfunction or failure)	**Indicated yes to cardiovascular dysfunction with evidence of either:** • Shock (Shock definition: SystPA <90 mm Hg for >60 minutes with pulse rate > 120/min despite aggressive fluid replacement (>2L)) • Cardiac arrest • Severe hypo perfusion (lactate > 5mmol/L or 45 mg/dl) • Severe acidosis (PH<7.1) • Use of continuous vasoactive drugs (e.g., dopamine, epinephrine, dobutamine, norepinephrine, adrenaline) • Cardiopulmonary resuscitation
		Indicated yes to respiratory dysfunction with evidence of either: • Acute cyanosis • Gasping • Severe tachypnea (respiratory rate > 40 breaths/min) • Severe bradypnea (respiratory rate < 6 breaths/min), • Severe hypoxemia (O2 saturation <90% for >60 min), • Intubation/ventilation >60 min not related to anesthesia
		Indicated yes to renal dysfunction with evidence of either: • Oliguria non-responsive to fluids or diuretics (urine <30mL/h for 4h or <400mL/h for 24h) • Severe acute azotemia (creatinine > 300mcmol/L or 3.5 mg/dL) • Dialysis for acute renal failure
		Indicated yes to coagulation dysfunction with evidence of either: • Failure to form clots • Severe acute thrombocytopenia (50,000 platelets/mm3), • Massive blood transfusion (≥2 units)
		Indicated yes to neurologic dysfunction with evidence of either: • Prolonged unconsciousness or coma (Glasgow score<8, lasting > 12hrs) • Stroke • Uncontrollable fit/status epilepticus • Global paralysis
		Indicated yes to uterine dysfunction with evidence of: • Ruptured uterus • Uterine infection • Hemorrhage
		Indicated yes to hepatic dysfunction with evidence of either: • Jaundice in the presence of pre-eclampsia • Severe acute hyperbilirubinemia (bilirubin > 100 mcmol/L or > 6.0 mg/dL)

Table B5. *Severity outcomes and clinical indicators among PAC patients in Kenya, 2023*

Severe Maternal Outcomes	n	%
Death	5	0.1
Neurologic dysfunction	8	0.1
Uterine dysfunction	5	0.1
Hepatic dysfunction	3	<0.1
Cardiac dysfunction	35	0.7
Respiratory dysfunction	17	0.2
Renal dysfunction	10	0.2
Coagulation dysfunction	32	0.6
Potentially Life Threatening		
Uterine perforation	12	0.4
Other intra-abdominal perforation	7	0.8
Generalized peritonitis	44	1.4
Severe hemorrhage	768	15.4
Severe systemic infection	145	3.9
Moderate complications		
Abdominal syndrome	726	21.3
Uterine infection	342	8.7
Severe vaginal bleeding	1567	36.6
Among patients with mild complications (n=2064)		
Abnormal vital signs, physical appearance, or mental state	918	40.3
Bleeding only sign/symptom	1,057	54.5

**unweighted n's and weighted % shown*
Note: 34 cases excluded as Provider PMS and MRR data are missing. The individual severity indicators within a severity category are not exclusive. A patient could be diagnosed, for example, with 2 or more conditions within a given severity category.

Notes

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