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Abortion Incidence and Severity of Related Complications in Sierra Leone

STATISTICS SIERRA LEONE (Stats SL)
Credible Data for National Development
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African Population and Health Research Center

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Collaborating institutions and study partners

- Ministry of Health and Sanitation, Sierra Leone
- Statistics Sierra Leone
- African Population and Health Research Center (APHRC)
- Guttmacher Institute

Foreword

The Sierra Leone government committed to addressing the high maternal mortality rates in the country, and has achieved considerable progress in the last five years. However, unsafe abortion remains a challenge and leading cause of maternal morbidity and deaths. The abortion incidence and severity of related complications report presents the first national study of abortion in Sierra Leone.

There are multiple government-led efforts toward addressing the challenge of unsafe abortion, including legislative reforms and the development of clinical standards and guidelines for managing complications from spontaneous and induced abortions. However, there is limited scientific information available on the women who seek unsafe abortions, the magnitude of the problem and the severity of complications that arise from unsafe abortion. This study offers insights into some of these questions.

The study, conducted by partners including the Ministry of Health and Sanitation, the Statistics Sierra Leone, the African Population and Health Research Center, and the Guttmacher Institute, provides valuable information on a significant yet preventable cause of maternal death and suffering in Sierra Leone and elsewhere in Africa. It estimates 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.

The report provides a compelling rationale that expanding access to modern and effective family planning and contraception 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. The report also calls for the full implementation of the existing policies and clinical standards and guidelines for post-abortion care that would, among other things, ensure appropriate training for healthcare providers and provision of equipment, supplies, and commodities for post-abortion care.

List of Acronyms

APHRC	African Population and Health Research Center
AICM	Abortion Incidence and Complications Methodology
BECE	Basic Education Certification Examination
CHCs	Community Health Centers
FP	Family Planning
HFS	Health Facility Survey
KIS	Knowledgeable Informant Survey
MoH	Ministry of Health and Sanitation
MMR	Maternal Mortality Rate
MSI	Marie Stopes International
PAC	Post-Abortion Care
PPASL	Planned Parenthood Association of Sierra Leone
PMS	Prospective Morbidity Survey
SGBV	Sexual and Gender-Based Violence
SSA	Sub-Saharan Africa
SDG	Sustainable Development Goal
WASSCE	West African Senior School Certificate Examination
WHO	World Health Organization

Study Team

Ministry of Health and Sanitation, Sierra Leone

Dr Francis Smart
Dr Francis Moses

Statistics Sierra Leone

Sonnia-Magba Bu-Buakei Jabbi
Mohamed Koblo Kamara
Neneh Conteh-Khali
Mahawa Kondeh
Calleb Thomas
Juliet Nyalloma

African Population and Health Research Center

Boniface Ushie
Kenneth Juma
Ramatou Ouedraogo
Esther Mutuku

Guttmacher Institute

Akin Bankole
Margaret Giorgio
Jesse Philbin

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Executive Summary

In recent years, the Sierra Leone government has invested significantly in maternal health and made considerable progress in reducing maternal mortality rates. However, the country is still home to the highest maternal mortality rates compared to other African countries. Much more effort is needed to ensure Sierra Leone is on track to achieve targets in the sustainable development goals (SDGs) of less than 70 deaths per 100,000 live births. Unsafe abortion remains a leading yet preventable cause of maternal deaths, illnesses, and disability in Sierra Leone. Under the 1861 Offences Against Persons Act, abortion is only allowed in cases where it is necessary to save the pregnant woman's life. As such, most women needing abortion services resort to unsafe methods and procedures, resulting in severe complications and death. In addition, the treatment of complications associated with unsafe abortion consumes significant health systems resources.

This report presents the findings from a nationwide study of the abortion incidence and severity of related complications in Sierra Leone. We conducted the study between August and November 2021 among a nationally representative sample of public and private health facilities, including community health centers, district hospitals, regional hospitals, and national referral hospitals. In addition, we surveyed a sample of informants from the community.

Findings show that an estimated 91,494 induced abortions occurred in Sierra Leone in 2021, corresponding to an induced abortion rate of 44.2 abortions per 1000 women of reproductive age (15-49 years) and a PAC treatment rate of 13.3 per 1,000 women of reproductive age. Considering patient-level data, women who sought abortion-related care in Sierra Leone were socially, demographically, and economically diverse. The majority were girls and young women aged 24 or younger, mostly from rural settings, married or in a union, and had secondary-level education. Based on the World Health Organization severity classification, about 18% of the women who sought PAC presented with mild complications, 40% with moderately severe complications, and 34% with severe complications (such as high fever, sepsis, shock, or organ failure). About 8% of women experienced near-miss complications (severe and near-death complications). Close to 57% of women seeking PAC were not using a method of contraception prior to becoming pregnant. This finding is not surprising since the 2019 Sierra Leone Demographic and Health Survey reported that 17% of births were unwanted or mistimed. Together, these findings point to the weaknesses, barriers, and gaps in access and use of effective contraceptive methods in Sierra Leone.

The estimated abortion rate of 44.2 per 1,000 women is relatively high and is among the highest in Africa using existing comparable estimates. However, it is important to note that most of these studies were conducted almost a decade ago and may not reflect the current abortion rates in the region. The high abortion rate in the country is likely due to a failure of women/girls or couples to meet their desire for smaller families through effective contraception. For instance, in 2019, the difference between actual and wanted fertility among couples in Sierra Leone was almost half a child. In the same year, less than half (45%) of the demand for family planning among married women was satisfied through modern methods. Among unmarried sexually active women, the corresponding percentage was 63%. There are also significant regional variations of induced abortions across the country.

The Northern and Western regions had higher rates of induced abortion compared to other regions. The differences in the abortion rates could lay partly in differences in the underlying demand for family planning that is satisfied by the use of modern contraception among these regions. More pertinent evidence that the high abortion rate is likely due to inability to meet reproductive goals with effective contraception is the high rate of unintended pregnancy. Typically, when a woman or couple does not want to have a child, they will use any means possible to prevent it. Two of the regions that had the highest unintended pregnancy rates (Northern and Western) also had highest abortion incidence rates 92 and 75 per 1000, respectively). This finding emphasizes the point that restrictive laws do not regulate the incidence of abortion; they only make abortions less safe. Similarly, worldwide evidence shows that liberal abortion laws do not make abortion more common.

There is a need to strengthen family planning services while eliminating barriers to access, especially for adolescents and young women. There is also a need to strengthen low-level health facilities and train mid-level providers and equip them with the necessary supplies and commodities for PAC. Additionally, urgent implementation of the clinical Standards and Guidelines for managing abortion-related complications and progressive push for legal and policy reforms for abortion, school re-entry after pregnancy, and access to services for adolescents and young women will be helpful.

Background

Maternal mortality in Sierra Leone is a major public health concern. Some modest improvements have been achieved, with the maternal mortality rate declining from 1,360 deaths per 100,000 live births in 2016 (the world's highest in that year), to 717 death per 100,000 live births in 2019 (1), even though the WHO reported a rate of 1120 the same year (2). However, the 2019 rate is still relatively high compared to other countries in the African region and far above the sustainable development goal (SDG) target of less than 70 maternal deaths per 100 000 live births by 2030 (3). A 2011 study in Sierra Leone by Ipas found that unsafe abortions contribute 10% of maternal mortality, with a high abortion case-fatality rate of 1.7%. One in five women (21%) treated for post-abortion complications presented with clinically moderate or severe complications (4). The same study also showed that the Sierra Leone government spends an estimated USD 231,000 annually to treat women with abortion-related complications in public hospitals, a massive drain on already scarce health systems resources (4).

The legal status of abortion in Sierra Leone is likely contributing to the safety of abortion and the severity of post-abortion complications. Abortion in Sierra Leone is restricted, allowed only to save a pregnant woman's life (5). As such, most women needing abortions resort to unsafe abortion methods and procedures. In addition, many women experiencing abortion-related complications often delay seeking care due to fears of prosecution (6). Evidence shows that healthcare workers face a dilemma between conforming to the legal restriction and their obligation to care for patients (7).

Further, Sierra Leone has one of the highest rates of teenage pregnancy in the world: 28% of girls between the ages of 15 and 19 have children, and unintended pregnancies are common (88 per 1,000 women of reproductive age) (8). About 25% of women have an unmet need for modern contraception, which is even higher among young women and adolescents. As of 2019, only 21% of women were using a modern method of contraception (1). Annually, close to 17% of births in Sierra Leone were either unwanted or mistimed in 2019 (1). Between 1990 and 2019, the share of unintended pregnancies ending in abortion rose from 34% to 51% (9). Until recently, when the return-to-school policy was reformed (10), most school-going girls who become pregnant faced exclusion from mainstream schools and their communities. This naturally increased girls' desperation to secure abortions at all costs, notwithstanding safety.

In 2015, lawmakers in Sierra Leone successfully passed a Safe Abortion Bill, which would have improved access to safe and legal abortion and post-abortion care. However, the bill failed to become law as the president withheld assent. Even so, the persistence of unsafe abortion in public health matters has inspired new efforts to formulate the Safe Motherhood and Reproductive Health Bill and comprehensive post-abortion care clinical guidelines (2022). There is a need for robust and up-to-date evidence on the incidence of induced abortion, the severity of complications due to unsafe abortion and the quality and cost of care to contribute to these ongoing reforms. Such evidence could strengthen programs targeted at reducing unsafe abortions, improving the availability and quality of comprehensive abortion care services, bolstering policy engagement, and informing campaigns and advocacy around the abortion discourse in Sierra Leone. This study aimed to estimate the national and regional incidence of induced abortion and the severity of abortion-related complications in Sierra Leone. It provides the first nationally representative data on induced abortion in Sierra Leone.

Data and methods

Data sources and sampling procedure

Data used to estimate induced abortion incidence and the severity of abortion complications were drawn from three surveys that make up the Abortion Incidence and Complications Methodology (AICM). These are the Health Facilities Survey (HFS), Knowledgeable Informant Survey (KIS), and Prospective Morbidity Survey (PMS). All fieldwork was conducted between August and November 2021, with additional interviews conducted in May 2022.

Health Facility Survey (HFS)

The HFS is a nationally representative survey of health facilities capable of providing PAC. The Sierra Leone Ministry of Health and Sanitation defines three distinct levels of preventive and curative public and private health service provision, ranging from primary level (including community health centers (CHCs) and an extended community health program), secondary (district and regional), and tertiary levels (national referral hospitals). The facilities selected in this study are those that had the potential to provide PAC services as of January 31, 2021. Therefore, using the most recent Master Facility List from the Sierra Leone Ministry of Health and Sanitation obtained on January 31, 2021, we identified 1440 facilities, from which 54 were non-eligible for participation. Therefore, we had 1386 facilities in our universe. We used a stratified random sampling approach to select the health facilities. Sampling was stratified by region (Western, Eastern, Northern, Southern, and North Western) and health facility level. We included all district, regional, national referral, Marie Stopes International (MSI), and Planned Parenthood Association of Sierra Leone (PPASL) facilties in the study. Average sampling fractions for the community health center (CHCs) facilities were (0.15). In total, 442 facilities were sampled for the HFS component of study. Two hundred and ninety-one (291) of these facilities completed the HFS. Non-participating facilities had been closed prior to data collection, not permitted by their operators or management to participate, or located in areas inaccessible due to heavy rains and extreme weather that made transportation impossible.

The HFS involved face-to-face structured interviews with senior healthcare providers knowledgeable about PAC services (most often those in charge of PAC) in each selected facility. In large facilities, such as hospitals, the HFS was completed by the head of the Obstetrics and Gynecology Unit or an obstetrician/gynecologist who oversees PAC services. In lower-level facilities, we administered the HFS to a nurse, midwife, facility managers, or a health worker in a position to provide information about abortion care in that facility. The HFS collected information on the number of women who presented for abortion-related care in the facilities, PAC services offered at the facilities, and the availability of trained staff for managing abortion complications. Respondents (healthcare providers) provided estimates of in-patient and outpatient PAC caseloads for the past month and typical month, which helped in generating facility caseload. The two reference periods are used to account for abortion seasonality in the facility caseloads.

Prospective Morbidity Survey (PMS)

The PMS was conducted on a sub-sample of the HFS sample and is designed to be nationally representative. We took 302 of the 442 facilities selected for the HFS to participate in the PMS. The excluded facilities were the MCHPs and CHPs. Of the 302 selected for the PMS, 142 facilities participated in the survey, with 129 facilities reporting cases during the 30 days observation period. Thirteen facilities did not report any cases in the PMS because some data collectors were transferred away from their facilities after training for the data collection. In addition, in most instances, data collectors worked on shift basis, with a strong possibility that they could have missed PAC clients between shifts.

The PMS collected prospective data on all women and girls presenting for PAC (resulting from induced and spontaneous abortions) over 30 days from each sampled facility. Trained facility-based health providers who offer PAC services at the sampled facilities collected the data. Data were collected from women admitted for PAC and their care providers. The PMS collected information on PAC patients' socio-demographic characteristics, reproductive and clinical histories, diagnosis, clinical procedures and other services performed to treat the woman at the facility of care, post-abortion contraception provision, and clinical management outcomes.

Survey of Knowledgeable Informants (KIS)

The KIS involved face-to-face interviews with a sample of purposively selected knowledgeable professionals or key informants selected from all regions of Sierra Leone. The participants were selected because of their extensive knowledge of abortion, PAC-related issues, and women's health issues in their communities. They were drawn from fields such as medicine, law, research, education, nursing, policymaking, advocacy, and family planning (FP) program implementation and management. Among other things, the survey sought their perspectives on access to PAC, types of providers, women's differential likelihoods of experiencing abortion-related complications, and differences in receiving care for abortion complications. Data from the KIS are used to generate the multiplier, which is the number of women/girls having induced abortions who either do not have complications or had complications that were not treated in the formal health system for every one that received care.

Other data sources included the 2019/2020 Sierra Leone Demographic and Health Surveys for information on age-specific fertility rates and the 2021 Sierra Leone Midline Census for the number of women aged 15-49 in the different regions (5). We used the Sierra Leone Integrated Household Survey (SLIHS) 2018 (11) and the Sierra Leone Multidimensional Poverty Index 2019 (12) for the distribution of urban and rural poor and non-poor populations.

Data analysis

The methodology used in this study follows the AICM approach that has been used widely in more than 25 countries (13) to estimate the annual incidence of induced abortions.

The following inputs were used:

1. Estimated number of women treated for post-abortion complications in a typical month or typical year in each selected health facility – HFS
2. Estimated number of women treated for post-abortion complications in the past month or past year in each selected health facility – HFS
3. Estimate of the likelihood or probability of experiencing a complication from an abortion severe enough to require health care and receiving health care for that complication – KIS

The number of women treated for abortion-related complications in a year in each facility is obtained by averaging the yearly estimates of the number treated in the past month and an average month for in-patients and outpatients and adding the two estimates. Then these facility-level estimates are weighted at the regional level by facility type and summed to obtain the number of cases treated in each region. Annual caseloads are shown by facility level and region (Table 2). We deduct the referrals to avoid double counting of PAC cases. The HFS does not ask respondents to distinguish between PAC cases due to spontaneous abortion (i.e., miscarriage) and induced abortion, as the clinical presentations of post-abortion complications from either type of abortion are often indistinguishable. As such, we next adjusted the PAC case totals to remove cases of spontaneous abortion at the regional level. We used a known biological relationship between births and late-term miscarriages (at 13-22 weeks), which are assumed to be the ones that are likely to require facility-based treatment, to estimate the number of such miscarriages in each region (14,15).

We then subtracted that number from the total number of PAC cases to obtain the number of PAC cases due to induced abortion. Finally, the weighted regional estimate of the number of women treated for an induced abortion complication are summed to obtain the total number of women treated for abortion complications in Sierra Leone in 2021.

Responses from the KIS were used to calculate the "multiplier", which is derived from the estimated proportion of all women who had an induced abortion that received treatment for an abortion-related complications. The multiplier or adjustment factor is obtained as the inverse of that proportion who seek care. The multiplier tells us, for every woman who had induced abortion complications and received care from a health facility, the number of additional women who had induced abortions who did not have complications or had complications but did not seek PAC in a health facility. Applying the multiplier to the facility PAC cases due to induced abortion provides the total estimated number of women who obtained an induced abortion in Sierra Leone in 2021. From this number, the abortion rate (number of abortions per 1000 women of reproductive age (15-49)) was also calculated as well as the abortion ratio (number of abortions per 100 live births).

To calculate the severity of abortion complications, we used the categorization of complications based on prior studies in the region on abortion-related complications (16) (Box 1) and data from the PMS. Each patient's clinical signs and symptoms, diagnosis, and interventions are examined to generate five distinct categories – mild, moderately severe, severe, near-miss, and death, and this is presented by regions.

Box 1: Criteria for classification of abortion related morbidity

Mild morbidity (requires all criteria)
- Temperature 35.1°C-38.9°C with no clinical signs of infection*
- No system or organ failure
- Systolic blood pressure ≥90mm Hg
- Haemorrhage not requiring any transfusion

Moderate morbidity (requires ≥1 criterion)
- Temperature 37.3°C-38.9°C
- Clinical signs of infections
- No organ or system failure
- No signs of shock
- Haemorrhage not requiring any transfusion

Severe morbidity (requires ≥1 criterion)
- Temperature ≥39°C or ≤35°C and a clinical sign of infection
- Sepsis/septicaemia with no signs of septic shock
- Pelvic abscess or pelvic peritonitis with no sign of shock
- Clinical anaemia without haemorrhagic shock
- Uterine perforation without laparotomy, repair of uterine perforation, repair of gut perforation, hysterectomy

Near-miss (requires ≥1 criterion)
- Haemorrhagic shock
- Septic shock
- Generalized peritonitis
- Uterine perforation with laparotomy, repair of uterine perforation, repair of gut perforation or hysterectomy
- Organ/system failure
- Massive blood transfusion

Death
- Loss of the life of a woman as a result of an abortion complication

Ethical approval

The Sierra Leone Ethics and Scientific Review Board reviewed and approved the study protocol. The Ministries of Health and Sanitation and the APHRC Institutional Review Board also reviewed and approved the study. All investigators who worked on the team completed the human subjects' protection training before engaging in the study. All respondents provided signed informed consent before participation.

Findings

Incidence of induced abortion

Table 1 presents the unweighted universe of facilities that could provide PAC, facilities sampled, facilities that did not participate (non-response), those found not offering PAC at data collection, and those that participated with the corresponding response rates. The total number of facilities selected was 442. Of the 442 sampled health facilities, we obtained complete responses from 302 health facilities for the HFS. All tertiary facilities had a response rate of 86%. Secondary facilities had a response rate of 77%; and 71% for primary level facilities. Reasons for non-response included inaccessibility for the interviewers due to flooding, facility closure, no eligible provider to participate, and declined access to the facility.

Table 1: *Characteristics of sample, by level of facility, Health Facility Survey, Sierra Leone, 2021*

Facility Type	Universe with potential for PAC	Number sampled (sampling fraction)	Non-response/ closed	Number not offering PAC	Final N (response rate)
Tertiary	7	7 (100%)	1	0	6 (86%)
Secondary	43	43 (100%)	6	4	33 (77%)
Primary	1,336	373 (28%)	46	64	263 (71%)
Total	**1,386**	**442 (30%)**	**53**	**68**	**302 (68%)**

Our findings show that 40,609 women received care for abortion complications (induced and spontaneous) in health facilities in Sierra Leone in 2021 (Table 2). Most women presenting for PAC were treated at lower-level facilities (primary facilities) (86%). In addition, patients were treated in public health facilities (81%), while the smallest proportions (19%) were treated in private-for-profit facilities. These results suggest that public facilities bear a high burden of providing PAC services in Sierra Leone.

Table 2: *Estimated number of women treated annually for PAC by level of facility and ownership, Sierra Leone, 2021*

	Total PAC caseloads	PAC caseloads minus referrals
National	40,609	37,261
Facility level		
Tertiary	2,712	2,712
Secondary	2,825	2,790
Primary	35,072	31,760
Ownership type		
Public	32,905	30,109
Private	7,704	7,152

After removing miscarriages from our PAC case totals, we estimated that the total number of women treated for induced abortion complications at health facilities was 27,476 (Table 3). This corresponds to a PAC treatment rate of 13.3 per 1,000 women of reproductive age. Again, considerable regional variations exist in the PAC treatment rate, with the highest rate in the Northern region (18.6 per 1,000).

Table 3: *Estimated number of women treated annually for PAC by region, Sierra Leone, 2021*

	Total PAC caseloads	PAC caseloads minus referrals	Estimated PAC caseloads due to miscarriages	Estimates PAC caseloads due to induced abortion	PAC treatment rate (per 1,000 women aged 15-49)
National	40,609	37,261	9,786	27,476	13.3
REGION					
Eastern	7,281	6,928	2,469	4,459	9.0
Northwest	6,624	6,371	1,835	4,536	13.7
Northern	9,748	9,064	1,865	7,199	18.6
Western	7,284	6,682	1,617	5,065	10.4
Southern	9,673	8,217	2,000	6,217	16.9

Table 4 presents the national and regional estimates of induced abortion rates. The national multiplier was 3.33. Once we applied the multiplier to the PAC caseload numbers, we estimated that about 91,494 induced abortions occurred in Sierra Leone in 2021. The abortion rate for Sierra Leone is, therefore, 44.2 per 1000 women of reproductive age (Uncertainty Interval: 20.1-68.4). There are substantial regional variations in the abortion incidence. The abortion rates were highest in the Northern and Southern regions (62.1 and 56.2), respectively, and lowest in the Eastern region (29.9 per 1000).

Table 4: *Total number of induced abortions and abortion incidence rates, by region, Sierra Leone, 2021*

	Total number of PAC due to induced abortion	Multiplier	Total number of induced abortions	Abortion incidence estimate		
				Rate	Uncertainty Interval	
					Lower Bound	Upper Bound
National	27,476	3.33	91,494	44.2	20.1	68.4
REGION						
Eastern	4,459	3.33	14,848	29.9	12.9	46.9
Northwest	4,536	3.33	15,105	45.6	21.3	69.9
Northern	7,199	3.33	23,973	62.1	34.6	89.5
Western	5,065	3.33	16,866	34.7	9.2	60.3
Southern	6,217	3.33	20,702	56.2	27.6	84.9

Induced abortion and unintended pregnancy rates

Figure 1 presents the comparison between induced abortion rates and unintended pregnancy rates. The national unintended pregnancy rate was 70 per 1000 women. The highest unintended pregnancy rates were in Southern and Northern regions (110 and 86 per 1000 women, respectively).

Figure 1: *Annual induced abortion and unintended pregnancy rates per 1,000 women*

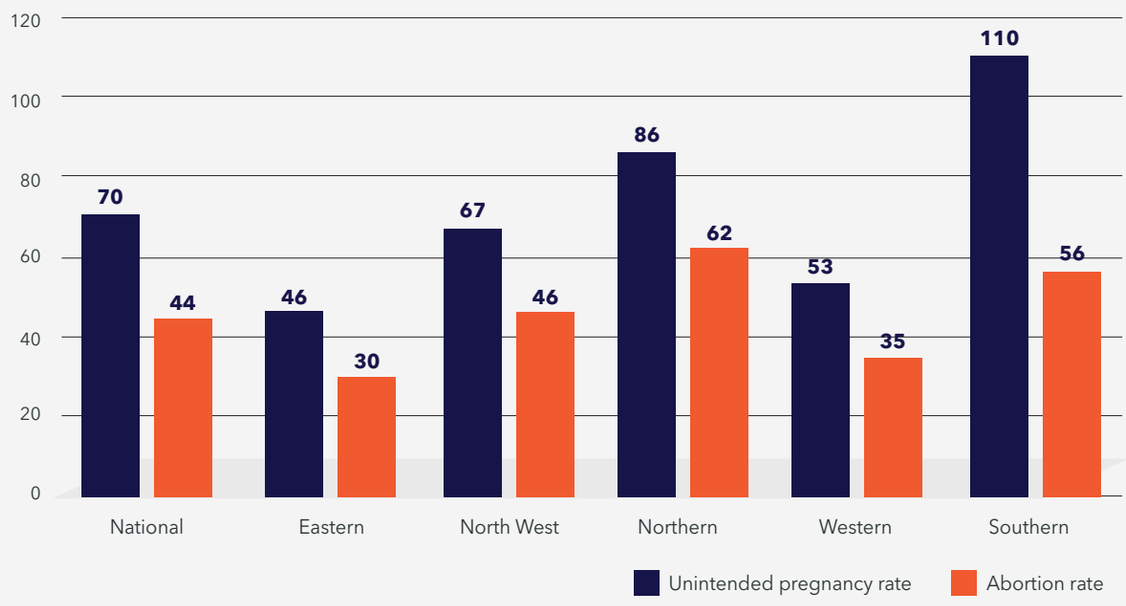


Figure 2 shows the outcomes of all pregnancies in Sierra Leone in 2021. Of all pregnancies in the country in 2021, 38% were unintended, and of all these unintended pregnancies, 63% ended in abortions. Abortions constituted 21% of all pregnancy outcomes, miscarriages (15%), and unplanned births (12%) (See figure 3).

Figure 2: *Pregnancy outcomes*

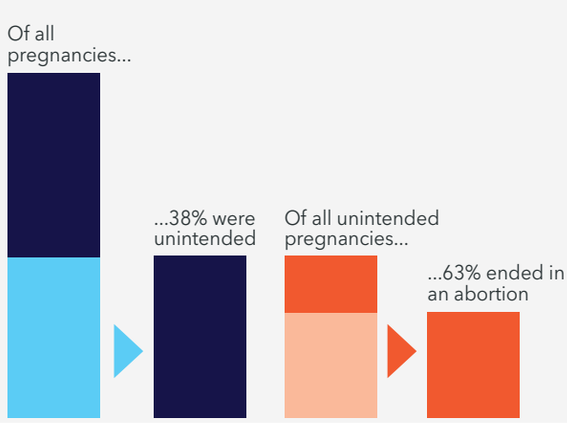
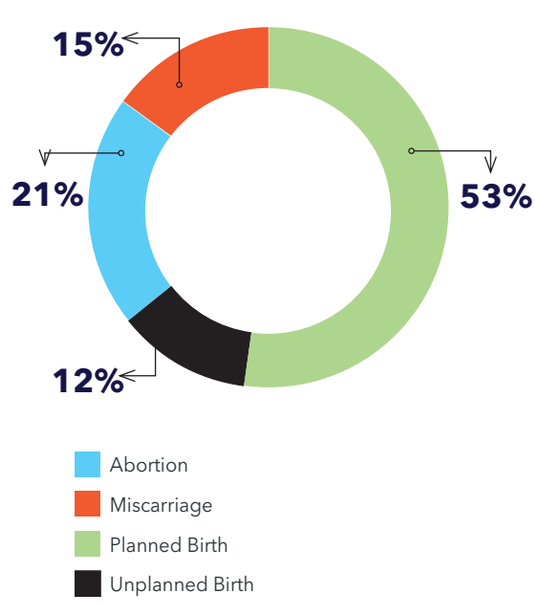


Figure 3: *Distribution of all pregnancy outcome*



Abortion complications and severity

A total of 522 women were interviewed during the 30-day PMS data collection. Table 5 presents the socio-demographic characteristics. Slightly more than half of all PAC clients were 24 years old or younger (51%), while about 10% were 35 years or older. Similarly, the majority of women were from rural settings (56%), married or in a union (72%), and had secondary-level education (50%).

Table 5: *Sociodemographic characteristics of patients*

Patient's Background History (n=522)		**%**
Age	13-24	**51.1%**
	25-34	**38.9%**
	35 and above	**10.0%**
Residence	Urban	**44.4%**
	Rural	**55.6%**
Marriage	In union	**71.8%**
	Not in union	**28.2%**
Employment/Work	Working, employed or self-employed	**35.1%**
	Unemployed*	**35.2%**
	Student	**28.5%**
	Other	**1.1%**
Education	No education	**23.9%**
	Primary - Completed & Incomplete	**11.9%**
	Secondary**	**50.2%**
	Tertiary***	**14.0%**

* housewife, unpaid family worker; **BECE/WASSCE/O-levels/A-levels; ***University/College/ Post-graduate education

Table 6 presents the reproductive health characteristics of women seeking PAC in Sierra Leone health facilities. Most women reported one or two total pregnancies (57%). Among 250 women with previous deliveries, 75% reported having had between 1-2 total live births, and the majority of women had one or two biological living children (62%). Further, 27% of all women reported previous spontaneous abortions, while 19.7% had previous induced abortions. About 57% of the women did not want the pregnancies (the current pregnancy they were seeking PAC for) at the time they got pregnant, and the majority were not doing something to prevent or delay the pregnancies.

Table 6: *Reproductive health characteristics of women seeking PAC in health facilities over a 30-day period, Sierra Leone 2021*

Reproductive health history		**%**
Total pregnancies (n=522)	1-2	56.7%
	3-4	30.3%
	5-6	8.6%
	7 and above	4.4%
Total births/deliveries (n=522)	None	52.1%
	1-2	36.0%
	3-4	7.5%
	5 and above	4.4%
Biological living children (n=522)	None	39.5%
	1-2	41.0%
	3-4	14.2%
	5 and above	5.4%
Previous spontaneous abortions (n=522)	None	73.0%
	1	18.6%
	2	6.1%
	3 and above	2.3%
Previous induced abortions (n=522)	None	80.3%
	1	17.1%
	2	1.9%
	3 and above	0.8%
Pregnancy wantedness (n=522)	Wanted then	43.1%
	Wanted later	31.2%
	Did not want at all	21.5%
	Don't know	4.2%
Did something to delay/prevent pregnancy (n=522)	No	56.9%
	Yes	43.1%

Severity of abortion complications

Based on the categorization of complications for women who presented for PAC during the 30 days of facility observation in Table 7, about 18% of the women presented with mild complications, 40% with moderately severe, and 34% with severe complications. Almost one in 10 women (8%) were a near-miss. Across the regions, North West (48%), Southern (38%), and Western regions (35%) had the highest proportions of women with severe complications. Eastern (29%) and Northern regions (25%) had the least proportion of women with severe abortion-related complications, even though these two regions had the highest proportion of women with moderately severe complications.

Table 7: *Severity of abortion complications among women presenting for treatment in health facilities in a 30-day period, Sierra Leone, 2021*

Complication classification	National	Eastern	North West	Northern	Western	Southern
Mild	17.6%	14.8%	13.0%	10.8%	27.0%	19.7%
Moderate	40.2%	48.8%	30.5%	64.4%	35.3%	25.2%
Severe	34.3%	28.7%	47.6%	24.5%	34.9%	37.7%
Near Miss	7.6%	6.5%	8.9%	0.3%	2.7%	17.3%
Death	0.4%	1.2%	0.0%	0.0%	0.0%	0.0%

Type of complications

Table 8 shows the distribution of abortion-related complications for women who presented for PAC services. Upon examination, more than one-third of women were diagnosed with clinical signs of infections (36%) and evidence of foreign bodies (35%). Nearly one-fifth had sepsis (23%) and systolic blood pressure less than 91 (15%). There was one death during the one-month study observation period.

Table 8: *Prevalence of abortion-related complications among women presenting for treatment in health facilities in a 30-day period, Sierra Leone, 2021.*

Complication	Weighted % (n)
Evidence of foreign body	34.7% (160)
Clinical signs of infection	36.0% (160)
Temperature >38.9	5.7% (20)
Systolic blood pressure <91	14.8% (61)
Sepsis	22.6% (99)
Pulse above 119 beats/minute	2.6% (26)
Shock	4.5% (21)
Organ system failure	1.2% (6)
Generalized peritonitis	1.5% (4)
Uterine perforation	1.1% (3)
Pelvic abscess	0.2% (1)
Death	0.4% (1)

Discussion

The study found that about 91,494 induced abortions occurred in Sierra Leone in 2021. In other words, about 44.2 out of 1,000 women of reproductive age had an induced abortion in 2021. The estimated abortion rate of 44.2/1000 is the highest in Africa relative to existing comparable estimates. For instance, studies in neighboring countries have estimated the induced abortion incidence rate to be 33 per 1000 in Nigeria (17), 44 per 1000 in Ghana (18), 25 per 1000 in Burkina Faso (19), and 16 per 1000 in Senegal (20). However, it is important to note that most of these studies were conducted almost a decade ago and may not reflect the current abortion rates in the region. The high abortion rate in the country is likely due to a failure to meet the desire for smaller families with effective contraception. For instance, in 2019, the difference between actual and wanted fertility among couples in Sierra Leone was almost half a child. In the same year, less than half (45%) of the demand for family planning among married women was satisfied through modern methods (1). Among unmarried sexually active women, the corresponding percentage was 63%.

There are significant regional variations of induced abortions across the country. The Northern and Western regions had higher rates of abortion compared to the other regions in the country. The differences in the abortion rates could be partly due to the underlying demand for and unmet need for family planning among these regions. For instance in 2019, this proportion was lowest in North West (37%), followed by Northern region (42%) and highest in Eastern region (51%) (1). More pertinent evidence shows the high abortion rate is likely due to women and girls' inability to meet their reproductive goals with effective contraception is the high rates of unintended pregnancy. Typically, when a woman or couple does not want to have a child, they use any means possible to prevent it, and in this case, many resort to abortion. Two regions with the highest unintended pregnancy rates (Southern and Northern) also had the highest abortion incidence rates 110 and 86 per 1000, respectively). This finding emphasizes the point that restrictive laws do not regulate the incidence of abortion; they only make abortion less safe. Similarly, worldwide evidence shows that liberal abortion laws do not lead to more abortions.

Diverse groups of women seek abortion-related care in Sierra Leonean health facilities. Our findings show a high proportion of PAC patients experienced moderate, severe, and near-miss post-abortion complications. Given the restrictive abortion law in Sierra Leone, this suggests that many induced abortions that occur are unsafe. About one-third (35%) of women present for PAC with severe complications. This estimate is higher than what has been documented in other studies including in Zimbabwe and Uganda (19-20%) (21,22). It is, however, comparable to the 37% found in Kenya (23). Policies and programs can be put in place to reduce the severity of post-abortion complications in Sierra Leone. Safe abortions are possible, when conducted using a method recommended by WHO, appropriate to the pregnancy duration, and by someone with the necessary skills. When safe, abortions typically have extremely low rates of complications.

91,494
induced abortions occurred in Sierra Leone in 2021

44.2/1,000
women of reproductive age had an abortion in 2021

PAC treatment 13.3%

86.4% sought care in primary facilities	**13.6%** sought care in secondary /tertiary facilities
81.0% sought care in public facilities	**19.0%** sought care in private facilities

Severe complications often demand admission into intensive care units, long admission periods, and treatment and attendance by highly skilled health providers who are often scarce, especially at lower facility levels, and drain the health system of its meager resources. Such severe complications also tend to cost more during treatment, possibly exposing women and their households to catastrophic health expenditure.

The data also indicates that the vast majority of women who seek PAC services do so in public and primary-level health facilities (81%) compared to secondary and tertiary facilities. Yet, despite these public and primary-level facilities bearing the heavier burden of providing PAC services in Sierra Leone, they are least equipped with trained staff, essential equipment, commodities, and supplies for PAC, thus affecting the quality of services they can offer.

Conclusion and recommendations

The following key recommendations could lead to a significant reduction in the incidence of unsafe abortion and related consequences:

1 There is a need for legal and policy reforms to address the causes of unsafe abortions and unintended pregnancies and move towards domesticating the Maputo Protocol. This includes addressing sexual and gender-based violence (SGBV), ensuring a return to school policy with a supportive framework for pregnant and parenting adolescents, the abortion law, and the age of consent for sex and marriage, among others.

2 Expanding access to quality post-abortion care, including post-abortion contraception counseling and method provision at all health system levels. This also includes strengthening the capacity of lower-level health facilities and mid-level providers to utilize appropriate uterine evacuation technologies, including mifepristone and misoprostol, availing essential equipment and supplies, and ensuring pre-service and in-service training of providers on PAC.

3 Government should increase access to quality family planning services and effective modern methods for all women and men. This includes addressing the challenge of commodity stock-outs and eliminating barriers that impede access for adolescents.

4 The ministry of health should ensure the full dissemination and implementation of the clinical Standards and Guidelines for post-abortion care and periodic audits and monitoring of the quality of abortion care. These guidelines will allow healthcare providers to know all the grounds, wherein abortion is legal to the full extent of the law, and the appropriate technologies and interventions for PAC.

5 There is a need to focus on young women and girls' sexual and reproductive health, and address the gaps in services. This is because more than half of women seeking PAC were 24 years or lower. Curriculum-based comprehensive sexuality education is a critical intervention that can help address the gaps in young people's knowledge of unintended pregnancy prevention.

6 Conducting community education and awareness on the dangers of unsafe abortion, legal provisions on abortion, stigma reduction and contraception and family planning to prevent unintended pregnancies.

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Notes


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Credible Data for National Development


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