Republic of Sierra Leone
Ministry of Health and Sanitation
Reproductive and Child Health Directorate

# UNSAFE ABORTION IN SIERRA LEONE: A REPORT OF COMMUNITY AND HEALTH SYSTEM ASSESSMENTS

## CONSOLIDATED REPORT

CREATED IN ASSOCIATION WITH

**Republic of Sierra Leone**

**Ministry of Health and Sanitation**

**Reproductive and Child Health Directorate**

# *Unsafe Abortion in Sierra Leone:*

# *A Report of Community and Health System Assessments*

## *Consolidated Report*

**Freetown, March 2013**

On behalf of the Government of Sierra Leone, I am honoured to disseminate *"A Report on Community and Health System Assessments on Unsafe Abortion in Sierra Leone"*.

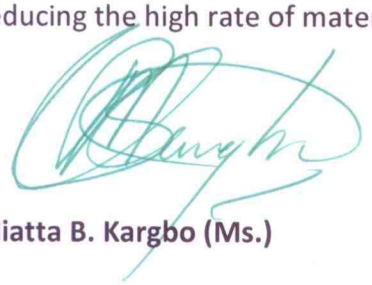
Around the world, an estimated 13% of all maternal deaths result from unsafe abortion. The Reproductive Health Annual Report of 2011 revealed that 10% of maternal deaths in Sierra Leone were due to unsafe abortion. The methodologies used in these assessments provide us with a better understanding of the causes and consequences of unsafe abortion and unplanned pregnancies in Sierra Leone. We are pleased to have the opportunity to gain a better understanding of the magnitude of unsafe abortion.

This report provides an opportunity to learn from the experiences of health Practitioners, Civil Society, and interested and affected parties. It provides important information confirming that complications from unsafe abortion are a leading cause of maternal deaths, and affirms the urgent need to address this critical problem. Treatment of abortion complications is a costly clinical service that consumes staff time and other limited resources. These costs could be significantly reduced through the provision of safe and legal abortion, and the scaling up of modern family planning services.

The methodology used to carry out this assessment has been successfully used in other countries including Ghana, Zambia, Malawi and Senegal. The results have brought about better quality and accessible services, improvements in laws and policies, and a more responsive approach to the reproductive health needs of women. We will use this information to develop better strategies to address this preventable cause of maternal deaths and injuries, and a shift to safe and legal abortion would save the lives of women.

Sierra Leone recognizes the importance of women's health and rights. As a Government, we have demonstrated our commitment to this course by acceding to the Convention for the Elimination of all Forms of Discrimination Against Women (CEDAW), the Protocol to the African Charter on Human and People's Rights, the Protocol on the Rights of Women in Africa and ratifying several international agreements protecting the rights of women.

The Ministry of Health and Sanitation in collaboration with its Partners remain committed to reducing the high rate of maternal mortality and morbidity in Sierra Leone.



**Miatta B. Kargbo (Ms.)**

**Minister of Health and Sanitation.**

## EXECUTIVE SUMMARY

Each year in Sierra Leone, roughly 1,000 women die from pregnancy-related causes, per 100,000 live births—giving it the fourth highest maternal mortality ratio in the world. Unsafe abortion is a major contributing factor to maternal and pregnancy-related injuries and deaths in Sierra Leone, where abortion laws are restrictive and clandestine and thus, unsafe abortions are common.

In 2011, the Sierra Leone Ministry of Health and Sanitation and Ipas undertook three studies to examine the impact of unsafe abortion on the country. The first assessment sought input from stakeholders, health providers and the public, throughout the country. The other two studies examined the burden of unsafe abortion on women and the health system.

**Strategic Assessment of Unwanted Pregnancy and Unsafe Abortion**

In November 2011 the Ministry of Health and Sanitation partnered with Ipas, an international NGO with nearly four decades of experience focused on eliminating preventable maternal mortality from unsafe abortion, to conduct a Strategic Assessment of unwanted pregnancy and unsafe abortion. The study followed the model developed by the World Health Organization that has been successfully used in 14 countries to document the current situation, gather inputs from stakeholders throughout the country, and identify programmatic and policy solutions that can improve women's health and better respect their reproductive rights. The study complemented the year-long work of the Law Reform Commission to examine the need to revise the existing restrictive abortion provisions in the Offenses Against the Person Act with real-life experiences and commentary from the citizens and leaders of Sierra Leone.

The objectives of the Strategic Assessment were to:

- Identify the causes of unwanted pregnancies in different regions of Sierra Leone;
- identify and assess the cultural, policy and programmatic issues related to unsafe abortion in Sierra Leone;
- assess the availability and quality of postabortion care to treat complications of unsafe abortion in different types of health facilities across Sierra Leone;
- describe the knowledge of health system administrators and other leaders and the application of international treaties and conventions related to maternal health policies and programs.

**Rapid Assessment: Burden of Treatment**

The Ministry of Health and Ipas also conducted a rapid assessment to document the burden of treatment of abortion complications in 19 public hospitals in Sierra Leone. It was conducted in June and July 2012. After a review of available records, the study team identified 1,622 cases of postabortion care (PAC) provided in 2011. Overall, 22% of PAC patients presented with moderate or severe complications, a rate that was even higher (33%) in rural facilities. Deaths from unsafe abortion made up 10% of maternal mortality with an extremely high abortion case-fatality rate of 1.73%. The quality of PAC services was low, with use of outmoded abortion technologies for uterine evacuation, virtually no availability of postabortion contraception, and unnecessarily long patient stays. Abortion case records were incomplete or almost non-existent.

These data document a dire situation and warrant immediate action. PAC services should undergo major improvements, including a shift in abortion technologies to the World Health Organization-approved manual vacuum aspiration (MVA) and medical abortion (MA), and implementation of postabortion contraceptive services to prevent repeat unwanted pregnancy and unsafe abortion. Significant upgrades

in recordkeeping of abortion cases are strongly recommended. Ensuring that primary health facilities are also able to provide abortion services and contraception will mean that women in rural areas do not need to travel long distances to access care. These changes include adoption of updated abortion service delivery guidance, training of clinical providers, re-organization of services within health facilities, and sustained availability of abortion technologies and contraceptive commodities.

**Rapid Assesment: Cost of Care**

Every year, thousands of women in Sierra Leone seek treatment for complications from unsafe abortions performed outside health facilities. Providing this treatment puts a large burden on the country's public health system. The cost assessment was undertaken to estimate the financial costs to the public health system of treating complications from unsafe abortion. A panel of 16 providers from tertiary, urban district, and rural district facilities was convened. The panel used a consensus approach to estimate typical staff time and supplies used to treat incomplete abortions with simple postabortion care (PAC), as well as PAC for cases with moderate and severe complications. Staff salary information as well as supply costs were used to calculate the estimated cost of treating PAC. Caseload and severity data were used to calculate weighted per-case averages.

Findings estimated that an average PAC case cost health facilities $68 (United States (U.S.) dollars). Cases with severe complications which required hysterectomy, laparotomy and/or repair of cervical lacerations cost U.S.$272, nearly eight times more than a simple PAC case of U.S.$35. About 60% of the annual cost of providing PAC went to treating women who experienced moderate to severe complications, even though they represented just 22% of cases treated. While staff time did not drastically impact financial costs, the time spent treating and caring for women with postabortion complications— especially by mid-level providers—was substantial. Annually, the Sierra Leone Government spends an estimated U.S.$230,000 to treat women with abortion complications in public hospitals.

A shift to safe, legal abortion would reduce the current costs of PAC by an estimated 53% to 56%. These savings in personnel time, medical supplies and medications could be channeled to meet other critical ob-gyn needs.

Key findings from the three reports include:

1. Unwanted pregnancies were identified in all regions of Sierra Leone as a significant problem, contributing to thousands of maternal deaths and injuries, infertility, poverty and orphaned children.
2. The major contributors to unsafe abortion are poverty, sexual violence, girls' desire to continue their education, extramarital pregnancies, the refusal of partners to take responsibility for pregnancies, the prohibitive cost of safe care, and abortion stigma.
3. Overall, Sierra Leoneans think the abortion law, which is still on the books from 1861, is restrictive and outdated. They would like to see the government liberalize abortion as part of its commitment to reduce unsafe abortions and maternal mortality.
4. Based on actual data collected, there were an estimated 1,632 post-abortion cases treated in 19 secondary and tertiary public hospitals in 2011. It is estimated that if all cases treated in the hospital were recorded, the number of cases would be as many as 3,374.
5. A simple postabortion care case that does not include additional medical or surgical treatment costs the country's health system roughly U.S.$35 (Le150,000). Treating a severe case requiring surgery costs almost eight times more, on average: U.S.$272 (Le1,169,600).
6. Health-care personnel spend 10.5 hours to treat a case of unsafe abortion complications. For severe cases the time spent is 20.2 hours.

7. Dilatation and curettage (D&C)—considered obsolete by the World Health Organization (WHO)—is still widely used in Sierra Leone for induced abortion or treatment of unsafe abortion complications. D&C is typically expensive since it is usually performed by doctors and it involves a longer stay in hospital due to the use of general anesthesia. D&C also has much higher complication rates than manual vacuum aspiration (MVA), the WHO-recommended treatment method.
8. The Sierra Leonean government spent between U.S.$112,000 (Le481,600,000) and U.S.$230,000 (Le989,000,000) annually in personnel and medical supplies to treat postabortion cases. This cost only accounts for women who were able to receive care at a public hospital and not those who either died at home or sought treatment from other private health-care providers. By contrast, the cost estimate for the government to provide safe abortion services using MVA for the same number of cases is an estimated U.S.$109,000. Sierra Leone would have saved an estimated U.S.$121,000 alone by providing safe abortion care using MVA.

The findings from the three studies indicate that unsafe abortion takes a considerable toll on women, families, communities and the larger health system in Sierra Leone. Complications and deaths from unsafe abortion are entirely preventable.

## LIST OF ACRONYMS

| | |
|---|---|
| CAC | Comprehensive abortion care |
| D&C | Dilation and curettage |
| MDG | Millennium Development Goal |
| MoHS | Ministry of Health and Sanitation |
| MCH | Maternal and child health |
| MMR | Maternal mortality ratio |
| MVA | Manual vacuum aspiration |
| PAC | Postabortion care |
| SA | Strategic assessment |
| SLDHS | Sierra Leone Demographic Health Survey |
| SRH | Sexual and reproductive health |
| SRHR | Sexual and reproductive health and rights |
| UE | Uterine evacuation |
| WHO | World Health Organization |

## BACKGROUND ON SIERRA LEONE AND MATERNAL HEALTH

Maternal health indicators in Sierra Leone are among the worst in sub-Saharan Africa. The country's 2008 maternal mortality ratio (MMR) is estimated to be 1,033 deaths per 100,000 live births. The rate is the fourth highest in the world, exceeded only by Chad, Malawi and the Central African Republic (Hogan et al 2010). More than one quarter (27 percent) of all deaths of women aged 15-49 are pregnancy-related.

Complications of abortion are among the primary direct causes of obstetric complications, ranking fifth as a direct cause of maternal death (MoHS 2008). Every year an estimated 1.7 million women in sub-Saharan Africa seek medical treatment for unsafe abortion complications such as incomplete abortion, hemorrhage, septicemia and uterine perforation (Singh 2006). Providing these women with life-saving postabortion care (PAC) is often the responsibility of over-burdened public healthcare systems and costs an estimated U.S.$68 million in supplies and staff time annually in sub-Saharan Africa (Vlassoff et al. 2009). An estimated U.S.$62 million in additional annual economic costs are incurred due to treatment of long-term, abortion-related health effects such as infertility (Vlassoff et al 2009).

A variety of factors lead to unsafe abortions in Sierra Leone. First, the contraceptive prevalence rate in Sierra Leone is only 7 percent for any modern method and 28 percent of currently married women have an unmet need for family planning (SSL 2009). High rates of unwanted and unplanned pregnancies exist, and fertility rates are higher among poor women. (SL DHS 2008).

Second, under Sierra Leonean law, abortion for unwanted pregnancies is illegal in all circumstances, as stipulated by the English Offences Against the Person Act of 1861. The law is the most fundamental barrier to safe abortion in Sierra Leone and to improving maternal health more broadly. The law's restrictiveness drives women to use dangerous methods to end their unwanted pregnancies or to seek help from unskilled providers and prevents the implementation of safe abortion. Evidence from the World Health Organization (WHO) shows that where laws are restrictive, most abortions are unsafe and maternal mortality is higher than in countries with less restrictive laws (WHO 2008a). Because most of the abortions in Sierra Leone are unsafe, women end up being injured or even dying as a result.

The WHO's Millennium Development Goal (MDG) 5 calls for reducing the maternal mortality rate by 75 percent by 2015. Since 1990 Sierra Leone has made significant progress, reducing the rate from 1,300 deaths per 100,000 live births to 857 according to in-country estimates (SSL 2009). However, this progress has been slow and insufficient to meet the MDG target (WHO 2010).

In April 2010, the government launched an ambitious programme to provide free health care for all pregnant and lactating women and all children under the age of five. The programme has ensured that access to reproductive health care is widespread: more than four in five Sierra Leonean pregnant women (87 percent) receive some antenatal care (ANC) from a skilled provider, most commonly from a nurse or midwife (53 percent). The vast majority of births in Sierra Leone still occur at home, and only 42 percent of births are delivered by a skilled provider (doctor, nurse, midwife, or MCH aide). Significant progress toward reducing maternal mortality can be affected by legal and health system reform to eliminate unsafe abortion by shifting to safe abortion. In addition to calling for the reduction of maternal mortality, the National SRHR Policy recognises unsafe abortion as a contributing factor to maternal mortality, and calls for the reduction of the incidence of unsafe abortion.

Although Sierra Leone is unlikely to reduce its MMR by 75 percent by 2015, the country can come much closer to achieving MDG 5 over the next three years by building on the free health-care programme and actively working to reduce unsafe abortion. This can be done by improving the enabling environment and services to provide safe abortion care and increasing resources and capacity to treat unsafe abortion complications.

Complications from unsafe abortion are preventable, unnecessary, and expensive. Treating complications from unsafe abortion is often more costly than the provision of safe abortion and family planning services (Johnston et al 2007). Shifting services to safe abortion care and family planning will help conserve scarce resources and save lives.

## OBJECTIVES

In 2011, the Ministry of Health partnered with Ipas, an international NGO with 40 years of experience focused on eliminating preventable maternal mortality from unsafe abortion, to conduct a **Strategic Assessment of Unwanted Pregnancy and Unsafe Abortion**, and a **Rapid Assessment of the Burden and Cost of Unsafe Abortion**.

The **Strategic Assessment** sought to identify the causes of unwanted pregnancy and to assess cultural, policy and programmatic issues related to unsafe abortion in Sierra Leone. The objectives of the assessment were to:

1. Determine the availability and quality of postabortion care
2. Describe the knowledge of health systems administrators and other leaders in this area
3. Examine the application of international treaties and conventions related to maternal health

The Strategic Approach for abortion has been used in Ghana, Zambia, Malawi, Senegal and other countries around the world and has resulted in better-quality and more accessible

health care for women, improvements in laws and policies, and a more responsive approach to the reproductive health needs of women.

The Strategic Assessment consisted of 951 interviews with Sierra Leonean citizens of all ages, locations and professions about their experience with unwanted pregnancy and unsafe abortion, and generated recommendations for improving policies and programmatic solutions to the problems identified. Fieldwork was conducted over a period of 14 days in November 2011.

The **Rapid Assessment** took place in June and July 2012, and was conducted in 19 public hospitals in Sierra Leone and described the **burden and cost** of unsafe abortion to the public health system of Sierra Leone.

The objectives of the Rapid Assessment were to:

1. Estimate the annual caseload of abortion complications treated at public hospitals
2. Determine the hospital bed occupancy rate and length of stay
3. Determine the level of severity of complications
4. Estimate the case-fatality rate
5. Provide estimates of direct monetary and human resource costs of treating complications from unsafe abortion
6. Calculate potential savings if the public health system shifted from treating complications from unsafe abortion to safe comprehensive abortion care.

## METHODOLOGIES

### STRATEGIC ASSESSMENT

The WHO Strategic Approach (WHO, 2007) is a multi-stage process for generating stakeholder support for changes in reproductive health policies and practices in a country. The Strategic Assessment is a component of the Strategic Approach that involves qualitative data collection from a wide range of respondents, analysis of findings, and dissemination of results to stakeholders. The study followed the model developed by the World Health Organization. Data were gathered by three teams of local stakeholders via semi-structured, in-depth interviews and focus group discussions, as well as via direct observation of health-care facilities. The Strategic Assessment sought to answer five questions:

- How can unintended pregnancy be better addressed and thus recourse to abortion be reduced?
- How can access to and availability of safe abortion services to the full extent of the law be strengthened?

- How can the abortion law be revised to better promote women's health and human rights?
- How can the quality of care in postabortion service delivery be strengthened?
- Have reproductive health services, rights and policies been reviewed in order to identify new policies that will enable Sierra Leone to achieve MDG 5 by 2015?

Data collection guides were developed and reviewed by the core Strategic Assessment team and a large group of stakeholders who participated in an initial meeting to review the objectives and direction of the study. A subset of 27 individuals from this stakeholder group then formed three data collection teams which included representatives of the Ministries of Health and Sanitation; Justice; Education; and Gender, as well as officials from local government and civil society organizations.

The assessment was conducted in selected urban and rural areas of all 12 health districts in Sierra Leone. Chiefdoms were recommended by the MoHS district services to reflect political, social and economic diversity. Each team was led by a regional Reproductive Health Expert from the MoHS. Ipas staff provided technical support to the sub-teams.

Interviewees were selected by identifying key informants and asking them for suggestions for other potential informants.

Each sub-team visited districts within its region, making stops in two to three chiefdoms, including the chiefdom that is home to the main city of the district. In each chiefdom, between two and four villages were selected for the assessment. This helped to create a balance between urban and rural representation of stakeholders. In Freetown (Western region), neighbourhoods in the West, East and Central areas were selected.

## RAPID ASSESSMENT OF PAC CASELOAD AND COSTS OF CARE

To collect data about the financial and human burden of PAC on the public health care system, the study team employed a cross-sectional quantitative study that collected data about the magnitude of unsafe abortion from 19 public hospitals. In consultation with District Medical Officers (DMO) of the MoHS, the team identified 21 public secondary and tertiary facilities offering PAC services.[1] Two hospitals were eliminated upon confirmation that no PAC services were provided in those sites. All public hospitals providing PAC were included in the assessment. Participating facilities included all tertiary and secondary-level facilities in the four geographic regions of the country (Western; North; South; and East).

[1] Health centers were not included, as they are not currently authorized to provide PAC in Sierra Leone.

Data collectors consisted of two teams made up of two study staff, five medical students, and an evaluation specialist from the MoHS. The team members participated in a half-day orientation to the study tools in order to standardize data extraction procedures. The selected health facilities were grouped for efficient geographic access, with each team visiting facilities in a given group during working days. Each facility usually required one day to complete data collection.

At each facility visit, the team conducted a retrospective review of patient record files, facility registers, and logbooks for a 12-month period from January through December 2011. These data were collected for calculation of obstetric and PAC caseloads (Objective 1), bed occupancy rate (Objective 2), and PAC case-fatality rate (Objective 4). Informal interviews were also conducted with hospital administrators and clinical providers of PAC for perspectives on current PAC clinical practice, extent of caseload under-reporting, and perspectives on unsafe abortion. Further details on patient care were obtained during discussions with providers at a subsequently-convened panel on PAC costs.

To obtain information on the severity of abortion complications and clinical management (Objective 3), the study team conducted an in-depth review of a sub-set of files of patietnts treated from March to May 2012 in 18 facilities with more detailed records available.

Since women with postabortion complications may be treated in various wards or units in a hospital, the study teams visited a wide variety of locations within facilities including maternity and obstetrics units, operating theaters, and gynecology service units. A structured data extraction form was used to collect relevant PAC information from facility registers and patient files. Information on the severity of abortion complications and clinical management practices were obtained from patient files.

The team also estimated the costs of abortion complications (Objective 5) to the public health system through data collected from a panel of 16 experienced health-care providers from eight public hospitals in seven districts. Panelists were identified in consultation with the MoHS. Each region was represented by at least one facility. Three types of hospitals were included: urban tertiary, urban district and rural district. Participants included a Senior Registrar, Medical Superintendents, Medical Officers, and Nurses.

The 16 panelists participated in a two-day discussion session in Freetown in July 2012 to obtain the data required for the estimation of the cost of PAC to the health system. A modified Delphi survey approach was used to solicit information from the providers, consisting of a standardized questionnaire adapted from tools for estimating PAC costs in Nigeria and Malawi (Benson et al 2012). The form captured details about the steps taken to treat a single case of incomplete abortion at a public health facility, and the resources used.

Each panel participant completed forms in response to three scenarios developed by the study team, which described women with signs and symptoms suggestive of mild, moderate, and severe abortion complications.

Based on their experience at their facilities, participants were asked to describe the staff time and type and amounts of supplies and medications typically used to treat each type of PAC case. Providers from the same facility were then paired to jointly review their written estimates and reach a consensus on all three scenarios. Finally, the providers were grouped into teams by type of hospital: rural district, urban district, and urban tertiary. Each team developed an estimate for the three scenarios for a total of nine final per-case estimates (one form x three scenarios x three hospital groups) used to calculate cost estimates for treating complications of abortion.

Resource use information from these forms were applied to unit costs derived from multiple sources. Data on staff costs were taken from the annual salary information by cadre provided by the Ministry of Health and Sanitation (MoHS). [2]. Supply and medication costs came from the MoHS Essential Drug list. Costs for supplies and medications not in the MoHS Drug list were substituted with costs[3] from the WHO Mother-Baby Package (1999). When neither source was available, per-unit supply costs from cost studies in Malawi and Nigeria were used as a third and fourth data source, respectively (Benson et al 2012).

In order to calculate the projected savings (Objective 6), the per-case cost of providing safe, induced first-trimester abortion was calculated with the help of an international panel of gynecologists and mid-level providers with experience providing safe abortion services in the United States and developing countries[4].

All costs are shown as 2012 U.S. dollars ($).

The research protocol for the rapid assessment was submitted to and approved by the Sierra Leone National Ethics Committee. The research was considered to be a “less than minimal risk” study.

[2] A per-minute rate for each cadre was calculated based on the assumption that personnel are paid 260 days per year, 8 hours per day.

[3] A 2% annual inflation rate was used to update costs from 1999 to 2012.

[4] Safe abortion estimates assume outpatient provision of uterine evacuation with paracervical block performed by trained midwives.

# DATA MANAGEMENT AND ANALYSIS

## STRATEGIC ASSESSMENT

Data management and analysis started during data collection. Each team completed daily field notes and in-depth interview forms. Each evening, team members met to debrief about the day's experiences and discuss key findings, then used that information to plan the next day of data collection. The findings were explored within the scope of answering the strategic questions. Emerging themes were followed up in subsequent interviews as the fieldwork evolved.

Research teams conducted:

- 651 in-depth interviews
- 43 focus group discussions with 256 participants
- Spoke with a total of 951 participants.

Among those interviewed were political, health, judicial, police and community authorities. The teams also assessed 28 health facilities on the provision of contraceptives and abortion-related services.

Data generated during the Strategic Assessment were analysed from public health and public policy perspectives. The themes and categories were compared across regions and participants. The analysis:

- Documented individuals' access to sexual and reproductive health services
- Documented the impact of unintended pregnancy and unsafe abortion
- Identified barriers to accessing sexual and reproductive healthcare services, including contraception, safe abortion and postabortion care
- Identified potential barriers and gaps in laws and policies related to sexual and reproductive health
- Identified inconsistencies between ratified and endorsed human rights agreements and national laws and policies in relation to sexual and reproductive health.

Preliminary findings of the assessment were presented by the MoHS at a workshop in Freetown in November 2011 for technical experts from government, civil society and development partners. The technical experts made relevant contributions to the findings.

## RAPID ASSESSMENT

*Abortion complications caseload*

Caseload counts for each variable (Table 1) were carried out for each facility, and tallied for all 19 sites. Complication severity levels of the 343 cases were classified as mild, moderate

or severe based on categories of clinical signs and symptoms used in previous studies in other countries (Benson et al 2012, WHO 1999). The proportion of complications in each category was calculated and applied to the number of total PAC cases identified in the review of all facility records.

TABLE 1: VARIABLES COLLECTED

- **Hospital beds dedicated for obstetrics and gynecology**
- **Deliveries attended in the facility**
- **Women treated for abortion complications**
- **Women admitted for obstetrics and gynecology complications**
- **Maternal deaths from abortion complications recorded in the facility**
- **Maternal deaths from all direct causes recorded in the facility**
- **Demographics including age and marital status**
- **Presenting signs and symptoms of complications**
- **Diagnosis**
- **Uterine evacuation procedure if performed**
- **Any additional surgical procedures performed**
- **Duration of hospital stay**
- **Outcome of treatment**
- **Provision of postabortion family planning method on discharge**

Bed occupancy rates were calculated by multiplying the total beds available in obstetrics and gynecology wards in each hospital by the number of days in the three-month period. The number of days the beds were occupied during the three months was based on the length of hospital stay of each PAC patient and summed to generate a total number of days that beds were occupied by women treated for PAC. This number was then divided by the total available obstetrics-gynecology bed-days in the time period and multiplied by 100 to obtain the percentage of time that beds within facilities were occupied by women being treated for PAC.

## COST ESTIMATES

Estimation of the direct health system costs of PAC treatment (Objective 5) and potential cost-savings of providing safe abortions (Objective 6) required the following steps.

First, the team estimated annual costs of current PAC Treatment in Sierra Leone. To do so, the study team:

- **Estimated PAC per-case costs.** The cost of supplies and medications and provider/facility staff time was calculated by multiplying the amount of use by the unit cost of that resource. The sum of all supply and medications was added to the sum of all staff costs for the per-case cost of treating a “typical” PAC case. This

process was repeated for each combination of three facility types and three levels of severity (9 scenario estimates).

- **Established the number and complications proportion of PAC cases treated at public hospitals.** The panel of clinicians estimated that only 48 percent of PAC cases are recorded in any facility records. To account for underreporting, an adjusted annual PAC caseload was calculated by multiplying the inverse of 48 percent (2.08) by 1,622 cases to yield 3,374 cases. The proportion of cases for each type of complication severity and facility was obtained from a review of a sub-set of 343 cases. Each proportion was then multiplied by the 3,374 projected cases to create the number of cases for each complication severity and facility level combination (9 scenarios).

- **Weighted[5] PAC per-case costs by scenario, complication severity, facility type, and overall.** Because the proportion of cases by scenario differed, weighting was used to adjust the per-case costs for use in annual cost calculations. To create a weighted per-case cost for each scenario, its respective proportion of cases (weights) was multiplied by its corresponding per-case costs. Weighted average per-case costs by complication severity were calculated by summing weighted per-case costs from each facility type; weighted average costs by facility type were the sum of weighted per-case costs by each complication severity. All nine weighted per-case costs were then summed to obtain the overall weighted average per-case cost of treating a PAC case.

- **Estimated annual PAC costs by complication severity, facility type, and overall.** Each weighted per-case cost was multiplied by its corresponding estimate of annual caseload to arrive at annual costs for PAC for each of the nine scenarios. These nine different annual totals were then summed, for the total annual cost of PAC treatment for all Sierra Leone public hospitals that treat complications from unsafe abortion.

To calculate cost projections resulting from a shift to safe abortion care, the team:

- **Estimated the per-case cost of safe abortion care.** The international clinical experts estimated the provider time and type and amounts of supplies using manual vacuum aspiration (MVA) and medical abortion (MA)[6]. The staff salary costs and per unit supply costs were then used to calculate the per-case cost of providing safe, induced abortion.

- **Projected annual costs after shifting to safe abortion care.** One projection assumed all women that received current PAC treatment (caseload from the rapid

[5] This method limits the effect of cost estimates that might be rare (very high or low) which would otherwise result in overestimation or underestimation of annual costs.

[6] Medical abortion estimates are for misoprostol only.

assessment) instead received safe, *induced abortion with MVA*. The MVA per-case cost (above) was multiplied by the adjusted annual PAC caseload to calculate the total annual projected cost of providing safe induced abortions with MVA.

A second projection assumed the availability of *both MVA and MA technologies* and that one-half of the women would choose MVA for induced abortion and the other half would choose MA. The MVA and MA per-case costs from above were each multiplied by one-half of the women receiving care, and these products were summed. The percentage difference between current estimated annual costs of PAC and each safe abortion projection were calculated.

To project possible changes in staff time spent providing care, provider time estimates for providing safe abortion care were summed and subtracted from the total staff time spent providing current PAC treatment, and percentage differences were calculated.

Per-unit costs of supplies and medications and per-case costs of staff time were calculated using data entered into Microsoft Excel 2007. Data were converted to Stata, version 11 (a statistical analysis software, for calculation of total costs by complication severity and facility type.

## LIMITATIONS

Due to resource constraints and the limited availability of facility data, data collection for this assessment included provider estimates of PAC case management. A limitation of this approach is possible recall bias of the participants, especially for the level of detail required to calculate per-case costs. However, although purposively selected, the panel included clinicians from urban, rural and tertiary hospitals and different regions. The use of a panel of experienced clinicians (with an average of 17 years of service) was justified assuming that those with more work experience are better able to estimate provider time spent and supplies and medications used. In addition, power dynamics are inherent in a consensus approach and the full array of individual perspectives may not be equally represented in the final time and supply estimates.

Cost estimates were based on recurrent resources expended only for direct patient care as provided in public secondary and tertiary hospitals. These costs were included since they are more likely to vary by changes in caseload or clinical practice and tend to contribute most of the total cost. Indirect costs such as management, utilities, space and bedding or start-up costs such as provider training were not included, as they are highly variable, complex and difficult to separate from their use in other health services. Additional direct costs such as meals provided during the hospital stay may be included in future calculations.

Data on the use and cost of contraceptives were not collected. Other influences on cost, such as subsidization or donation of clinical supplies, and availability of supplies and qualified providers, were not examined in the study. Direct costs assumed by women and their families were also excluded from the estimates, such as transportation, provision of their own clinical supplies or drugs, or payment of fees despite the public mandate for free health care (Sierra Leone MoHS 2010).

Cost estimates should be considered preliminary and are facility-based numbers and costs don't include those for women who never make it to a facility.

## FINDINGS

### LACK OF ACCESS TO CONTRACEPTION IS A MAJOR REASON FOR UNWANTED PREGNANCY

During the Strategic Assessment unwanted pregnancies – particularly teenage pregnancies – were identified in all regions of Sierra Leone as a significant problem. Reasons cited for unwanted pregnancies include:

- Sexual violence, including rape and incest
- Initiation into the Bondo Society that encourages early sexual debut
- Taboos on sex education
- Lack of access to family planning
- Health system service availability gaps

### DESIRE TO COMPLETE THEIR EDUCATION IS THE NUMBER ONE REASON YOUNG WOMEN SEEK ABORTION

Many teenage girls with unwanted pregnancies resort to unsafe abortion. The most common reason women cited for deciding to terminate a pregnancy was that they wanted to continue their education. Teenage girls also cited wanting to wait for the right time to have a baby or wanting to wait until marriage to avoid the stigma of having a baby out of wedlock.

### UNSAFE ABORTION IS VERY COMMON

Respondents in the Strategic Assessment reported that people know that abortion drugs are sometimes offered at pharmacies and drug stores, and that some traditional birth attendants, doctors, nurses and midwives perform the procedure. Some women obtain abortion services from doctors in hospitals or in their private clinics.

Unsafe abortion in Sierra Leone is recognised as being responsible for many maternal deaths, injuries, infertility, poverty and orphanhood. Almost every informant from the Strategic Assessment reported knowing a woman who had had an abortion, and many knew someone who had died of an unsafe abortion. In some chiefdoms, there were cases of women who had died very recently and were awaiting burial at the time the interview teams visited.

Those interviewed cited different methods women use to terminate pregnancies: cassava sticks inserted into the uterus, "Blue" concoctions, and tablets whose names were generally unknown. All of these methods are considered unsafe, but are widely used.

Because most abortions have been unsafe in Sierra Leone for generations, many people do not realise that the termination of a pregnancy can be a simple and safe procedure. Consequently, many participants did not understand the difference between safe abortion and unsafe abortion. This lack of understanding caused them to classify both safe and unsafe abortions as dangerous and to reject both. It also influenced their opinion on whether the public should be offered this service.

## HEALTH FACILITIES HAVE INSUFFICIENT CAPACITY AND RESOURCES TO PROVIDE SAFE ABORTION CARE OR HIGH QUALITY PAC

Postabortion care is part of essential obstetric care, as endorsed by the World Health Organization and other major maternal health bodies. PAC is provided in some major hospitals in Sierra Leone, but has not been systematically integrated into healthcare delivery at all levels, nor have clinical skills been updated to meet current WHO standards (WHO 2012).

Comprehensive abortion care (CAC) is the full continuum of services for safe abortion, treatment of abortion complications and postabortion family planning.

In Sierra Leone, no standards or guidelines exist to guide health-care providers on PAC or CAC. The majority of health professionals who were interviewed in the Strategic Assessment, especially midlevel providers, did not demonstrate the necessary knowledge or attitudes for appropriate provision of PAC, often confusing it with induced abortion.

According to the Strategic Assessment, many public health facilities had insufficient capacity—trained staff, equipment, drugs, cleaning supplies—to provide safe abortion-related care. Most providers are still mainly using dilation and curettage (D&C) also known as sharp curettage, to treat incomplete abortion, which the WHO considers to be an obsolete and unnecessarily risky procedure for first-trimester abortion (WHO 2012). D&C is also more costly than other methods as it is usually performed by a physician using general anesthaesia which often involves an overnight stay in a facility. Very few facilities are

equipped with manual vacuum aspirators (MVAs), one of the WHO-recommended technologies for performing safe, first trimester abortion procedures. MVA instruments are known only to physicians and were lacking in all but one health facility.

Visits to the facilities during both the Strategic Assessment and Rapid Assessment found rusted and outdated equipment was observed at many facilities. Healthcare workers acknowledged the inadequacy of equipment, and reported that they were unable to acquire the needed instruments. Patients were often required to wait several days for PAC (because of lack of equipment?) services Medical abortion drugs are not registered and were not available in any health facilities visited at the time of data collection.

Based on the 343 cases that were reviewed in-depth, a total of 310 uterine evacuations were performed in all participating facilities. More than 88 percent of women were treated with dilatation and curettage (D&C) followed by 10 percent of women treated with MA. The use of MVA was almost nonexistent (2 percent).

## ABORTION CASE RECORD KEEPING IN MOST PUBLIC HEALTH FACILITIES IS INADEQUATE

Record keeping is critically constrained in many of the facilities. Generally, there is a great disparity in the availability and completeness of information related to services provided to women with abortion complications. Most women who receive treatment leave the facilities without being recorded on any register or creation of a patient file, as confirmed by the cost estimation panel of health-care personnel actively involved in providing PAC.

## PROVIDING PAC TAKES UP SIGNIFICANT AMOUNTS OF VALUABLE PROVIDER TIME

On average, time spent by all facility staff providing PAC services was 11.1 hours per case (ranging from 6.1 – 23.1[7]) for all levels of complication severity. For simple PAC cases, the average time spent by all providers was 10.5 hours per case (range 6.1 – 15.0) while moderate and severe PAC cases required 11.8 (range 8.6 – 13.8) and 20.0 hours (range 18.1 – 23.1), respectively. Mid-level providers, such as midwives and nurses, spent the most time spent treating a PAC case (average of 5.9 hours), while obstetrician/gynecologists provided the least amount of time (average of 24 minutes).

Although human resource costs contributed little to the costs of PAC treatment, the amount of provider time expended is a valuable resource. Because Sierra Leone has only 0.016 physicians per 1,000 population and only 0.168 nurses and midwives per 1,000 population, staff time is extremely limited (World Bank 2010). Comparison of per-case costs of PAC to

[7] The most time-intensive case cost involved treatment of severe complications which included a laparotomy.

overall health expenditures in Sierra Leone further illustrates the impact of abortion complications treatment on the health system. *In 2010, Sierra Leone spent U.S.$43 per capita for health care, 37 percent less than the average cost of treating a single PAC case (U.S.$68), and 84 percent less that treatment of a severe case (U.S.$272)* (World Bank 2010). As in many developing countries, these findings illustrate the disproportionate amount of hospital resources for gynecological care and national health budgets that are spent on PAC (Koontz et al 2003).

*Providing safe abortion and eliminating of life-threatening complications could reduce the amount of staff time spent to provide abortion services by between 75 percent and 84 percent. This shift could also improve facility efficiency by reducing the length of patient stays and increasing the number of women seen. Fewer complications and increased access to safe, legal abortion specifically at the primary level would also reduce the need for referrals to urban and/or tertiary hospitals so that rural women can better access services.* Currently, well over one-half of the PAC cases in this assessment were treated at facilities in urban areas, even though two-thirds of Sierra Leone's population lives in rural areas (SSL 2009).

## ALMOST ALL PAC CASES ARE TREATED AS INPATIENTS

According to patient files, only 6 percent of women were treated as outpatients, i.e., discharged from the facility on the same day of presentation. About the same proportion of women were discharged after 10 or more days. The overall mean hospital stay was 3.9 days. The overall mean bed occupancy rate was 2.5 percent.

Almost all women (92.7 percent) were discharged after treatment according to hospital protocol. About 1.5 percent of cases were referred to higher level facilities for further management, while another 1.5 percent of women died after admission to the facilities.

## PAC PATIENTS ARE UNLIKELY TO RECEIVE CONTRACEPTION

Postabortion family planning was documented in only four of 19 facilities. The number of women who received a contraceptive method upon discharge from these facilities was negligible; only 4 percent of all women and most were seen in two facilities. A lack of postabortion contraception services places women at risk of another unwanted pregnancy and unsafe abortion.

## ALMOST 20 PERCENT OF OBSTETRIC COMPLICATIONS ADMISSIONS WERE FOR ABORTION COMPLICATIONS

According to the rapid assessment, a total of 25,298 women were admitted for delivery, obstetric complications or PAC during 2011. Of these, 67 percent were deliveries and the remaining cases were admissions for obstetric complications, including PAC.

Abortion complications contributed 6 percent of all obstetric services and deliveries offered in the facilities. Nineteen percent of all obstetric complications admissions (excluding deliveries) were for abortion complications. Almost 71 percent of all abortion complication admissions were registered in only five hospitals. Of the 1,622 cases of abortion complications, 41 percent were from two tertiary hospitals.

## ONE QUARTER OF WOMEN PRESENTING FOR PAC HAVE MODERATE TO SEVERE SYMPTOMS

Almost one in four women who went to the hospital for PAC presented with moderate to severe clinical signs and symptoms. More women presenting to the rural district hospitals were treated for moderate to severe complications than those treated at the tertiary or urban district hospitals. Nearly one in three women receiving PAC at rural district hospitals were treated for moderate to severe complications that could have quickly become life-threatening if not treated immediately.

According to the in-depth review of facilties, 85 percent of all women who presented to the facilities for postabortion care during a three-month period had a diagnosis of incomplete abortion. Almost all of the women (98 percent) were managed for postabortion complications. Only six (2 percent) women were admitted for therapeutic termination of pregnancy.

## TEN PERCENT OF MATERNAL DEATHS IN HOSPITALS ARE CAUSED BY UNSAFE ABORTION COMPLICATIONS

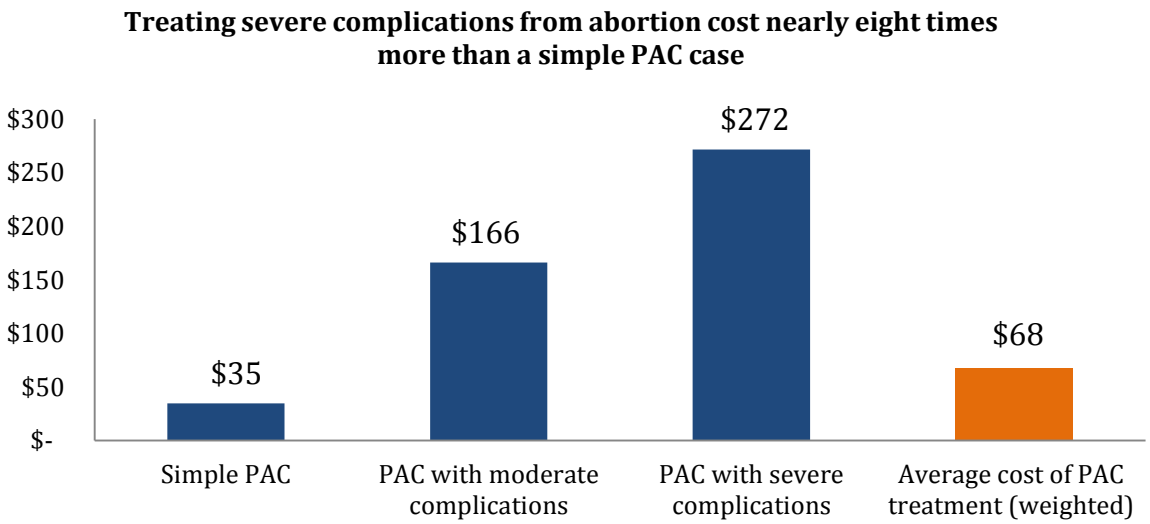
A total of 267 direct maternal deaths were identified from the year of obstetric patient records that were reviewed. Mortality from abortion complications accounted for 28 (10.5 percent) of all maternal deaths. The overall case-fatality rate for women with abortion complications was 1.7 percent. The case-fatality rate showed notable variation between the facilities and 31.6 percent of facilities reported no abortion-related deaths during the 12-month period.

## PROVIDING PAC COSTS PUBLIC HOSPITALS IN SIERRA LEONE U.S.$230,000 PER YEAR

The estimated annual cost to the public hospitals in Sierra Leone to treat 1,622 PAC cases was U.S.$110,681. Using the adjusted caseload of 3,374 to account for under-reporting resulted in an annual health system cost of U.S.$230,281.

The average cost of treating a typical simple PAC case with uterine evaluation was U.S.$35, while the average cost of a typical case with moderate complications was more than four times (U.S.$166) higher. A severe PAC case that required uterine evacuation and surgical interventions cost more than one and a half times (U.S.$272) the cost of a moderate PAC case, and almost eight times the cost of simple PAC. The overall weighted average cost of treating a PAC case was U.S.$68.

FIGURE 3: AVERAGE[8] PER-CASE COST OF PAC TREATMENT, BY COMPLICATION SEVERITY, AND OVERALL (IN U.S.$)

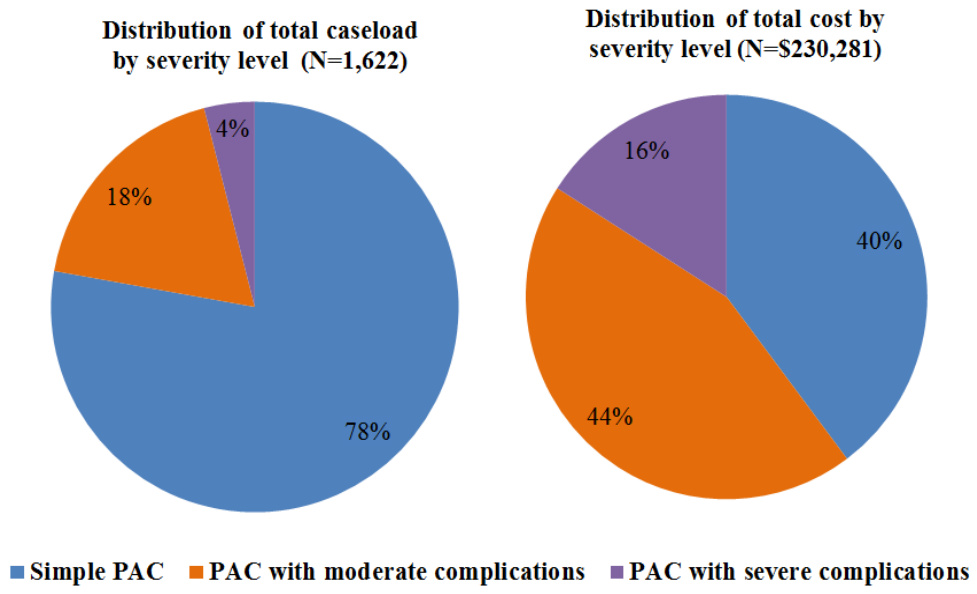



The prevalent use of D&C in current PAC treatment practices was reflected by the panelists' estimates of resource use, which only described treatment with D&C. Supplies and medications contributed most of the per-case cost, although the amounts of supplies used varied widely across facilities. The most expensive supplies were for severe complications requiring surgery or other major clinical interventions, including blood transfusions, sutures and Foley catheters.

Forty-four percent of total annual PAC costs were used to treat a majority (78 percent) of simple PAC cases. PAC cases with moderate or severe complications comprised 22 percent of overall annual caseload, but contributed 56 percent of the total annual cost. Costs of severe cases represented 16 percent of the total annual costs but just 4 percent of caseload; *an increase of 1 percent in caseload contributed an increase of 4 percent in treatment costs.*

[8] All averages shown are weighted average per-case costs.

FIGURE 4: COMPARISON OF TOTAL ANNUAL CASELOAD TO TOTAL ANNUAL COSTS, BY COMPLICATION SEVERITY




## PROVIDING SAFE ABORTION CARE WOULD COST LESS THAN HALF OF THE COST TO TREAT UNSAFE ABORTION WITH PAC

Provision of safe, induced abortion with MVA was estimated at U.S.$28- $32 per case.

A shift to safe abortion would result in a projected annual savings ranging from 53 percent – 56 percent (U.S.$121,267 – $128,859) compared to current PAC treatment.

TABLE 4. ESTIMATED ANNUAL SAVINGS AFTER SHIFTING TO SAFE ABORTION CARE (IN U.S.$)

| | Current PAC with D&C | Safe abortion with only MVA used** | Safe abortion with MVA and MA used equally *** |
|---|---|---|---|
| **Annual total cost for treating complications from unsafe abortion*** | $230,281 | - | - |
| **Annual total cost of a shift to safe, first-trimester abortion** | - | $109,014 | $101,422 |
| **Annual cost savings** | | **$121,267** | **$128,859** |
| **Percentage cost decrease** | **-** | **53%** | **56%** |

*** Based on adjusted annual caseload.**

****Cost of providing safe abortion with MVA is U.S.$32.31 per case.**

***** Cost of providing safe abortion with MA is U.S.$27.81 per case.**

## THE FREE HEALTH-CARE POLICY DOES NOT ADDRESS UNWANTED PREGNANCY

Nearly every informant in the Strategic Assessment mentioned the free health care policy as the highlight of Sierra Leone's effort to meet MDG 5. Free health care seems to be universally known and appreciated.

However, it is important to note that the programme is focused on births, and there is no clear link between the free health care policy and prevention and management of unwanted pregnancy. A few participants within the political, human rights and healthcare fields said that providing safe abortion on demand for cases of unwanted pregnancy needed to be part of the free health care policy, as a right to health and right to life.

Informants across all categories of stakeholders questioned the sustainability of free health care. One major concern cited was that stocks disappear before they reach their destinations, because people steal the drugs and sell them privately, thereby creating drug shortages in health facilities. There are also problems with inadequately trained and insufficient number of healthcare providers to meet the demand for free services.

## MOST SIERRA LEONEANS FAVOR A REVIEW OF THE RESTRICTIVE ABORTION LAW

Acknowledging that abortion is a very sensitive issue, almost all health-care providers and many others surveyed favoured a review of the law and would like to see the government liberalise abortion as a part of its commitment to reducing unsafe abortions and maternal mortality. There was especially strong support for providing safe and legal abortion care to survivors of sexual violence and for young girls, given the increased risks of pregnancy and delivery at young ages as well as the social implications of early motherhood. However, many rural male residents disfavoured abortion on religious or cultural grounds.

Most informants understood that doctors and hospitals are generally the sources of safe abortion, but they were also aware the current law in Sierra Leone denies women access to such services. Very few participants who were interviewed, including healthcare providers, were aware of any condition under which a trained provider could provide a safe abortion under the current law. This was exacerbated by the absence of standards and guidelines for lawful abortion or PAC. Many informants perceive all abortions as both unsafe and illegal, but they would support safe abortions conducted by medical doctors.

Many authorities and health-care providers interviewed insisted on the need to respect and implement the international and regional treaties to which Sierra Leone is a party.

The Strategic Assessment complemented the year-long work of the Law Reform Commission to examine the need to revise the existing restrictive abortion provisions in the Offenses Against the Person Act of 1861 with real-life experiences and commentary from the citizens and leaders of Sierra Leone.

Some community members initially held the opinion that punishment should be meted out to women and girls who seek abortion care, but as they became more aware of the complexity and magnitude of the problem, most of them (especially the female community members) became supportive of liberalisation of the law on abortion, in general or for specific indications – especially to enable a girl to continue her education and in cases of rape and incest.

# RECOMMENDATIONS

Preventable deaths due to unsafe abortion violate women's right to life. It is unlikely that the MDG 5 can be attained in Sierra Leone without addressing the issue of unsafe abortion, because of its significant contribution to maternal mortality.

Issues of sex, pregnancy and abortion in Sierra Leone are treated as secrets, resulting in a conflict between cultural norms, religious ideology, and practical realities. The restrictive abortion law has not stopped women and girls from seeking pregnancy termination; instead it has driven them to seek unsafe abortions that threaten their lives and health. The rate of unsafe abortions and resulting morbidity and mortality remains high.

Furthermore, treating women who have undergone unsafe abortion costs the public health system hundreds of thousands of dollars a year. While a shift from PAC to safe abortion would reduce costs to the health system, such a change would not necessarily result in direct savings, but rather would allow for existing resources to be channeled to other high-need obstetric or gynecologic services.

For the government to improve maternal health outcomes in Sierra Leone, the following set of actions are recommended:

1. **Repeal the restrictive abortion law.**
    - The Ministry of Justice should take forward recommendations from the Abortion Subcommittee of the Law Reform Commission, including drafting a bill to repeal the restrictive abortion provisions in the Offenses Against the Person Act of 1861, sections 58 and 59. The Ministry of Health and Sanitation should champion this bill in Cabinet and move it forward for parliamentary action.

2. **Adopt updated service delivery guidance and implement of safe, legal, accessible abortion**.
    - The failure of Sierra Leone to put in place clear policy and legal frameworks that address unsafe abortion—at a minimum provision of legal abortion according to Article 14(2)(c) of the Maputo Protocol—is a violation of women's right to health. Adopting such guidelines is an essential step to eliminating these preventable deaths and injuries.

3. **Implement safe abortion care**
    - Ensure MVA and MA commodities approval and availability. Facilities providing postabortion care or safe abortion should be provided with updated equipment and supplies, including manual vacuum aspiration (MVA) devices and misoprostol.
    - Train providers of offer safe abortion, especially mid-level providers. Training opportunities for more nurses, midwives and doctors should be made available and these health workers should be posted to health facilities to provide family planning and safe abortion-related care.
    - Ensure contraceptive commodities availability.

- Ensure safe abortion record keeping.
- Ensure that safe abortion is available in hospitals and primary health centers.

4. **Improve the quality of postabortion care**
    - Add coverage of PAC services, including postabortion contraception, to the free health-care programme.
    - Ensure MVA and MA commodities available (including MA for all obstetric indications).
    - Ensure contraceptive commodities availability.
    - Improve PAC record keeping.
    - Shift to outpatient PAC for appropriate patients.
    - Ensure that PAC is available in hospitals and primary health centers.

5. **Improve reproductive health education and communication efforts, as well as service delivery, through the Ministry of Health and Sanitation, Directorate for Reproductive and Child Health, civil society and other stakeholders.**
    - Implement sensitisation on family planning education in schools and create sexual and reproductive health education for adolescents, specifically making content youth-centered and developing modules on preventing unwanted pregnancy and unsafe abortion. This effort should strengthen and implement sex education for community members as well.
    - Ensure appropriate training in reproductive health, safe abortion and postabortion care, and contraceptives for health-care providers.
    - Ensure that family planning services are established in neutral, decentralised locations within health-care facilities.

The health system of Sierra Leone has made major strides in improving maternal health although it is still struggling to meet the growing needs of its population. Treatment of abortion complications is a costly clinical service that drains staff time and requires scarce medications and supplies. These health system costs could be significantly reduced through provision of safe, legal abortion. Most importantly, a shift to safe, legal abortion would preserve women's health and save women's lives.

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