Counting abortions so that abortion counts: Indicators for monitoring the availability and use of abortion care services

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Summary: Maternal mortality reduction has been a focus of major international initiatives for the past two decades. Widespread provision of emergency obstetric care (EmOC) has been shown to be an important strategy for addressing many of the complications that might otherwise lead to maternal death. However, unsafe abortion is one of the major causes of pregnancy-related deaths, and will be only partially addressed by EmOC. This manuscript presents a comprehensive approach to measuring whether abortion-related needs are met. Proposed methods: We propose a set of indicators for monitoring the implementation of safe abortion care (SAC) interventions. We build on the model developed for monitoring the availability and use of Emergency Obstetric (EmOC) services. We describe the critical elements (“signal functions”) of SAC — including treatment of abortion complications, legal, induced abortion and postabortion contraception — and define the indicators necessary to assess the availability, utilization and quality of abortion-related services. Sample evidence: Data from 5 countries suggest there are sufficient service delivery points to provide decentralized abortion care, but that the full range of necessary abortion care services may not be provided at all these sites. Studies from several countries also show that many women receiving services for the treatment of abortion complications accept contraceptive methods when offered prior to discharge. This is an important strategy for reducing

KEYWORDS
Unsafe abortion; Monitoring indicators; Maternal mortality; UN Guidelines
1. Introduction

Nowhere has the lack of commitment to saving women’s lives been more apparent than in the inadequate provision of abortion-related services. Globally, an estimated 13% of all maternal deaths result from the complications of unsafely induced abortion [1], making such procedures one of the leading causes of maternal mortality in developing countries. Such deaths are almost entirely preventable through the use of proven approaches. Moreover, in countries with ready access to safe, legal abortion, deaths related to abortion are virtually non-existent, and serious complications are rare [2].

One of the landmark accomplishments of the 1994 International Conference on Population and Development was the commitment of the international community to address the problem of unsafe abortion, in part through the provision of safe, legal induced abortion [3]. To help countries implement the ICPD commitment, the World Health Organization (WHO) issued guidelines in 2003 to strengthen the capacity of health systems to provide safe abortion care [4]. It is important to assess whether health systems are providing these services so that women can avoid abortion-related death.

Almost all countries have laws that permit abortion at least to save the life of the woman, and most countries allow it under less severe circumstances as well. (Table 1). However, even such legal services may be unavailable in many countries [6]. Many health systems and safe motherhood efforts provide post-abortion care (treatment of complications resulting from unsafe abortions and miscarriage). While important, the treatment of complications is a partial approach to reducing abortion-related mortality, and by extension overall maternal mortality. The interventions most likely to reduce maternal deaths must achieve one of the following [7]:

- Reduce the number of pregnancies and births
- Prevent the development of complications among pregnant women
- Prevent death among women who develop complications

Treatment of abortion complications will only effect change in the third pathway. Providing safe, legal abortion and postabortion contraception will influence changes in all three pathways in potentially significant ways.

In this article, we describe a package of Safe Abortion Care (SAC) services – contraception and safe abortion to prevent and manage unwanted pregnancies, and prompt and proper treatment of complications – and propose a model for monitoring the implementation of these interventions. The

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Indications for when abortion is permitted legally, by number of countries, percentage of the world’s population, and examples of countries</th>
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</thead>
<tbody>
<tr>
<td>Legal indication</td>
<td>Number of countries</td>
</tr>
<tr>
<td>Prohibited altogether or permitted only to save the woman’s life</td>
<td>72</td>
</tr>
<tr>
<td>To preserve the woman’s physical health</td>
<td>35</td>
</tr>
<tr>
<td>To preserve the woman’s mental health</td>
<td>20</td>
</tr>
<tr>
<td>Socioeconomic grounds</td>
<td>14</td>
</tr>
<tr>
<td>Without restriction as to reason</td>
<td>54</td>
</tr>
</tbody>
</table>

Abortion data from the Center for Reproductive Rights, 2005.
Table adapted from Benson [5].
Note: Some countries have additional indications for legal abortion. For example, abortion may be permitted in cases of rape, incest, or fetal impairment.

Countries in these categories recognize the grounds specified in preceding categories as well as the listed indication.
assessments and monitoring tool builds on a method developed for other safe motherhood strategies, as described in the UNICEF/WHO/UNFPA Guidelines for Monitoring the Availability and Use of Obstetric Services (known as the UN Guidelines) [8]. The UN Guidelines provide indicators for measuring the quantity, distribution, quality and use of emergency obstetric care (EmOC), under the assumption that if such services are accessible and well-utilized by women with obstetric complications, maternal mortality should decline [8, 9]. Similarly, we assume that if the full package of SAC services is available and used, abortion-related maternal mortality should decline.

2. Safe abortion services

Safe Abortion Care (SAC) is comprised of three elements that will contribute to reductions in maternal mortality:

• Safe induced abortion for all legal indications. In countries with ready access to safe, legal abortion, complications and deaths from unsafe abortion are reduced drastically. Romania offers a well-known example of this transformation: when the country’s abortion law was liberalized in 1989 to allow women to secure safe abortion procedures, maternal mortality fell by 65% in the next three years, a decline primarily attributable to the decrease in abortion-related deaths [10]. Similar findings have been reported for South Africa [11].

• Treatment of abortion complications. Offering safe, accessible treatment of abortion-related complications means that fewer women will suffer or die as a result of those complications.

• Provision of postabortion contraception. Improved access to postabortion contraception is one avenue to reduce the risk of repeat unintended pregnancies and unsafe abortion.

3. Assessing and monitoring the provision of safe abortion care

The proposed abortion indicators are designed to answer a series of questions about abortion care services:

**Availability**

• Are enough facilities providing Safe Abortion Care?
• Are these services well distributed?
Utilization
• How much care for obstetric complications is directed toward women with abortion complications?
• How common are serious abortion complications within medical facilities?
• To what extent are induced abortions being provided by the health system and utilized by women?

Quality
• Are appropriate abortion technologies being used?
• Are women who have received abortion care provided contraception before discharge from a facility?

To monitor the existence of sufficient SAC services, a list of the most critical features of SAC (hereafter termed the Signal Functions) is needed, as is an explanation regarding the number of facilities required to provide these services for given populations (i.e. coverage).

3.1. The signal functions for safe abortion care

The UN Guidelines list the elements or signal functions for EmOC. These are services that should be available 24/7 in a facility to manage serious pregnancy-related complications [8]. The 8 EmOC signal functions do not represent all of the activities involved in providing EmOC services, but are critical markers of EmOC service and are used for monitoring purposes. Because not all obstetric complications require surgery or blood transfusion, effective EmOC can and should be offered at lower levels of the health system with appropriate referral systems for more specialized care. Thus, a facility performing 6 of the EmOC signal functions is considered a basic EmOC facility, whereas a facility performing all 8 functions is a comprehensive EmOC site. All functions must have been provided at least once in the past 3 months. We have adapted this tiered approach for Safe Abortion Care.

Offering safe, early abortion services in outlying areas is also an important and appropriate strategy for preventing and managing unintended pregnancy, and reducing suffering and death from abortion complications [4]. Table 2 identifies the functions that must be performed for facilities to be recognized as providing “basic SAC” as well as the additional functions required for “comprehensive SAC.” If the first 7 of these functions were performed at least once in the past 3 months, a facility can be designated a basic SAC facility. If all 11 functions were performed in the past 3 months, that facility is considered to be offering comprehensive SAC.

3.2. What is enough coverage?

Borrowing again from the UN Guidelines, we recommend that health systems have 5 facilities offering SAC per 500,000 population, at least one of which offers comprehensive SAC. (See Section 6.1 for an explanation of how the 5 facilities/500,000 population ratio matches abortion-related needs.)

4. Indicators for safe abortion care

Since access to safe, legal abortion services is linked to low levels of maternal mortality, the purpose of this set of indicators is to show whether health systems are providing and women are using these critical abortion services. Of the 7 indicators (see Table 3), the first 2 are population-based and measure the availability of SAC services at a regional or sub-national level. The last 5 are intended to monitor the performance of SAC services at the facility level within those same regions or sub-national areas. Careful aggregation of comparable information collected at the facility level will allow national or sub-national analysis of SAC performance.

In sum, the full set of indicators will show both where (geographically) there are gaps in SAC service delivery as well as which elements of SAC care (e.g. postabortion contraception, provision of legal induced abortion) need strengthening. Such information is useful for advocacy, program planning and monitoring purposes.

The proposed indicators require good facility-level data on all women receiving abortion services. Most of the information can be obtained from log books and registers already in use at facilities. If not readily available, this gap underscores the need for facilities to count abortion services better in their records.

4.1. Indicator 1. Are enough facilities providing safe abortion care?

Indicator 1 measures the degree to which SAC services are available within a given area. Because many health systems base their planning on population size, we use population as the denominator. The recommended amount of coverage is a minimum of 5 facilities offering SAC per 500,000 population, at least one of which offers comprehensive SAC. A critical aspect of this model is identifying and counting facilities according to the services they actually perform (signal functions), rather than assuming they provide certain services because of their level within the health system.

Most facilities probably will not achieve the signal function “safe induced abortion for all
Similarly, postabortion contraception frequently is not provided for women receiving abortion services, and postabortion care may not be offered, especially at the primary care level.

Strictly speaking, if a facility has not performed one or more of the signal functions in the past three months, it would not be counted as a SAC facility. Given the probable scarcity of SAC facilities, and because it will be instructive to know what aspects of abortion care

<table>
<thead>
<tr>
<th>Proposed abortion indicators</th>
<th>Definition</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td>Are enough facilities providing safe abortion care?</td>
<td>Number of facilities providing basic and comprehensive SAC</td>
<td>For every 500,000 population: 5 SAC facilities, at least 1 of which offers comprehensive SAC</td>
</tr>
<tr>
<td>Are safe abortion care services well distributed?</td>
<td>Number of facilities providing basic and comprehensive SAC in sub-national areas</td>
<td>Minimum: 100% of sub-national areas have adequate level of SAC per recommended levels in Indicator 1.</td>
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<tr>
<td>What proportion of services for women with obstetric complications is directed toward abortion complications?</td>
<td>Numerator: number of women with abortion complications treated at facility in a given period. Denominator: number of women with obstetric complications treated at facility in the same time period.</td>
<td>Over time, a declining percentage of women with abortion complications</td>
</tr>
<tr>
<td>How common are serious abortion complications?</td>
<td>Numerator: number of women with serious abortion complications treated at facility in a given period. Denominator: number of women with all abortion complications treated at facility in the same time period.</td>
<td>Over time, a declining percentage of women with serious abortion complications</td>
</tr>
<tr>
<td>To what extent are induced abortions being provided?</td>
<td>Numerator: number of women receiving induced abortion procedures at facility in a given period. Denominator: number of all women receiving abortion services in facility in the same time period.</td>
<td>Over time, a shift toward a higher proportion of women receiving induced abortion as a part of all abortion services in facility. Recommended level: approaching 100%</td>
</tr>
<tr>
<td>Are appropriate technologies being used?</td>
<td>Numerator: number of uterine evacuation procedures performed with appropriate technology at facility in a given period. Denominator: number of all uterine evacuation procedures performed at facility in the same time period.</td>
<td>Over time, a shift toward a higher proportion of procedures performed with appropriate technology as per WHO recommendations [4]. Recommended level: 100%</td>
</tr>
<tr>
<td>Are women who have received abortion care provided contraception before being discharged from a facility?</td>
<td>Numerator: number of women receiving abortion services who obtain a modern contraceptive method before leaving facility in a given period. Denominator: number of women receiving abortion services in facility in the same time period.</td>
<td>At least 60% of all women receiving abortion services</td>
</tr>
</tbody>
</table>

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*a “Abortion services” include treatment of abortion complications (resulting from both spontaneous or induced abortion) as well as provision of induced abortion procedures.

*b “Uterine evacuation” with appropriate technology includes both medication abortion and aspiration methods as outlined by WHO for the different stages of pregnancy, according to the best available scientific evidence [4]. Uterine evacuation is performed for treatment of an abortion complication requiring removal of any remaining products of conception, and induced abortion.
are being provided at different facilities, we suggest that the missing SAC signal functions be analyzed to determine policy and program shortcomings.

4.2. Indicator 2. Are safe abortion care services well distributed?

Indicator 2 produces a rough determinant of whether facilities are adequately distributed relative to where women live throughout the country or area in question. It is similar to Indicator 1 for a smaller area. While a larger area may have met the minimum acceptable level of facilities according to Indicator 1, Indicator 2 will show whether facilities are primarily clustered near urban centers, a not uncommon occurrence, but one which leaves women in remote areas without care.

Length of time required to reach services is an important consideration for reducing abortion-related mortality. Most severely, hemorrhage following a poorly performed abortion or late miscarriage can lead to death within a few hours [8]. In addition, delays in accessing safe induced abortion services can result in procedures at later stages of pregnancy where complication rates are higher. Consequently, interpretation of both Indicators 1 and 2, especially for smaller or widely dispersed and remote populations, may need to be supplemented with information obtained from special studies about timely access (perhaps defined as actual travel time to a functioning SAC facility) to determine whether facilities are available to most women.

4.3. Indicator 3. What proportion of services for women with obstetric complications is directed toward abortion complications?

Indicator 3 permits evaluators and providers to assess the demand placed upon health care systems by abortion complications. This indicator measures the proportion of all women with obstetric complications who are being treated for abortion complications. In some facilities, abortion complications resulting from either spontaneous or, more often, unsafely induced abortion make up 50% of all ob-gyn admissions [6].

The size of the caseload in a single facility does not accurately reflect the extent of the problem of unsafe abortion in the area. A large proportion of women receiving abortion services in one facility could mean that women travel and seek care at that facility because the quality of care is known to be good and appropriate services for abortion complications are not available closer to their homes. Similarly, a low number could be attributed to a lack of adequate care at the facility under review. Changes in the abortion caseload over time also may implicate other factors such as changes in contraceptive services or cultural practices and social factors that affect the demand for this care. Therefore this indicator can be aggregated across all facilities to determine the area-wide proportion of obstetric services directed to abortion complications.

Indicator 3 is affected both by variations in the caseload of abortion complications (the numerator) and changes in the caseload of women treated for all obstetric complications (the denominator). For Indicator 3, as well as Indicators 4 and 5, it is important to examine changes in both the numerator and denominator when interpreting the results.

4.4. Indicator 4. How common are serious abortion complications?

Indicator 4 determines the proportion of women treated for serious abortion complications among all women treated for abortion complications. The denominator should include the number of cases of complications receiving treatment from both unsafely induced and spontaneous abortion. The numerator for Indicator 4 (number of serious abortion complications treated) often will be available through careful review of record books at the health facility level, although such complications are frequently underreported [5]. Recording of complications should be complete and consistent with the definition of serious abortion complications.

Changes over time in this figure could be informative, although interpretation of such changes may not be simple. As with Indicator 3, a drop in caseload may indicate that women prefer the care offered elsewhere or are experiencing significant obstacles to obtaining care such as a lack of funds for facility fees, family support or timely transport, which should trigger a health system response. Alternatively, a decline in serious complications among women receiving abortion services could indicate that induced abortions are being provided more safely in the community through the use of safer medication abortion methods obtained outside the formal health system, for example [5]. However, women receiving clandestine medication abortion may be unable to obtained back-up care if the methods fail. Medical oversight is an important element of care in such circumstances, as described in the article by Briozzo et al. [55].

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1 Serious abortion complications are defined as those that are or can quickly become life-threatening if not treated immediately and include: shock, severe vaginal bleeding, intra-abdominal injury and sepsis [13].
4.5. Indicator 5. To what extent are induced abortions being provided?

Indicator 5 calculates the number of abortions induced in a facility relative to women receiving all types of abortion services in the same facility. As mentioned previously, most countries have laws that would allow induced abortion for some indication(s), and this indicator seeks to track whether facilities are offering and women are obtaining these induced procedures.

The denominator (total number of women receiving abortion services) is comprised of women receiving treatment for abortion complications and those receiving induced procedures in a given facility. The proportion of women receiving abortion services that are induced procedures should increase over time as facilities increasingly offer induced abortion services and complications from unsafe abortion decline. Indicator 5, however, will always be somewhat less than 100%, given that some cases of miscarriage will require treatment and, although rare, complications of safely induced abortion will occur and need to be treated at the facility [4].

To gather accurate data for Indicator 5, evaluators will need to be sensitive to provider interpretations and practices related to abortion policy. In some settings where efforts to address the public health impact of unsafe abortion are in place, practitioners and relevant governing agencies are interpreting the legal indications for abortion (e.g. to preserve the women's health) more broadly, enabling women to access induced abortion services as a preventive and life-saving health measure. Such procedures should be included in Indicator 5. Indicator 5 provides some measure of the degree to which health systems are implementing their ICPD obligation to provide safe, legal abortions.

4.6. Indicator 6. Are appropriate abortion technologies being used?

When performed by qualified providers, using proper techniques in an appropriate setting, early induced abortion is also one of the safest of medical procedures. And often the treatment of abortion complications requires the same techniques (such as removal of uterine contents). Indicator 6 seeks to determine whether appropriate techniques are being used for uterine evacuation for both induced procedures and treatment of abortion complications. Monitoring this indicator over time should show a shift toward all procedures being performed using the preferred methods.

While many aspects of care must be monitored to present a complete picture of abortion-related services, the use of safe and effective methods is an important marker of service quality. There is clear evidence and guidance about preferred uterine evacuation technologies for different durations of pregnancy and various complications [4,13]. In the developed world, these methods have almost entirely replaced the less safe, more resource intensive and invasive dilation and curettage (D & C) procedure. For first trimester procedures, many developing countries have also replaced the outdated D & C with safer vacuum aspiration, specifically manual vacuum aspiration (MVA) which can be used at decentralized levels in outpatient settings. The use of medication abortion has become more common around the world in the last decade, and is also well-suited for decentralizing women’s access to safe, early services. Moreover, the shift in technology (particularly to MVA) has often been accomplished as part of a service improvement package that includes training and authorizing additional cadres of providers to perform uterine evacuation procedures, better counseling for abortion patients and links to contraceptive and other reproductive health services.

4.7. Indicator 7. Are women who have received abortion care provided contraception before being discharged from a facility?

When women receive abortion care in a health facility—whether for treatment of abortion complications or obtaining an induced abortion—providers have an opportunity to help women prevent additional unwanted pregnancies and repeat unsafe abortion. At a minimum, women obtaining abortion care at a facility should be counseled about the immediate return to fertility and available contraceptive options [14]. Ideally, women who desire to contracept should receive the method of their choice at the time they receive abortion care. To ensure that acceptance of contraceptive methods is truly voluntary, the denominator should be those women who wish to prevent an immediate pregnancy. However, measurement of this intention often is lacking at the facility level.

Analyses have shown that abortions are generally the result either of unmet need for contraception (women who were not using contraception but had an unintended pregnancy) or contraceptive failure, particularly of traditional methods [15]. Provision of effective modern contraception could help both of these groups of women achieve their reproductive intentions.

In the application of Indicator 7, the standard recommended here is that at least 60% of the women receiving abortion care also adopt contraceptive methods. This is consistent with evidence on reproductive intentions among women obtaining abortion
services, as well as tested models of successful postabortion contraceptive uptake [16–18], and is discussed further in Section 6.2. Some health systems that already have relatively high contraceptive prevalence in the general population and good family planning service infrastructure may determine that it is appropriate to set higher goals for contraceptive acceptance.

5. The contextual assessment

Because the practice of abortion is strongly influenced by social and political factors, it is important for health planners to document and understand those contextual issues, not only to design appropriate interventions but also to interpret the information gathered through facility-level monitoring processes. Consequently, we recommend monitoring to capture not only the facility-level data in the Indicators, but the social and political context within which abortion occurs as well.

This qualitative assessment of the abortion environment should include factors such as: abortion laws, health system policies, political support or opposition to improved abortion care, barriers to safe abortion care (e.g. cost), accessibility of contraceptive services, and the demonstrated effectiveness of contraceptive services.

| Table 4: Estimating infrastructure capacity for abortion care services in selected countries |
|-----------------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Country                                      | India          | Nicaragua      | Ethiopia       | Kenya          | South Africa   |
| 1 Total population                           | 1,103,596,000  | 5,774,000      | 77,431,000     | 33,830,000     | 46,923,000     |
| 2 Estimated annual                           | 6,700,000      | 31,911         | 496,128        | 260,631        | 222,586        |
| abortion incidence                           |                |                |                |                |                |
| 3 Estimated annual incidence of abortion    | 1,407,000      | 6694           | 4449           | 20,893         | 49,653         |
| complications receiving hospital treatment   |                |                |                |                |                |
| (includes treatment of complications         |                |                |                |                |                |
| following induced and spontaneous abortions) |                |                |                |                |                |
| 4 Service delivery points [SDPs] providing  | 41,411         | 147            | 4153           | 500            | 350           |
| any abortion-related care (public and private |                |                |                |                |                |
| unless noted)                                 |                |                |                |                |                |
| 5 Estimated SDPs needed to meet EmOC and SAC  | 11,035         | 58             | 774            | 338            | 469           |
| recommendations (5 facilities per 500,000    |                |                |                |                |                |
| population, at least one of which is         |                |                |                |                |                |
| comprehensive)                               |                |                |                |                |                |
| 6 Estimated annual abortion or abortion     | 735            | 665            | 647            | 833            | 580           |
| complication incidence per facility based    |                |                |                |                |                |
| on recommended number of SDPs (row 2 + row 3) |                |                |                |                |                |
| (row 5)                                      |                |                |                |                |                |
| 7 Estimated abortion or abortion             | 2.8            | 2.6            | 2.5            | 3.2            | 2.2           |
| complication incidence per facility per      |                |                |                |                |                |
| work day (row 6 / 260 work days per year)    |                |                |                |                |                |

* Data as of July 2006.

| Table 5: National modern contraceptive prevalence and contraceptive uptake among abortion/postabortion clients, selected countries |
|-----------------------------------------------|----------------|----------------|----------------|----------------|
| Country                                      | All women, 15–49 years, currently using a modern method of contraception | Abortion/postabortion clients enrolled in a study who received a contraceptive method at time of care |
| %                                            | Year | % | N | Year |
| Zimbabwe                                     | 36  | 1999 [37] | 37 | 1355 | 2002 |
| Mexico                                       | 62  | 2001 [38] | 64a | 247 | 2003 |
| Honduras                                     | 41  | 2001 [40] | 87 | 119 | 2002 |
| Russia                                       | 50c | 1999 [41] | 54 | 71  | 2001 |

* Postabortion care with manual vacuum aspiration.

* Postabortion care with sharp curettage.

* Reflects married women only.
services, and prevailing attitudes toward abortion. The importance of monitoring legal change over time has been established in recent analyses. Where the legal grounds for abortion are broad and safe services are accessible, unsafe abortion and related mortality are extremely low or non-existent. Conversely, where abortion is highly restricted both in law and in practice, unsafe abortion and related mortality are high [2].

Because laws, policies and attitudes are slow to change, the contextual assessment may be undertaken less frequently than monitoring with the facility-level indicators.

6. Country examples

6.1. Estimating coverage in 5 countries

We reviewed available demographic, health system and abortion data for 5 countries (India, Nicaragua, Ethiopia, Kenya and South Africa) to determine if the 5 recommended sites per 500,000 population appear to be adequate for coverage of existing abortion caseload. These countries represent geographic and population size diversity, and have abortion laws with varying degrees of restrictiveness.

Table 4 provides available annual estimates of abortions and abortion complications for these 5 countries, along with recent estimates of the number of service delivery points (SDPs) that should provide any type of abortion care (row 4). The number of SAC facilities recommended for each country based on the 5 facilities per 500,000 population assumption also is included (row 5). Interestingly, the estimated number of SDPs which “should” be able to provide any type of abortion-related care in 4 of the 5 example countries already exceeds our recommended level of SDPs for these services. This means that the provision of SAC is unlikely to require new health facilities. Rather, the actual provision of SAC will involve shifts in policies and guidelines, skills training for providers and infrastructure upgrades.

Using the recommended number of SDPs per population, the resulting range is 580–833 abortion cases per year at each health care facility (row 6), or an estimated 2.2 to 3.2 cases per work day based on a 5-day work week. Given differentials in population and facility density – assuming higher population and more facilities in urban areas – the range certainly would be greater, but likely manageable for a given facility. Countries with minimal health care infrastructure might experience higher caseloads at some facilities. However, care for abortion complications often is provided on a 24/7 basis, which lowers the daily case estimate further.

On the other hand, if abortion services are provided only in one comprehensive facility, the estimated caseload per work day would increase to a range of 11–16, which is significantly more burdensome.

Overall, the ratio of 5 SAC service delivery points (SDPs) per 500,000 population ratio appears to be a reasonable goal for health systems.

6.2. Postabortion contraceptive uptake

As shown in Table 5, studies in Africa, Latin America and Russia have demonstrated an uptake of postabortion contraceptive of over 50% and as high as 87% among women who have received abortion care (whether for complications of spontaneous or induced abortions) and who are offered contraception prior to discharge from the health care facility, even when contraceptive use is relatively low across all women of reproductive age [16–18,32–35]. In Zimbabwe, a study showed that offering contraception to women at the time of postabortion care prevented more unplanned pregnancies and repeat abortion in a one-year period compared with women who did not receive contraceptive services at the same time or location of their treatment for abortion complications [18].

7. Discussion

A wide range of efforts have been undertaken since the Safe Motherhood Initiative was launched in 1987, all intending to reduce pregnancy-related injuries and/or death. However, the overall impact of this work is uncertain, due in part to the difficulties of accurately measuring changes in the maternal mortality ratio [42]. Yet the need to emphasize evidence-based interventions as well as to measure progress continues [43–45]. Several approaches have been proposed in lieu of the impact measure of the maternal mortality ratio [46,47].

The UN Guidelines are being widely used to monitor the provision of EmOC – an indicator of process not impact [48]. To date, the only element of abortion care included in this and other frameworks is the treatment of complications of unsafely-performed abortions or miscarriage, reflecting an emphasis on obstetric emergencies. The UN Guidelines include “removal of retained products” as a signal function of EmOC, and capture the ability of a facility to treat a life-threatening abortion complication.

While important, the inclusion (or exclusion) of abortion complications in the UN Guidelines model creates two significant problems. First, it skews interpretation of the EmOC indicators themselves. A fundamental goal of EmOC service provision is to reach the estimated 15% of pregnant women who
will require life-saving EmOC services [8]. This figure (calculated as 15% of live births) is used as the basis for the EmOC indicators, although it has come under scrutiny [49]. Including abortion-related complications may overestimate met need for EmOC: if many women with abortion complications obtain services at a specific health facility and are counted among obstetric emergencies, the site could quickly surpass the 15% marker, masking the degree of unmet need for EmOC.

On the other hand, it is possible to undercount abortion care needs using the 15% marker. The 15% figure largely reflects life-threatening complications occurring late in pregnancy, at or after delivery, and therefore does not reflect abortion complications which usually occur earlier in pregnancy. To assume, therefore, that abortion care needs are met if an EmOC service site is treating the equivalent of 15% of live births in its catchment area underestimates the need for abortion-related treatment.

Secondly, treating abortion complications alone is necessary but insufficient for achieving significant reductions in abortion-related mortality. While the 15% figure is assumed to be relevant for monitoring EmOC utilization in many settings, levels of abortion complications in a population vary widely. The practice of abortion is influenced by many factors including: legal status of abortion, availability and quality of safe abortion services, use of modern contraception, and stigma associated with abortion which may prevent women from seeking services.

Finally, there is a significant conceptual difference between the EmOC model and the SAC model proposed here. It should be recalled that the EmOC model was primarily designed to assess obstetric services and thus focuses on women once they are pregnant, but does not affect the overall number of women exposed to pregnancy. However, many women want to delay or avoid pregnancy. The SAC model seeks to measure whether the health system meets these women’s needs through contraception and safe abortion, and therefore addresses services for prevention as well as treatment of complications.

We have chosen a facility-based monitoring approach because of technical and practical limitations related to national level abortion data. The challenges of measuring maternal mortality reductions at the population level have been discussed at length elsewhere [50]. Similar constraints apply to measuring abortion-related trends for a population. Moreover, because of the stigma attached to abortion, underreporting and/or misreporting of the number of abortions and complications and deaths resulting from them are common.

Facility-level data also have a practical advantage: they are useful for planning and monitoring service provision. To compensate for the lack of population-based abortion data, users of the indicators should strive to apply them to all facilities eligible to provide abortion services in a given geographic area. Were population-based abortion data to be available, then they could be incorporated into the monitoring package to better capture whether women who need safe abortion services are using them.

The increasing use of medication abortion for early abortion is not represented well in the indicators. While medication abortion services offered by health care facilities can be counted, in many countries, women can use medications obtained from outside of the formal health system or over-the-counter from pharmacies. The latter will not be captured in the proposed indicators unless women seek care for a resulting complication. In some regions such as Latin America, the use of misoprostol is common and the severity of cases of abortion complications has declined over the last decade [51,52].

Despite these limitations, both public and private health systems should regularly apply the proposed set of indicators to their own services, together with the contextual assessment.

8. Conclusion

Twenty years ago in the article “Where is the M in MCH,?” Rosenfield and Maine [53] highlighted the neglect of women’s health issues despite continuing high levels of maternal mortality. Much has been done under the safe motherhood banner in intervening years. And yet, many of the programs undertaken in the name of maternal health have not included the full range of interventions that will reduce abortion-related deaths. Moreover, policies and funding by some key donors, most notably the United States, continue to politicize, marginalize and exclude safe abortion [54]. As a result, these largely-neglected deaths continue to account for a significant portion of pregnancy-related mortality.

This need not be so. Such deaths are avoidable through proven interventions. Without monitoring these interventions, however, we have no mechanism to determine if the efforts are working. The proposed indicators will provide health systems with much needed information about abortion needs and practices in their setting while also offering information about ways to better reduce unnecessary abortion-related deaths.

The SAC Indicators are a necessary element in efforts to measure progress toward maternal mortality reduction. On a practical level, they are similar to the EmOC Indicators and could be implemented in tandem. They need to be field-tested and evaluated
in the near future and we invite collaboration and partnership as we move to apply these Indicators. Those who are serious about improving women's health and reducing maternal mortality should count and be held accountable for all of women's reproductive health needs including safe abortion care.

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References

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