Evaluating Abortion-care Programs: 
Old Challenges, New Directions

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The evaluation of abortion-care programs and policies has been largely neglected by both national governments and international organizations. This article provides a conceptual framework for evaluating the intermediate outcomes of a safe abortion program, including laws and policies, women’s care-seeking behavior, and the quality of, access to, and use of services. The methodological challenges in evaluating these outcomes are described. For each outcome, key indicators for measuring progress in program implementation are offered, along with country examples of successful evaluation approaches. The article concludes with recommendations for improvements in infrastructure, resource availability, and political commitment to support evaluation of safe abortion programs. (STUDIES IN FAMILY PLANNING 2005; 36[3]: 189–202)

Each year, worldwide, an estimated 46 million women experience an induced abortion, 36 million in the developing world (AGI 1999; WHO 2004). Abortions are performed in spite of substantial progress in increasing contraceptive prevalence, because many who wish to postpone or cease childbearing still face barriers to obtaining contraceptive services (Zlidar et al. 2003). Moreover, no contraceptive method is 100 percent effective, even when used correctly.

About 19 million of the abortions performed annually are considered unsafe; that is, they are performed by untrained practitioners and provided in unhygienic settings (WHO 2004). Most of these procedures are conducted in the developing world (Ahman and Shah 2002). Although abortions performed under safe conditions have a very low rate of complications, unsafe abortion can lead to major complications such as hemorrhage and sepsis, chronic morbidity such as pelvic pain and infertility, and the death of the woman (WHO 2004). Unsafe abortion accounts for an estimated 13 percent of maternal deaths worldwide, although in some countries and regions the proportion is substantially higher (WHO 2004). Women who are poor, young, or otherwise marginalized are disproportionately affected (WHO 2003).

Almost all countries have one or more legal indications for abortion (see Table 1). In countries with restrictive laws, however, safe, elective abortion services for existing legal indications are largely unavailable as a result of controversies surrounding abortion. Additional reasons for the lack of legal services include a dearth of resources and trained health-care personnel, limited availability of appropriate technologies for uterine evacuation, service providers’ and health-care administrators’ disapproval of induced abortion, and complex requirements for authorizing facilities or providers (WHO 2003).

Most countries, even those with restrictive laws, provide postabortion care; that is, emergency treatment of complications of unsafely induced abortions and miscarriages. During the past decade, the quality and availability of postabortion-care services have improved in a number of countries, especially in public-sector health facilities, although the implementation of postabortion contraceptive services has lagged (Cobb et al. 2001). Following postabortion-care demonstration projects and operations research in Africa and Latin America, the scale-up of such care in order to increase the availability of services at all levels of the public health system has become a governmental priority in some countries (EngenderHealth and Ipas 2001).

In other countries, including Cambodia, Ethiopia, Ghana, India, Nepal, and South Africa, governments are accelerating efforts to improve access to safe, elective abortion services as allowed by law. Too often, however, such services and postabortion care have remained underfunded, with low visibility and poor service quality, and are difficult for women to obtain.

Despite the progress that has been made in abortion-related programs and policies, little attention has been paid to monitoring and evaluation, particularly for
elective abortion. As governments, donors, and nongovernmental organizations (NGOs) form partnerships to design and implement interventions to provide safe abortion care, the need for a stronger focus on evaluation of such interventions has become evident. Increasingly, donors want to ensure that scarce resources are spent on the most effective advocacy and service-delivery strategies. The ability to track progress toward changing policies may encourage donors to continue investing in awareness-raising and advocacy activities. As policies are translated into new abortion-care services, donors and policymakers must be confident that the new services represent an efficient use of funds, that they are evidence-based, and that progress in access and quality can be measured. The recent publication of guidelines for elective abortion by the World Health Organization, together with the establishment in many countries of national norms and standards, undoubtedly will lead to increased demand for evaluation of abortion-related programs (WHO 2003). Evaluation data are needed for advocacy purposes to underscore gaps in resources, to identify areas for health-system change, and to draw attention to necessary legal and policy reforms. Consistent and visible use of program-evaluation findings also can expand the number and types of people committed to improving abortion care, as well as help decrease stigma concerning abortion.

Monitoring and evaluation of abortion-related policies and services are challenging. Programs should monitor such indicators as service access and quality, abortion and postabortion-care caseloads, and changes in abortion-related morbidity and mortality. Such information is virtually nonexistent for most developing countries (Bertrand and Escudero 2002). Current evaluation challenges for abortion-care programs include weak health-service statistics, the difficulty of assessing service quality, and a limited ability to measure program impact on maternal morbidity and mortality. In general, as for any sensitive or stigmatized behavior, collecting data about abortion is difficult.

In spite of long-standing challenges, evaluation of abortion-related services and policies is feasible and essential component of interventions to support reform of abortion policies and upgrade abortion-related care. This article offers guidance concerning evaluation to developing-country health systems, NGOs, women’s health advocates, reproductive health donors, and healthcare professionals. The objectives are, first, to provide a conceptual framework for evaluation of the essential outcomes of abortion-related programs, and second, to make recommendations for improvements in infrastructure, resource availability, and political commitment to support evaluation of abortion programs.

A Conceptual Framework for Evaluating Safe Abortion Programs

Safe abortion services and policies aim to achieve three ultimate outcomes: (1) to reduce morbidity and mortality from unsafe abortion; (2) to ensure reproductive choice for women faced with unintended pregnancy; and (3) to reduce the incidence of repeat unintended pregnancies and unsafe abortion.

The basic premise underlying the conceptual framework offered here (see Figure 1) is that if women who desire to terminate a pregnancy have access to and obtain an abortion or postabortion care under safe conditions, they will be less likely to suffer from abortion complications or to die from such complications. Furthermore, postabortion contraception, when provided as an integral component of safe abortion care, can also reduce the incidence of repeat unintended pregnancies and reliance on unsafe abortions. Yet these premises presuppose that women are aware of their options, have positive attitudes about seeking safe services, and feel empowered to use such services. At the same time, clinical facilities must be ready and willing to provide such services; they must have appropriate equipment and supplies, as well as personnel trained in the clinical procedure and counseling, and policies that support such service delivery. All of these program components are more likely to succeed in countries with a favorable social, cultural, economic, political, and legal climate.

Safe abortion programs include both elective services to cover all legal indications for abortion and postabortion care for treatment of complications. Because almost

<table>
<thead>
<tr>
<th>Legal indication</th>
<th>Number of countries</th>
<th>Percentage of world’s population</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prohibited altogether or permitted only to save the woman’s life</td>
<td>72</td>
<td>26.0</td>
<td>Brazil, Kenya, Mexico, Nigeria, Philippines</td>
</tr>
<tr>
<td>To preserve the woman’s physical health</td>
<td>35</td>
<td>10.1</td>
<td>Pakistan, Peru, Thailand, Zimbabwe</td>
</tr>
<tr>
<td>To preserve the woman’s mental health</td>
<td>20</td>
<td>7.2</td>
<td>Algeria, Botswana, Ghana, Malaysia</td>
</tr>
<tr>
<td>Socioeconomic grounds</td>
<td>14</td>
<td>20.7</td>
<td>India, Zambia</td>
</tr>
<tr>
<td>Without restriction as to reason</td>
<td>54</td>
<td>40.5</td>
<td>Cambodia, China, Kazakhstan, Nepal, South Africa, Turkey</td>
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</table>

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.

Source: Center for Reproductive Rights (2005).
all countries have at least some indications for elective abortion, such services should be included and evaluated as part of national safe abortion programs. Such evaluation should focus on measurement of the different intermediate outcomes that must be achieved in order to attain longer-term results. Causal pathways can illustrate these relationships, demonstrating the impact of relevant laws and policies, women’s care-seeking behavior, and service-delivery access and quality on the use of safe abortion services. Each intermediate outcome can be converted to measurable indicators for the purpose of evaluation. Figure 1 illustrates how interventions promoting safe abortion contribute to the achievement of the desired ultimate outcomes.

**Challenges in Evaluating Ultimate Outcomes**

Conceptually, the causal linkage between safe abortion and reduced mortality is clear; unsafe abortion is one of the five leading causes of pregnancy-related deaths. One study suggests the potential for decreasing maternal mortality by means of improvements in abortion-related services. In the Matlab area of Bangladesh, the primary source of a decline in maternal mortality over a three-year period was found to be the decrease in deaths from abortion complications, likely due to the provision of early abortion services as part of the government’s reproductive health program (Maine et al. 1996).

Precise measurement of the contribution of unsafe abortion to maternal mortality is impeded by two major challenges, however. The first is the difficulty of measuring overall maternal morbidity and mortality with precision (Graham and Campbell 1992; Bertrand and Escudero 2002; Graham 2002). At the population level, maternal deaths are rare events and trends in rates are slow to change. Experts recommend, therefore, that a country’s rate of maternal mortality should not be measured more than once in a decade because of the expense and large sample size required for such an effort (Paxton et al. 2003). The second challenge is that measurement of abortion-related mortality concerns an even rarer, and often clandestine, event.

Given these measurement difficulties, estimates of maternal mortality rates and ratios, although useful for providing a picture of the magnitude of the problem, are inappropriate for monitoring programmatic interventions in abortion care. As an alternative to attempting to measure the effect of improvements in obstetric care on maternal mortality, experts have developed a set of indicators to document progress toward reductions in maternal deaths (UNICEF et al. 1997; Paxton et al. 2003). These “process indicators” measure the availability, use, and quality of emergency obstetric services. If programs achieve defined targets for service delivery, the assumption is that maternal mortality will decline (Paxton et al. 2003). Although treatment of postabortion complications is included as part of emergency obstetric care, al-
ternative indicators are needed with specific relevance to abortion-related services.

Evaluating program effects on abortion-related morbidity is also challenging. Although morbidity resulting from unsafe abortion is more common than mortality, it is still a relatively rare event within a population. Moreover, women may not report an illness or link their symptoms to abortion. The complexities of measurement are likely to require qualitative studies conducted in geographic areas with high rates of abortion complications or morbidity that are estimated from modeling exercises based on information about abortion techniques used, other safety factors, and access to treatment. Measurement of abortion-related morbidity is useful in portraying the magnitude and severity of the problem of unsafe abortion but, like abortion-related mortality, evaluation of the linkages between program interventions and changes in these outcomes is not a practical option for most programs.

Increasing women’s reproductive choices and rights is the second long-term goal of safe abortion programs. Fulfillment of reproductive intentions is a fundamental human right, whatever the legal or policy setting. Some of the methodological challenges in measuring increased choice have to do with varying definitions of “choice” and how such definitions can be measured in terms of women’s perceptions, attitudes, and behavior in diverse sociocultural and legal contexts.

For practical purposes of evaluation, efforts should be focused on monitoring selected indicators of women’s knowledge of, attitudes toward, and use of abortion-related services as proxy measures for reproductive choice. Periodic surveys of women of reproductive age and of the population at large are necessary, however, to determine whether shifts are occurring in societal attitudes toward women’s roles, in fertility preferences, in contraceptive practice, and in reliance on abortion. Finally, although the effectiveness of incorporating postabortion contraceptive services into safe abortion programs has been well documented, research to demonstrate the third ultimate outcome of safe abortion programs—reductions in repeat unintended pregnancy and unsafe abortion—is methodologically difficult and costly. Moreover, changes in rates of unintended pregnancy and unsafe abortion over time may result from improvements in national family planning programs, increased use of more effective contraceptive methods, and other factors. A more feasible approach is evaluation of the quality of safe abortion services, which includes measurement of the extent to which contraceptive counseling and method delivery are available and offered to abortion clients.

Evaluating Intermediate Outcomes of Safe Abortion Programs

Laws and Policies

A goal of many programs focused on ensuring access to safe abortion is to liberalize a country’s abortion laws, policy regulations, and health-system norms and guidelines. Other cultural, social, and economic factors contribute to such changes, including improvements in women’s economic and social status; a general liberalization of society; changing norms concerning sexuality and reproductive behavior; and evolving practices within the health system. Nevertheless, those who are seeking to build support for more liberal abortion-related laws and policies need to be able to monitor their progress.

Legal and policy changes are often the result of many types of programs. In-country groups may advocate for legal reform or improvements in the norms and standards of abortion care. International organizations may compare countries, monitoring progress in legal reform and access to legal abortion. Evaluation of legal and policy reforms is often hampered by the long-term nature of such changes, the multiple activities and wide range of advocacy groups involved, the variations in policy-making processes across countries, and the diverse definitions of desired policy outcomes. A key baseline measure of a country’s overall reproductive rights environment is the degree of restrictiveness of its abortion laws and policies (Center for Reproductive Rights 2005). As shown in Table 1, laws can be appraised on the breadth of existing indications for legal elective abortion services. In addition, service-delivery policies and norms can be evaluated according to the degree to which access to legal abortion care is restricted through regulatory barriers and other obstacles.

Monitoring and reporting “milestones,” or key events that are likely to occur during policy change and implementation, may offer a practical approach for overcoming the inherent challenges of evaluating advocacy interventions (USAID 2000). A conceptual framework for developing indicators of successful policy-change efforts includes attention to problem identification, major actors, and resource allocation (Hardee et al. 2004). Systematic monitoring and evaluation of national abortion-related reform efforts have been attempted only rarely, however (Klugman and Budlender 2001; Oye-Adeniran et al. 2004). Guidance would provide indicators for each step along the path to legal reform, beginning with laying the groundwork among stakeholders and conceptualizing the desired change to the law to disseminating knowledge about a new or amended law and efforts to implement the law.
The process of national and global policy reform can be assessed by developing benchmarks that may be quantitative, qualitative, or a mixture of both (see Table 2). For example, the number of public statements about abortion care made by national policymakers may signify the extent of the visibility of law-reform efforts. The tone and content of such statements is equally important. In Ethiopia, for example, the number of antichoice messages appearing in the media dramatically increased, just as expanded indications for legal abortion were being considered by the national parliament. In his analysis of the factors contributing to increased governmental focus on high rates of maternal mortality in Indonesia, Shiffman (2003: 1199) writes that the occurrence of “focusing events” such as conferences, crises, and new evidence can bring visibility and direct attention to previously hidden policy problems. In addition to the willingness of high-level officials to speak publicly about an issue, the type and number of public events focused on the problem and the extent of dissemination of relevant data are examples of potentially useful benchmarks for monitoring progress toward national policy change.

Monitoring movement toward the adoption of improved health-system policies, norms, and standards is another function of safe abortion programs. Such policies can facilitate or impede women’s access to abortion care. For example, regulations that limit uterine evacuation to medical specialists such as obstetricians-gynecologists or to general practitioners disregard the reality of small hospitals and health centers that are closest to women and that are often staffed primarily by mid-level providers such as nurse-midwives and clinical officers. Policies that increase the range of providers authorized to perform evacuations facilitate access to care, especially in life-threatening circumstances involving abortion complications. The South African Choice on Termination of Pregnancy Act of 1996 specifically permits trained midwives to perform elective abortions; an amendment to expand the pool of providers to include nurses was approved recently. Family Welfare Visitors in Bangladesh are permitted to perform menstrual regulation or early abortion procedures.

In addition to the types of authorized providers, other indicators can be used to assess progress in the reform of health-system policies. For example, the adoption of the revised International Classification of Disease (ICD) system for abortion complications can facilitate more accurate classification and reporting of complications. The availability of safe abortion-care guidance and the adoption of global abortion-related agreements are also important benchmarks for monitoring progress.

### Table 2 Recommended indicators for evaluating the intermediate outcomes of safe abortion programs

<table>
<thead>
<tr>
<th>Intermediate outcome</th>
<th>Recommended indicator</th>
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<tbody>
<tr>
<td><strong>Laws and policies</strong></td>
<td>Extent of restrictiveness of abortion law</td>
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<tr>
<td></td>
<td>Extent of restrictiveness of abortion service-delivery policies, regulations, and guidelines</td>
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<td></td>
<td>Benchmarks for reform of national laws, such as:</td>
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<td></td>
<td>Formation of stakeholder advocacy groups</td>
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<td></td>
<td>Supportive public statements delivered by public officials</td>
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<td></td>
<td>Number/type of public events focused on abortion</td>
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<td></td>
<td>Benchmarks for reform of national health-system policies, such as:</td>
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<td></td>
<td>Range of providers authorized to perform uterine evacuation</td>
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<td></td>
<td>Incorporation of abortion-care curriculum into pre- and in-service education for midlevel providers and physicians</td>
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<td>Addition of abortion-care technologies to Ministry of Health medical supply lists</td>
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<td>Availability of subsidized or free abortion care for poor women</td>
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<td>Amount or percentage of health budget dedicated to abortion care; increases in available resources</td>
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<td></td>
<td>Adoption of safe abortion-care guidance</td>
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<td></td>
<td>Adoption of global abortion-related agreements</td>
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<tr>
<td><strong>Women’s abortion-care-seeking behavior</strong></td>
<td>Number or percentage of women of reproductive age with accurate knowledge of abortion laws</td>
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<td>Number or percentage of women with positive attitudes toward seeking abortion services</td>
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<td></td>
<td>Number or percentage of women of reproductive age who can identify a nearby source of safe abortion care</td>
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<td></td>
<td>Women’s perceived financial, geographic, and cultural barriers to safe abortion care</td>
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<tr>
<td><strong>Access to safe abortion services</strong></td>
<td>Number or percentage of service sites providing safe abortion care, by type of facility and geographic distribution</td>
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<td></td>
<td>Number or percentage of practitioners trained in safe abortion care, by cadre and geographic distribution</td>
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<tr>
<td><strong>Quality of abortion services</strong></td>
<td>Percentage of abortion-care service sites that meet a defined standard of quality</td>
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<tr>
<td></td>
<td>Percentage of abortion procedures performed with preferred technologies (manual vacuum aspiration, electric vacuum aspiration, medical abortion)</td>
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<td></td>
<td>Percentage of abortion clients receiving contraceptive counseling and methods</td>
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<tr>
<td></td>
<td>Percentage of women receiving counseling, barrier methods, and referrals for HIV services</td>
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<tr>
<td></td>
<td>Percentage of postabortion-care patients treated within two hours of arrival at health-care facility</td>
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<td></td>
<td>Abortion case-fatality rates within service sites</td>
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<td>Clients’ satisfaction with abortion care</td>
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<tr>
<td><strong>Use of safe abortion services</strong></td>
<td>Number of induced abortion procedures</td>
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<td></td>
<td>Number of admissions for treatment of abortion complications</td>
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<td></td>
<td>Clinical and other characteristics of abortion clients</td>
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<tr>
<td></td>
<td>Percentage of all induced abortions that are performed safely</td>
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<td></td>
<td>Percentage of all abortion complications that are treated in a health-care facility</td>
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health-system policies, such as: (1) incorporation of an abortion-care curriculum into pre- and in-service education for midlevel providers and physicians; (2) addition of abortion-care technologies (such as manual vacuum aspiration and medical abortion) to health ministry supply and commodities lists; (3) costs of care to patients, including the extent to which services are subsidized or free for poor women; and (4) amount or proportion of the public health sector budget devoted to abortion-related services.

Global standards developed by such bodies as the World Health Organization (WHO) are important for facilitating improvements in national abortion policies and practices. WHO’s Safe Abortion: Technical and Policy Guidance for Health Systems (2003) describes governments’ obligations to provide safe abortion care in support of all legal indications for abortion. Global benchmarks for monitoring progress in meeting these standards could include the number of countries incorporating updated abortion-care norms and standards and the number of countries designating funds for expanded abortion-related services, as shown in Table 2. The United Nations and global advocacy groups have monitored and reported on the number of countries that have implemented the abortion-related agreements from the 1994 International Conference on Population and Development (ICPD) held in Cairo (Hessini 2004; Otsea 2004; UNFPA 2004).

Women’s Care-seeking Behavior

Abortion-care programs focus neither on influencing women’s decisions about the “wantedness” of a pregnancy nor on their choice to continue or end a pregnancy. If a woman decides to seek an abortion, however, a strong abortion-care program should enhance her ability to exercise her choice and obtain safe services.

Women may not realize that safe abortion services exist, especially in countries with previously restrictive laws. Similarly, in countries where regulations have been liberalized but service providers continue to withhold services that are legal, it is particularly important to educate women about their rights and educate those who influence their decisions. Such education can be accomplished by means of media campaigns, advocacy in the community by women’s groups, and outreach by the public health system.

Several survey approaches have been used to obtain information about women’s knowledge of and attitudes toward abortion care, about the obstacles they have encountered, and about their experiences with accessing abortion services. A recent community household survey conducted by the Alan Guttmacher Institute and the Committee Against Unwanted Pregnancy in eight states in Nigeria collected data from more than 3,000 women about their experiences of unintended pregnancy and associated factors (including contraceptive use and barriers to use), experiences with abortion (including the process of deciding to seek an abortion, the steps they took to obtain one, and the consequences), and their attitudes toward and knowledge of current abortion laws (Singh 2004). In Mexico, a national household survey conducted by the Population Council assessed the knowledge of and attitudes toward state abortion laws reported by young people aged 15–24 (Becker et al. 2002). A Web-based longitudinal survey in Kenya has queried adolescents currently enrolled in school about their attitudes concerning abortion, their reproductive decisionmaking, and their knowledge of the relevant law (Mitchell et al. 2003).

Qualitative data-collection methods also have been used to assess the barriers confronting women who seek to obtain an abortion. Key-informant interviews with health-care providers have been conducted in India, Kenya, and several Latin American countries about the types of providers offering services, about the proportion of women experiencing an abortion who have a complication requiring treatment, and about other dimensions of abortion care (Singh and Wulf 1994; Rogo et al. 1999; Johnston et al. 2003; Ramachandar and Pelto 2004). Individual and focus-group interviews with women of reproductive age about their abortion experiences, about the cost and location of local services, and about abortion decisionmaking also are common. The roles of mothers, mothers-in-law, and partners and spouses who influence women’s decisions and their ability to seek abortion services also have been explored (Rogo et al. 1999; Fetters et al. 2003; Johnston et al. 2003).

Quantitative indicators to evaluate the demand for abortion include the proportion of women of reproductive age who have accurate knowledge of the law with regard to abortion and the proportion of women who can identify a local source of safe abortion care. Other indicators could include women’s perceived barriers to abortion care and their confidence in their ability to obtain services.

Service Delivery

In general, safe abortion programs focus on improving access to and quality of abortion services. Monitoring access to and quality of care are among the most productive uses of evaluation funds for safe abortion programs.

Access to Safe Abortion Services

Increasing access to services entails at least three dimensions: (1) increasing the number, type, and geographic
distribution of a country’s or region’s facilities that provide postabortion care and safe abortion services; (2) increasing the number, type, and geographic distribution of service providers who are trained and equipped to provide abortion procedures, stabilization, and referrals; and (3) decreasing barriers to obtaining services, which may include modifying health-system policies.

A number of studies have documented hospital postabortion-care caseloads as part of the effort to calculate the national incidence of abortion (Singh and Wulf 1994; Singh et al. 1997a; Henshaw et al. 1998; Huntington et al. 1998; Ferrando 2002). Two studies using the same methodology estimated the number of annual admissions for abortion complications to public hospitals in South Africa and Kenya (Rees et al. 1997; Gebreselassie et al. 2005). Routine monitoring and ongoing evaluation of abortion-service access, however, are hampered by the limited availability and poor quality of relevant service statistics collected and kept by most health-care systems. Even simple counts of the numbers of public and private facilities that provide abortion care or postabortion care and of abortion-related client caseloads are often difficult to obtain (Bertrand and Escudero 2002). Reliable statistics from private-sector abortion services are especially scarce. In many countries, the private sector provides the most frequently used and accessible abortion services and also is a source of treatment for the complications of abortion; yet because the nature of these services is often clandestine, little systematic reporting or surveillance is available.

A factor contributing to the lack of reliable statistics is the exclusion of abortion care from systems for monitoring reproductive health services. Family planning has benefited from more than 30 years of sustained attention to applied research and monitoring and evaluation. This work has been well financed by donor agencies, in particular by the United States Agency for International Development. The results are evident in standardized management information systems and periodic national surveys on family planning in many developing countries. Similarly, national systems are in place to track the flow of contraceptives and other reproductive health commodities, but few logistics systems include elective abortion or postabortion-care services. The availability of abortion-related technologies such as manual vacuum aspiration or medical abortion is rarely monitored, for example (Bertrand and Escudero 2002).

One example of effective evaluation of access to services comes from Peru. A national inventory of postabortion-care services obtainable from public health services in 2001 found that only 20 percent of hospitals and health centers offered postabortion care (Huapaya et al. 2002). The Ministry of Health in the state of Ayacucho subsequently made a commitment to improve postabortion-care services at all levels, including the primary level, in response to the high rates of maternal mortality experienced there. The state’s rural, mountainous terrain makes seeking health-care services especially difficult for women. In Ayacucho, postabortion care was limited primarily to hospitals; only 25 percent of public service-delivery points offered postabortion-care services.

Prior to the implementation of an intervention to train providers and upgrade services, state health-ministry officials and health-facility staff developed indicators to enhance their ability to measure changes in access to postabortion care (Huapaya et al. 2003). These indicators included the number and distribution of facilities offering comprehensive postabortion-care services (use of manual vacuum aspiration for uterine evacuation and provision of postabortion contraceptive services); facility locations were plotted on maps at pre- and post-intervention points. Ultimately, comprehensive postabortion-care services became available in at least one site in each subregion of the state. An additional indicator focused on the number and proportion of sites, by level of facility (hospital, health center, primary-care center), at which a trained postabortion-care provider was available. Access to services within specific health-care facilities also was tracked by monitoring reductions in waiting time for care achieved by shifting to outpatient postabortion-care services (Huapaya et al. 2003).

Health-care-facility surveys in Ethiopia, India, Kenya, Nicaragua, and elsewhere have improved understanding of service availability (Gebreselassie and Fetters 2002; Onyango et al. 2003; Padilla et al. 2003; Barge et al. 2004). Furthermore, geographic information systems technology holds promise for mapping of service sites to assess availability and distribution of services. In Limpopo Province, South Africa, this technology has been used to map individual sites designated by the government to offer abortion services and those actually offering services, according to population density (Mitchell and Cherry 2003).

Increased numbers of trained providers are essential for improving access to abortion care. Monitoring the type of providers who are trained is equally important, as are the locations where providers ultimately practice and whether they use their new skills. The proportion of all providers of a particular type who are trained in abortion care is also an important indicator for monitoring coverage attained by means of training activities, although a correct denominator (the total number of providers of that type practicing in a specific area) may be difficult to identify.
Quality of Services

Quality of care relates to the treatment and personal attention that clients receive at a health-care facility. A quality-of-care framework for abortion care includes: (1) technical competence; (2) preferred abortion-care technologies; (3) equipment, supplies, and medications; (4) information and counseling provided to clients; and (5) the quality of interactions between clients and providers and between clients and staff (Greenslade and Jansen 1998).

This framework has formed the conceptual basis for monitoring service quality in recent years (Population Council 2000; Otsea et al. 2003; Huapaya et al. forthcoming). Monitoring quality of care has become particularly important as abortion-care services are scaled up regionally and nationally.

Evaluators would like to determine the proportion of service sites that meet a defined standard of quality, including such indicators as the technique used for uterine evacuation, adequacy of postabortion contraceptive counseling and method provision, and clients’ satisfaction (Bertrand and Escudero 2002). Clients interviewed in Mozambique were asked about the quality of postabortion-care services, and their responses were compared to those of providers at the same sites (Gallo et al. 2004). Introduction of such technologies as medical abortion has provided the impetus for studies assessing women’s perspectives and experiences with various methods (Winikoff et al. 1997). The capacity of facilities to properly stabilize and to transport patients with severe abortion complications to higher levels of care is an important part of quality-of-care assessments. Service-delivery inputs such as the training and supervision of providers and availability of supplies and equipment should also be monitored routinely.

Postabortion contraceptive counseling and method delivery are essential elements of high-quality services, and should contribute to decreasing unintended pregnancy and unsafe abortion. Numerous studies have demonstrated that even in circumstances of emergency abortion treatment, when postabortion patients are offered contraceptive information and methods before they leave the health-care facility, many will accept a method (Benson et al. 1998; Langer et al. 1999; Solo et al. 1999; Billings et al. 2003). Postabortion contraceptive services have longer-term benefits as well. Contraceptive counseling and methods provided to postabortion-care patients in Zimbabwe at the time of their hospital treatment led to more than a 50 percent decline in the number of unintended pregnancies and to a decrease in repeat abortions over a one-year period, compared with the outcomes for patients who did not receive such services (Johnson et al. 2002). In Russia, women receiving immediate post-

abortion contraceptive counseling and methods were significantly more likely to practice contraception a year later than were clients who did not receive these services (Population Council 2004).

Health systems should assess the number and proportion of abortion-service sites that offer postabortion contraceptive services to patients. Health-care facilities should monitor the proportion of abortion clients who receive contraceptive counseling and the proportion who obtain a method at the site. Monitoring the content of the information provided during counseling and the range of methods available is also important. A situation analysis of menstrual regulation (MR) services in Bangladesh found that post-MR contraceptive counseling in government facilities was “almost nonexistent,” that condoms or oral contraceptives were the only two methods provided to women, and that providers mistakenly believed these methods were the only safe contraceptive choices following an MR procedure (Chowdhury and Moni 2004: 100). In particular, measurement both of the inclusion of HIV content in counseling and of the provision of barrier methods to abortion clients could document the extent to which health systems reach women who have an elevated risk of HIV infection. Use of these indicators is rare, yet they could be an incentive to providers to address the risk of HIV infection among abortion clients.

Other indicators of quality of care include time elapsed until treatment is provided for postabortion-care emergencies and the total length of patients’ stay in the health-care facility. A shift from postabortion care as an inpatient to an outpatient service and the accompanying reductions in waiting time and total length of stay have major implications for clinical safety, for service sites’ improved use of resources, for lower cost to patients and health-care facilities, for more efficient service delivery, and for greater patient satisfaction (Johnson et al. 1993; Koontz et al. 2003; Billings and Benson 2005).

The abortion case fatality rate (CFR) is a little-used but potentially significant indicator of quality of care. It indicates the number of deaths from abortion-related complications as a fraction of the number of admissions to a facility for abortion-related complications and provides a rough measure of how well the facility handles severe complications of unsafe abortions. This statistic must be used with caution (Paxton et al. 2003). Frequently, numbers of abortion-related deaths are small at a given facility, and therefore, yearly fluctuations in the CFR may not be meaningful. A low CFR may not necessarily indicate high service quality if many patients with abortion complications die before arriving at the hospital. In contrast, a high CFR should be taken seriously by providers and managers, because it can result from long delays in treatment within the facility, inad-
equate case management, and other factors (Paxton et al. 2003). Audits of abortion-related deaths and “near-misses” are a particularly useful means by which to assess the quality of abortion services.

Among the methodologies and data-collection instruments that exist for assessing quality of care are review of medical records, checklists for administration of facilities, interviews with health-care staff and clients, and observation of services (Otsea et al. 2003; Population Council 2000; Huapaya et al. forthcoming). Challenges evaluators face in applying these tools include the need for patients’ confidentiality and the emotional distress experienced by some patients. Moreover, in the case of postabortion care, the difficulties of evaluation are exacerbated by the round-the-clock, emergency nature of services and the relatively low frequency of patients’ seeking postabortion-care services compared with family planning clients’ visits (Bertrand and Escudero 2002).

Although quality of care is a complex phenomenon to measure, some evaluators and service providers have chosen to focus on a limited number of core indicators, such as the proportion of abortion procedures performed with preferred technologies (manual vacuum aspiration, electric vacuum aspiration, and medical abortion); the proportion of abortion clients receiving contraceptive counseling and methods; and the proportion of post-abortion-care patients treated within two hours after arrival at the health-care facility.

A practical approach to monitoring has been incorporated into abortion-service sites in Vietnam, where a comprehensive abortion-care program has been implemented in six hospitals and health centers. The program encompasses a client-centered model that focuses on tailoring each woman’s care to her needs and ensuring appropriate clinical and counseling services (Hyman and Kumar 2004). A performance-improvement tool developed by Ipas, hospital staff, and the national Ministry of Health is used regularly by hospital physicians and nurse-midwives. While observing service delivery, monitors employ a checklist of items for seven service-delivery competencies, for example, technical performance and provision of counseling. Each item is scored, and a subtotal percentage of each quality-of-care competency is calculated, together with a total program score. The monitoring process has enabled the staff to identify strengths and weaknesses in their services, to observe changes in quality over time, and to take “ownership” of the findings.

**Use of Safe Abortion Services**

Tracking the use of safe abortion services in facilities where they are offered is important. At a minimum, the characteristics of the women served, including their age, presenting symptoms, gestation, and treatment provided, can be revealing. Such monitoring should include information for clients receiving an elective abortion and for postabortion-care cases. Tracking the number of procedures as well as the profile of users should be relatively simple and straightforward, in comparison to other measures described above. A surgical logbook in the operating room or procedure room is the most frequently used method for recording information about abortion patients. Monitoring this information can be difficult, however, if the facility does not keep complete data or does not want to document its abortion-related activities publicly. Furthermore, cases of abortion complications and maternal deaths from abortion often are misclassified in medical records as hemorrhage or infection (Bertrand and Escudero 2002). Rarely are data about abortion cases compiled systematically and analyzed for decisionmaking purposes.

In counting the number of postabortion cases, distinguishing complications resulting from an unsafe abortion from complications resulting from a miscarriage is a major methodological challenge. Previous attempts to classify cases as induced abortion based on women’s self-reports or on evidence of certain clinical symptoms have been unreliable (Jewkes et al. 1997). Recent research has focused on categorizing cases by severity of complications based on well-defined clinical criteria while avoiding the question of the origin of the complications (Gebreselassie et al. 2005). For facilities offering post-abortion care, subtracting the proportion of all postabortion cases estimated by knowledgeable providers to be miscarriages may be the most practical approach for calculating the number of cases treated for complications of unsafe induced abortion.

Although monitoring service use is important, the interpretation of trends can be challenging (Bertrand and Escudero 2002). In most areas of public health, more is better; that is, program administrators want to see increasing numbers of family planning visits, condom sales, voluntary counseling and testing conducted, oral rehydration therapy packets distributed, and so forth. In contrast, increasing levels of use of safe abortion services can be interpreted in contradictory ways. On the positive side, one might conclude from an increasing number of induced abortions performed in a network of clinics that more women who are terminating pregnancies are doing so under safe conditions. The increase per se does not necessarily signal an increase in the number of women who are terminating pregnancies in the community. On the negative side, one might conclude that the increased use of facilities reflects an increased incidence of abortion, which, if true, would be troublesome. An increase in the number of abortions performed
is more likely to reflect a failure of family planning programs or changes in the country’s socioeconomic conditions rather than factors related to the provision of safe abortion services per se. Similarly, an increase in treatment of women with abortion complications could have alternative interpretations: either more women are able to obtain access to health services or more abortions are being performed in the community under unsafe conditions, resulting in more complications.

In addition to the number of abortion-related procedures performed at a health-care facility or within a health system, other information is useful for monitoring service use. For example, information on the duration of patients’ pregnancies can signal the ease with which women can obtain abortion-related services. Of the 809 postabortion-care patients included in the Kenyan study to assess the magnitude of abortion complications treated in public-sector hospitals, 34 percent were in the second trimester of pregnancy (Gebreselasie et al. 2005). This finding could indicate that women have difficulty recognizing that they are pregnant or obtaining an elective abortion, that emergency treatment is too costly or too distant, or that other barriers exist. These possible or potential explanations warrant further exploration.

Data about the age of patients in a particular geographic area could signal an increased risk of unintended pregnancy and unsafe abortion among those in particular age categories, such as adolescents.

To address the problem of underreporting of abortion-related caseloads, several state ministries of health in Peru have incorporated a simple postabortion clinical-history record into their reporting systems as part of a 2001 pilot project. Providers complete a one-page record that encompasses basic clinical and other information for each patient receiving postabortion care. Most hospitals and many health centers in Peru use computers, and patient information is entered and compiled for use at all levels of the health system. Providers and data-entry personnel at hospitals and health centers are trained in completion and use of the record system. Periodic summary data are prepared for analysis by hospital providers and managers where the system has been particularly well implemented.

Another useful indicator is the proportion of cases safely treated out of all abortion procedures performed. Although the numerator (induced abortion cases that are provided safely) can be obtained from facility records, an estimate of the denominator is more challenging. It includes all cases of abortion: those provided safely in public-sector health facilities, those provided in the private sector by medical practitioners, unsafe procedures performed by untrained providers, and women’s self-induced procedures.

Informations on the incidence of abortion can be obtained from official statistics in some countries, including parts of the former Soviet Union, although records are often incomplete (Henshaw et al. 1999). Women’s self-reports about their experience of abortion are often unreliable, however, even in settings where elective services are widely available. Factors contributing to women’s underreporting of their abortion behavior include demographic characteristics; their attitudes toward abortion and childbearing; their fertility-related behavior (such as the number of their previous abortions); and the type, length, and mode of administration of the survey questionnaire (Jagannathan 2001).

Moreover, women who die from complications of abortion are, by definition, excluded from the study population.

In countries where traditionally abortion has been permitted by law and stigma related to abortion is low, women’s self-reports of their abortion experience are more likely to be accurate. Like many other countries in Central and Eastern Europe, Romania has a long history of reliance on abortion as a means of fertility control, and researchers have provided anecdotal evidence of the openness with which Romanian women relate their abortion experiences to survey interviewers (Johnson et al. 1996). Although abortion questions have been included in Demographic and Health Surveys and Reproductive Health Surveys in 12 countries in Eastern Europe and Eurasia, questions about abortion are rarely included in other national surveys as a result of political sensitivities and concerns about data quality (Centers for Disease Control and Prevention and ORC Macro 2003).

National estimates of the incidence of abortion have employed a variety of methodologies. These include interviews with providers (Nigeria), prospective review of hospital records (Egypt), and assessment of the numbers of women hospitalized with complications of abortion (Bangladesh, Pakistan, Philippines, Uganda, Brazil, Chile, Colombia, Dominican Republic, Guatemala, Mexico, and Peru) (Henshaw et al. 1998; Huntington et al. 1998; Singh 2005). Peru and the Philippines are the only two countries where comparable estimates have been made at two different times to provide information about trends (Singh 2005). Each methodological approach for estimating the incidence of abortion is subject to bias and requires extensive data-collection efforts (Rossier 2003).

Estimates of incidence could serve as denominators for determining the proportion of all induced abortions in these countries that are provided safely. With the availability of resources for additional research, estimates could be calculated for more countries or subnational regions. Application of multiple methodologies to the same country could improve the precision of the estimates.
Similarly, if estimates of abortion incidence are available, the proportion of all complications occurring that are treated in a facility can be estimated as well. Health-facility records of the numbers of cases treated for complications of induced abortion provide the numerator, while health professionals’ estimates of the proportion of induced abortions resulting in a severe complication provide the denominator. Interviews with providers in a number of countries with restrictive abortion laws identified three major immediate results of abortion (AGI 1994; Makina-Adebusoye et al. 1997; Singh et al. 1997b). In Nigeria, health-care professionals estimated that 56 percent of women having an abortion had no serious complication, 18 percent were hospitalized for treatment of complications, and 26 percent experienced a serious complication but were not hospitalized (Makina-Adebusoye et al. 1997).

Realistically, in most countries, evaluators cannot expect to obtain valid data on the proportion of all abortions that are performed safely. Measurement of case-loads of induced abortion and postabortion-care cases, and assessments of service-delivery access and quality, including rates of procedural complications, are more feasible and useful to program-evaluation efforts.

**Recommended Improvements in Evaluating Safe Abortion Programs**

Although the challenges described previously may seem daunting, health authorities, policymakers, donors, and researchers can take a number of feasible steps to address the growing need for abortion-program evaluation at all levels. These steps are both technical and political in nature. Most do not require large, new investments, although the chronically underfunded area of abortion demands a renewed commitment by national governments, international agencies, and donors to expand the resources available.

*Incorporate abortion measures into health-system information systems and service monitoring.* Safe abortion care should be integrated into routine measures of reproductive health services. At the country and facility levels, relevant authorities need to determine which core abortion indicators are most essential and focus on collection and use of related data. Global health agencies such as the World Health Organization and international donors can support this process by developing agreements about the key indicators and by offering political, technical, and financial support for abortion-service monitoring and evaluation. Facilities will require the most detailed level of information for assessing service quality and performance improvements. At the national level, only a few essential indicators need be monitored. These include the availability and distribution of safe abortion services offered by health-care facilities, the abortion caseloads in these facilities, and the extent to which the most marginalized groups have access to services.

Authorities also need to provide for training and for ongoing support for health-care staff with regard to data collection, analysis, and use. Health-care providers and managers are overwhelmed by requirements for completion of large numbers of forms on all dimensions of clinical care. Rarely are data summarized and returned to those who collect information in the first place, so that incentives for accurate and comprehensive data collection are low. The goal is to keep routine information requirements limited and focused, and, subsequently, to feed the findings back to those who can improve services at facilities and at district, regional, and national levels. Health-system leaders should be strong advocates for data collection and for use of information gathered for evaluating their programs.

Finally, donor agencies fund safe abortion in order to save lives, to reduce human suffering, and to help women exercise their reproductive rights. These outcomes are difficult and unjustifiably expensive to measure. Part of the evaluator’s job is to present a convincing argument to donors and others to direct efforts to measuring service access and quality, which is a more feasible and less costly approach than evaluating long-term results.

*Expand abortion-related evaluation studies.* Not all evaluation issues can be captured in routine health-service information systems. Special studies are needed to better capture the magnitude of the incidence of abortion, use of services, perceived barriers to safe services, and, in selected settings, the contribution of unsafe abortion to maternal morbidity and mortality. Questions about abortion should be included in standard population and reproductive health surveys. Researchers should also increase the use of alternative methodologies that take account of the sensitivity of the topic and also inform programs and policies; these approaches include qualitative research methods, modeling projections, and estimation techniques. Although the challenges to improving national record keeping and surveillance concerning maternal mortality are enormous, evaluators should attempt to make incremental improvements in routine data collection and should conduct well-planned but infrequent research on maternal morbidity and mortality resulting from unsafe abortion. The national study of complications of abortion in Kenyan public hospitals, for example, estimated the annual number of abortion-related maternal deaths in these facilities (Gebreselasie et al. 2005).
Improve efforts to monitor policy change. Global policy recommendations such as those emerging from the ICPD process have had significant influence on national reproductive health efforts. Only a few assessments have examined regional and country progress toward meeting the recommendations related to abortion, however (Hessini 2004; Otsea 2004). In general, measurement of shifts in abortion policy and benchmarks in policy-reform processes have lagged behind attempts to monitor and evaluate abortion services. An important first step should be the development of consensus benchmarks by the various groups working for policy change.

Expand dissemination and use of evaluation findings. The role of evaluation data is not limited to assessing progress and identifying ways in which programs and policies can respond to deficits in service access and quality. Evaluation data also can serve as powerful evidence facilitating dramatic change in the abortion climate. As an example, documentation of the magnitude and cost of abortion complications in South Africa played an important role in helping to convince parliamentarians of the need to reform the restrictive abortion law in 1996 (Kay et al. 1997; Rees et al. 1997).

At the global level, dissemination of reproductive health information is expanding, for example, through the availability of new Internet databases. Although information on fertility rates, contraceptive use, HIV prevalence, and other indicators is routinely available, information about abortion is sometimes difficult to locate, partly because certain abortion data are lacking but also as a result of the political sensitivities of the donors underwriting such databases. Changes in such information-withholding practices will require skillful and constant advocacy. Furthermore, evaluators of abortion programs should ally themselves with communications and information technology specialists and use the widest array of channels to disseminate key findings, particularly to those in the developing world with limited or inconsistent access to the Internet.

Increase commitment of resources and political support for abortion care, including evaluation. Neglect of or opposition to abortion care is a political challenge that must be addressed as part of efforts to upgrade abortion-care programs. Achievement of national and international goals for reduction of maternal mortality depends on an increased focus on expanding access to safe abortion. Investment in evaluation is required in support of more effective and efficient programs to meet women’s needs for this access. In addition to making evaluation data available to health-facility managers, national findings should routinely be available to ministry officials and other decisionmakers to help ensure adequate allocation of government and other health-system resources for abortion-care training and service delivery. A major obstacle to these objectives is the minuscule amount of funds currently dedicated by governments and international health donors to basic data collection, monitoring, and evaluation of abortion-related activities.

Conclusion

Although the challenges to evaluation of abortion programs are not new, they should not be permitted to hinder the way forward. Increased political will and modest increases in financial commitments from national governments and international organizations will undoubtedly lead to significant progress. The conceptual framework and examples described in this article can help focus efforts on the most feasible and fruitful strategies for evaluating abortion-care programs. Incremental improvements in abortion-care programs are occurring globally, including recent liberalization of restrictive abortion laws in several countries, expansion of abortion-technology options, and scaling up of services for elective abortion and postabortion care in a variety of settings. Equivalent progress in evaluation is needed to ensure that new programs and policies are effective in preventing women’s deaths and disabilities from unsafe abortion.

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