

Center for Population and Family Health  
Columbia School of Public Health

# Setting Priorities in International Reproductive Health Programs:

## A Practical Framework

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**SETTING PRIORITIES  
IN INTERNATIONAL REPRODUCTIVE HEALTH PROGRAMS:  
A PRACTICAL FRAMEWORK**

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## INTRODUCTION

If its mandate is realized, the 1994 International Conference on Population and Development (ICPD) in Cairo will mark the "before" and "after" of reproductive health services in the developing world. Before ICPD, many population programs emphasized family planning services driven by demographic targets. The conference's Programme of Action calls for a shift in development strategy, and in health strategy specifically, towards meeting the needs of individuals. It calls for comprehensive reproductive health services, designed with the involvement of women, to serve women's needs and advance women's rights.<sup>1</sup>

The international health and development community has embraced this mandate of comprehensive, women-centered reproductive health. Organizations of all kinds — health service, research and policy groups; women's groups; donor agencies; local and international bodies; governmental and non-governmental organizations — have voiced a commitment to the changes needed. They recognize, however, that there are challenges inherent in carrying out the Programme of Action. Changing longstanding organizational priorities (and the structures, strategies and services corresponding to them) requires additional resources and skills as well as new tools that must be developed and applied.

There has been a clear call for practical tools to help policy-makers and program planners set program priorities. This framework is intended as such a tool.

The recognition of the need for such a framework emerged from three related considerations. First, the mandate of the ICPD requires that health programs address a broader array of reproductive health problems than has generally been the case. Moreover, it requires that these services be offered in a manner supportive of women's human rights and dignity, a principle too rarely observed in health programs. Second, few programs can simultaneously address all of the reproductive health problems identified by the ICPD. Working toward this goal by phasing in services is a practical plan. Third, determining which reproductive health services should be introduced, in what order and under what circumstances, is a complex task for planners, and not one with which there has been considerable experience.

To be sure, many organizations have responded to the ICPD's mandate, or are in the process of doing so. The United Nations Population Fund (UNFPA) has revised its program guidelines to reflect its broadening support toward a comprehensive approach to meeting the reproductive health needs of women, men and adolescents.<sup>2</sup> The guidelines recommend an "incremental approach that builds on the system currently in place..."<sup>3</sup> They also include as a basic concept the "involvement of women, women's organizations, and other groups working for women's needs in the

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planning, implementation and monitoring of reproductive health services and programmes."<sup>4</sup> In view of its role in population and development within the United Nations system, the UNFPA plays a key role in following up the Programme of Action.

The World Health Organization (WHO) has identified its role in reproductive health to comprise advocacy; collaboration with member states in program development; research, training and development; and monitoring and evaluation.<sup>5</sup> WHO recognizes that achieving reproductive health will be a challenge.

"Although there is general consensus on the need to develop a comprehensive approach to reproductive health, much remains to be learned about what it means in practice, in terms of programmes and activities.... In practice, the implementation of a strategy to achieve [truly comprehensive reproductive health care] will require priority setting, especially given the ongoing, indeed worsening, resource constraints — it is not possible to do everything immediately and to do it all well."<sup>6</sup>

Other United Nations (UN) agencies have responded to the shift towards reproductive health by emphasizing its importance and offering guidance to staff. Formal guidelines have been developed for UN resident coordinators.<sup>7</sup> While these are not intended as detailed technical documents, they urge UN staff to promote the integration of reproductive health in all planning and development processes and to coordinate such activities with other UN agencies and external organizations. They also call for the development of tools for setting priorities within reproductive health programs.

UNICEF has worked closely with other UN agencies to promote the ICPD Programme of Action in their field programs. Within UNICEF, there is also an increased emphasis on reproductive health, and steps have been taken toward ensuring an integrated approach toward family health. Several UNICEF country offices have introduced reduction of maternal mortality, family planning and other reproductive health initiatives in their ongoing programs. UNICEF appreciates the size of the task remaining, however, since they are committed to ensuring that staff throughout the organization fully "[comprehend] the program implications of the Cairo and Beijing [UN World Conference on Women] documents."<sup>8,9</sup>

The World Bank views ICPD's mandate for offering people-centered reproductive health services as crucial to promoting sustained economic growth and development. The Bank has made a commitment to supporting improvements in reproductive health through investment in population, health, nutrition and education.<sup>10</sup> In addition, the World Bank and WHO have developed a method for measuring the burden of disease for a wide range of general and reproductive health problems. The analysis

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of the relative burdens (measured in disability-adjusted life-years, or DALYs) can help determine policy priorities.<sup>11</sup>

The U.S. Agency for International Development's (USAID) programs and activities have changed significantly in response to new internal policy and strategic directions. These changes parallel, but predate, the ICPD Programme of Action. Through its support for policy, research and field programs, and through its emphasis on collaboration within the Agency, USAID expects to achieve a more integrated and effective reproductive health program. USAID recognizes, however, the challenges that are inherent in this shift, and is committed to setting priorities to ensure that "programs focus selectively on those [interventions] which are actionable and believed to be most cost-effective in promoting quality, maximizing access, and achieving sustainable public health impact."<sup>12</sup>

Other donor, policy and service organizations have collaborated in examining the operational aspects of carrying out the ICPD agenda. In June 1995, representatives of some 50 such agencies reviewed some of the technical components of reproductive health, country experiences and donor perspectives.<sup>13</sup> Several themes related to implementing the reproductive health agenda emerged, including the need to develop and test effective and efficient program approaches. The importance of cost-effectiveness was particularly noted in light of the constrained resource environment.

Research, governmental and international organizations have increasingly focused their programs on reproductive health and the challenges of implementing the ICPD Programme of Action. For example, the Population Council's Ebert Program has called attention to the breadth of issues that form a complete view of reproductive health.<sup>14</sup> A 1995 Family Health International report identifies priority-setting, phased implementation of services and consistent attention to quality of care as important elements of any response to these challenges.<sup>15</sup> The International Planned Parenthood Federation and CARE, among other service groups, have adopted strategic approaches which broaden their traditional family planning programs to incorporate reproductive health activities.<sup>16,17</sup> Ministries of health around the world have welcomed the ICPD Programme of Action because it endorses the integrated approaches and/or multiple services that many of them have promoted as part of their routine services for many years.<sup>18</sup>

Having promoted reproductive rights, reproductive health and equity for women long before the ICPD,<sup>19,20</sup> women's rights and women's health organizations were strong advocates of the shift towards the principles ultimately embodied in the Programme of Action. These groups were, in fact, instrumental in assuring that the concept of

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comprehensive, women-centered reproductive health care was a cornerstone of the final conference consensus.<sup>21</sup>

In short, progress has been made within organizations of every type in preparing for the changes mandated by the ICPD. The next step is effecting those changes in health services around the world.

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## PURPOSE AND USERS OF THE FRAMEWORK

When faced with the responsibility of improving reproductive health, health policy-makers and planners have a plethora of options. The framework presented here is intended to help them make choices by using a rational and systematic priority-setting process.

The premise of the framework is that program priorities should be based on the joint consideration of a number of key factors. While these factors are familiar program planning concerns, they are rarely systematically considered in practice.

### **Why use the framework?**

To help choose program priorities among the many reproductive health problems and potential interventions.

The framework's six key factors, listed here, are fully described later in the document.

- Importance of the reproductive health problem
- Efficacy of the potential interventions
- Program requirements
- Financial costs
- Capacity of the health system
- Cultural, policy and legal factors

The ICPD identified the reproductive health problems that should be addressed in health programs. These are listed in Figure 1. By systematically appraising the six factors as they apply to each of these problems and the interventions that could be undertaken to address them, program planners can make sound program choices.

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**Figure 1**  
**Reproductive Health Problems**

*Adapted from the Programme of Action of the 1994  
International Conference on Population and Development*

- Unwanted pregnancy
- Maternal mortality and morbidity
- Reproductive tract infections, including sexually transmitted diseases
- HIV/AIDS
- Reproductive cancers
- Female genital mutilation
- Sexual and gender-based violence
- Infertility
- Other reproductive health conditions

The "program planners," "policy-makers" and "decision-makers" referred to in the framework encompass those responsible for setting priorities within health programs. The level at which these decisions are made is determined by the degree of decentralization within the country or organization. In some cases, such decisions are made at the international, regional or national levels. In a decentralized system, they may be made at the provincial, state or district levels. The framework is intended for those who are responsible for making decisions about health programs, regardless of the levels at which they work.

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The question remains: Who, specifically, is involved in the priority-setting process? While this group might be limited to policy and health professionals, such a restriction is inconsistent with the women-centered and participatory approach to health program development which encourages involvement by those whose lives will be affected by the choices made. According to WHO:

**Why include women?**

Since reproductive health problems are of particular importance to women, it is important to include women among the decision-makers. This participation is central to the ICPD Programme of Action, as well as that of the 1995 United Nations World Conference on Women in Beijing.

"Inherent in creating an understanding of reproductive health is the need to establish, both globally and nationally, a consultative, participatory process involving those who have needs in reproductive health. Such a consultative process will lay the foundation of understanding for the establishment of priorities in reproductive health."<sup>22</sup>

Figure 2 lists some groups whose representative could make valuable contributions to the decision-making process.

| <b>Figure 2<br/>Potential Participants in the Priority-Setting Process</b>   |
|--|
| <ul style="list-style-type: none"><li>• Women's labor unions</li><li>• Professional associations of women, such as teachers, market women, midwives and lawyers</li><li>• Women's advocacy groups, such as those addressing legal rights and domestic violence</li><li>• Community groups, such as those organized for literacy and income generation</li><li>• Religious groups</li></ul> |

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The framework can be applied in different ways. In the full application, all the reproductive health problems and their potential interventions would be appraised. Priorities would then be determined based on an analysis of the full range of options available. In a more limited application, the framework can be used to select interventions that best respond to a given reproductive health problem. Regardless of whether the framework is used for the broad or the more specific purpose, the process of considering all the relevant program options remains the same.

This document first describes the decision-making process that can be used to address the overall question: Of the full range of reproductive health problems and potential interventions, which are the highest priority? By appraising each problem and intervention according to the framework's six key factors, appropriate program priorities can be selected.

Appendix 1 then shows how the framework can be used to answer a specific program question: What are the highest priority interventions for a particular reproductive health problem? In this example, the framework is applied to the problem of mortality and morbidity from induced abortion. Relevant information on the six key factors was compiled from a number of sources: scientific studies, generally accepted procedural protocols, and worldwide and regional databases. This information was then appraised and the highest priority interventions identified using the process described in the framework. This in-depth examination of one problem illustrates the process by which each reproductive health problem and its interventions would be appraised so that priorities could be chosen.

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## DESCRIPTION OF THE KEY FACTORS

As decision-makers set priorities, they need a collection of information to assist them. In the framework, this basic information is organized into six key factors. The rationale for including each of these factors, and their definitions within the framework, are presented below. Also included is a description of how potential interventions would be selected. A simple procedure for considering priorities is then presented.

As noted earlier, the key factors are:

|          |   |
|----------|---|
| Factor 1 | Importance of the reproductive health problem |
| ▶        | Identifying the potential interventions       |
| Factor 2 | Efficacy of the potential interventions       |
| Factor 3 | Program requirements                          |
| Factor 4 | Financial costs                               |
| Factor 5 | Capacity of the health system                 |
| Factor 6 | Cultural, policy and legal factors            |

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► **FACTOR 1:      *IMPORTANCE OF THE REPRODUCTIVE HEALTH PROBLEM***

The importance of a particular problem is a fundamental consideration in planning. Indeed, in practice, it is often the primary or sole basis on which program decisions are made. This is intuitively satisfying: problems of greater significance deserve greater attention and resources. In the current framework, however, the importance of a problem is but one of the considerations in setting priorities.

The importance of a problem can be appraised using three health and social criteria.

*Criteria of importance*

- a. *Severity for the affected individual.* Importance increases with the levels of mortality and physical and mental morbidity.
- b. *Magnitude in the population.* Importance increases with scope of the problem, as measured by prevalence and incidence.
- c. *Related morbidity/mortality, social effects and human rights implications.* Importance increases with other negative health and social effects and human rights ramifications attributable to the problem. An example of a related health effect of HIV/AIDS is complications among, and possible HIV transmission to, children born to HIV-positive mothers. Negative social effects due to the same problem would include the social, economic and emotional hardships experienced by families with members suffering from AIDS. The human rights implications of official or societally-sanctioned discrimination against HIV-positive people would also increase the importance of the problem.

The first and second criteria, severity and magnitude, are conventional epidemiological concepts, and are clearly relevant to assessing health concerns. Moreover, they are largely quantifiable and, thus, readily understandable to many. These features may make them easier to assimilate than the third criterion, which includes social and human rights implications of the problem. These implications are not easily quantifiable. Furthermore, the issues which are considered relevant, and the depth of the concern, may differ according to the individual or group assessing them. Inclusion of the types of groups listed in Figure 2 could promote appropriate consideration of these issues.

Despite the potential difficulty of including these social and human rights concerns in the decision-making process, they are indeed important and should be weighed in determining the overall importance of the problem.

Figure 3 illustrates how the three criteria contribute to the overall appraisal of importance. Based on the data available, each criterion can be rated on a simple scale of high=3, medium=2 and low=1, for a maximum score of 9. The total score determines importance: scores from 7 to 9 would indicate high importance; scores from 4 to 6 would indicate medium importance; scores from 0 to 3 would indicate low importance.

| <b>Figure 3</b><br><b>Determining the Importance of a Reproductive Health Problem</b> |   |           |                              |             |   |
|---|---|-----------|------------------------------|-------------|---|
| Problem   | Rate each criterion on scale:<br><i>High=3                      Medium=2                      Low=1</i> |           |                              |             | Importance of the Problem<br><br><i>7-9 High<br/>4-6 Medium<br/>0-3 Low</i> |
|   | Severity  | Magnitude | Social/ Human Rights Effects | Total Score |   |
| Unwanted pregnancy  |   |           |                              |             |   |
| Maternal mortality/ morbidity   |   |           |                              |             |   |
| RTIs/STDs   |   |           |                              |             |   |
| HIV/AIDS  |   |           |                              |             |   |
| Reproductive cancers  |   |           |                              |             |   |
| Female genital mutilation   |   |           |                              |             |   |
| Sexual and gender-based violence  |   |           |                              |             |   |
| Infertility   |   |           |                              |             |   |
| Other   |   |           |                              |             |   |

---

## ► IDENTIFYING THE POTENTIAL INTERVENTIONS

Health planners have the difficult task of choosing a limited number of program priorities from the entire spectrum of reproductive health problems and potential interventions. As they consider reproductive health problems, the interventions that are available to address them must be identified. A truly comprehensive list of potential interventions would be very long, given the linkages between reproductive health and other spheres of development such as education, socio-economic status and legal and human rights. A practical concern in using the framework, therefore, is the need to select a limited set of potential interventions for in-depth appraisal.

Since the framework is designed for use by those responsible for planning health services, only those interventions that would be carried out within the (broadly defined) health sector are considered.

### **Who is responsible for reproductive health?**

Improving women's reproductive health requires action from many development sectors. Groups of different types working on reproductive health should support each other's activities.

As the concept of linkages suggests, however, such a distinction may not be as clear-cut in practice as it may appear in theory. The notion of women-centered care as adopted at the ICPD refutes the convention of health services responding only to women's narrowly-defined physical needs. It declares that the health system should play a role even in activities with which they have not been traditionally associated.

For example, it should no longer be considered acceptable for health providers, in response to sexual violence, to simply treat a woman's wounds while remaining "neutral" on the problem's underlying causes and associations. It may be equally inappropriate, however, to expect the health sector to lead the drive for community education, women's shelters, legal punishment for abusers and other necessary changes. Women's and other community-based groups may be more effective and acceptable leaders of such programs. Beyond providing treatment, the responsibilities of the health system and its providers might be to discuss the issue of sexual violence with the women affected, offer moral support and refer the women to other services where available. Further, they could work actively with women's groups to provide more extensive education and to raise awareness. To provide these services competently and sympathetically, health workers will require training and ongoing support.

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In selecting the interventions for in-depth appraisal, a useful distinction is whether the health system would play the lead role in implementation, or whether it would primarily support activities led by other groups. (In some cases, the health sector might lead some components of a program and support others. For example, it might *lead* AIDS education and condom distribution in its clinics and outreach programs, and *support* such activities, led by the education authorities, in schools.) The framework is designed for appraising the interventions for which the health sector would be likely to play the *lead* role.

For any organization that is committed to improving women's reproductive health, and willing to consider a wide range of options, Figure 4 would be a useful starting point. The table lists the reproductive health problems identified at the ICPD along with *selected* interventions. It is not a definitive compilation of possible responses to the problems. Nor should inclusion in the list be interpreted as an endorsement of the wisdom of choosing the activity.

According to the premise of the framework, an organization's planners should appraise the options for which the health sector would play the lead role. The appraisals would be based on information gathered on each of the framework's six key factors. The planners would then use the appraisals to set priorities and determine the reproductive health programs or policy they will pursue.

The sources of information the planners use to appraise the interventions will be varied. An expanded version of this framework will include information from scientific studies, generally accepted procedural protocols, and worldwide and regional databases pertaining to each of the problems and interventions. Planners may choose to use these generally applicable data, or use comparable country-specific data if they are available. Local information will always be required, however, for some of the six key factors. The detailed example on induced abortion in Appendix 1 illustrates how these various types of data contribute to the final decision on priorities.

#### **Which interventions should be appraised?**

The priority-setting process permits a review of what we "know" works, as well as what we "know" to be too difficult or expensive to implement.

The point of carrying out the systematic appraisal is to avoid both outright dismissal and mechanical acceptance of ideas based on preconceived notions.

| <b>Figure 4<br/>Role of the Health Sector in Selected<br/>Reproductive Health Activities</b>  |  |                      |
|---|--|----------------------|
| <b>Reproductive Health Problem and Selected<br/>Potential Interventions</b>   | <b>Role of the Health Sector in<br/>Implementation</b> |                      |
|   | <b>Lead Role</b>                                       | <b>Support Role</b>  |
| <b>Unwanted pregnancy</b> <ul style="list-style-type: none"> <li>• Promote modern contraceptive use, including post-abortion family planning services</li> <li>• Promote abstinence and/or delayed sexual activity among adolescents</li> <li>• Provide safe abortion services</li> </ul>   | <br>X<br><br><br>X                                     | <br>X<br><br>X       |
| <b>Maternal morbidity and mortality</b> <ul style="list-style-type: none"> <li>• Reduce unwanted pregnancy (see above)</li> <li>• Provide antenatal care</li> <li>• Provide emergency treatment for obstetric complications</li> <li>• Establish community loan funds to reduce delay in obtaining emergency obstetric care</li> </ul>  | <br>X<br>X   | <br><br><br>X        |
| <b>Reproductive tract infections, including sexually transmitted diseases</b> <ul style="list-style-type: none"> <li>• Promote use of condoms</li> <li>• Provide treatment based on: <ul style="list-style-type: none"> <li>• syndromic approach</li> <li>• provider observation</li> <li>• clinic-based tests</li> <li>• laboratory tests</li> <li>• mass treatment</li> </ul> </li> <li>• Improve women's skills in negotiating condom use</li> </ul> | <br>X<br>X   | <br>X<br><br><br>X   |
| <b>HIV/AIDS</b> <ul style="list-style-type: none"> <li>• Provide education and condoms</li> <li>• Increase women's control over their sexual lives</li> <li>• Provide counseling and testing</li> <li>• Promote safe needle use in formal and informal health sector</li> <li>• Screen blood and blood products</li> <li>• Reduce intravenous drug use</li> </ul>   | <br>X<br><br>X<br>X<br>X                               | <br>X<br>X<br>X<br>X |

| <b>Figure 4</b><br><b>Role of the Health Sector in Selected</b><br><b>Reproductive Health Activities (continued)</b>   |  |                     |
|--|--|---------------------|
| <b>Reproductive Health Problem and Selected</b><br><b>Potential Interventions</b>  | <b>Role of the Health Sector in</b><br><b>Implementation</b> |                     |
|  | <b>Lead Role</b>   | <b>Support Role</b> |
| <b>Reproductive cancers</b><br>• Provide screening and treatment<br>• Provide education to women on screening  | X  | X                   |
| <b>Female genital mutilation</b><br>• Provide education, training and resource centers to increase awareness and reduce social acceptability<br>• Stiffen and apply legal penalties for practitioners and families   |  | X<br>X              |
| <b>Sexual and gender-based violence</b><br>• Identify and refer women who have been abused<br>• Provide education to reduce violence and acceptability of violence<br>• Provide counseling to abused women<br>• Provide housing, job training and other opportunities for abused women<br>• Stiffen and apply legal penalties for rape and battering | X  | X<br>X<br>X<br>X    |
| <b>Infertility</b><br>• Reduce RTIs, including STDs (see above)<br>• Provide counseling and assisted conception services   | X  |                     |

**Reminder—**

Ideally, a broad range of interventions is considered for appraisal. Consideration, however, does not imply that the activity would be a wise or effective choice.

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As described above, this framework is designed for analysis of interventions for which the health sector would play the lead role. However, the value of activities led by other organizations involved in reproductive health, women's rights and equity must not be overlooked. Such activities may fall outside the traditional sphere of action of the health system, but the ICPD called for new and creative linkages to advance women-centered reproductive health. Thus, in addition to determining program priorities, planners should search out opportunities to establish linkages with social, community, women's and youth groups so that they can reinforce each other's programs.

Once the priorities are selected, the complex task of carrying out the interventions starts. Much of the information used to determine priorities will also be useful in setting up and maintaining the activities. However, in any program, it is advisable to test new approaches before expanding them to the full program. For this reason, pilot projects, complete with careful monitoring and evaluation, are often a practical first step as planners create a new reproductive health program.

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► **FACTOR 2: EFFICACY OF THE POTENTIAL INTERVENTIONS**

Efficacy refers to the extent to which a given intervention is capable of achieving its aim of primary, secondary or tertiary prevention.<sup>a</sup> The measures of efficacy used in the framework are described below. Which measures are used in a particular instance is determined by the nature of the intervention and the information available.

***Measures of efficacy***

- a. *Theoretical effectiveness.* Under ideal conditions, the use of a given drug regimen, protocol, technique, process or test will be successful in a certain proportion of cases.
- b. *Use effectiveness.* Theoretical effectiveness will be diminished under actual field conditions by factors such as mode and complexity of administration or processing, and ease of compliance by the user.
- c. *Historical and program experience.* In the absence of data on theoretical or use effectiveness, or to complement such data, the efficacy of an intervention may be inferred using historical associations and correlations, natural experiments and lessons from program experience.

- 
- a. The aim of:
- primary prevention is to reduce exposure to risk of contracting the condition.
  - secondary prevention is to identify and treat the condition in its early stages.
  - tertiary prevention is to provide treatment in order to prevent further disability or death.

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► **FACTOR 3: PROGRAM REQUIREMENTS FOR THE INTERVENTION**

Interventions vary in the level of the health system at which they can be appropriately offered and in the resources they demand. The appropriate service level for an intervention is the one which will provide the greatest access, while still providing high quality care. Then, the program resources required to introduce the intervention are considered. These points are further explained below.

***Appropriate site or facility level***

Because names of service points, such as "village health post" and "health center," may have different connotations in different settings, such terms are not used in the framework. Instead, five levels of service sites are described according to the types of health services offered, physical structure, materials, equipment and staff commonly associated with them in the field and/or in government health plans. (Figure 5) The "pyramid" health structure is used as the norm, in which lower level sites are more numerous than higher level facilities.

As each intervention is considered, the lowest service level at which it can be carried out is specified. This determination is based on the need to provide the widest possible coverage while maintaining acceptable quality of the care provided. If an intervention can be appropriately offered at Level 3, for example, the resources listed as standard for Level 3 are required for the intervention.

In most cases, interventions can be carried out at levels higher, but not lower, than the one designated.

Figure 5: Description of Health Service Levels

| Figure 5: Description of Health Service Levels |   |   |  |   |
|--|---|---|--|---|
| Service Level                                  | Type of Services Offered  | Available Resources   |  |   |
|  |   | Physical Structure  | Materials and Equipment  | Level and Type of Staff   |
| 1  | Health education; sale/distribution of basic commodities                      | None or home depots   | Commodities related to assigned tasks (e.g., oral contraceptives, condoms, malaria tablets, oral rehydration solution)                 | Volunteers, traditional practitioners   |
| 2  | Basic curative care, first aid; some preventive services                      | Small or shared structure (e.g., community pharmacy, first aid or health post)  | Above commodities plus antibiotics   | Paid auxiliary staff  |
| 3  | Multiple preventive and curative services, including assistance at childbirth | Permanent structure, maternity ward   | Above plus intravenous solutions and related equipment; IUDs and insertion kits; examination table; equipment to sterilize instruments | At least one medically trained staff (nurse, midwife, medical assistant); auxiliary staff |
| 4  | Above plus laboratory, surgery, 24-hour services                              | Permanent structure, in-patient wards, dependable electricity and running water | Above plus operating room; local anesthesia; laboratory; blood transfusion capability  | At least one physician; nurses, midwives, technicians; 24-hour coverage                   |
| 5  | Above plus specialist consultants, advanced surgery                           | Above plus communications and transport capability                              | Above plus general anesthesia; blood collection and storage capability   | Above plus medical specialists  |

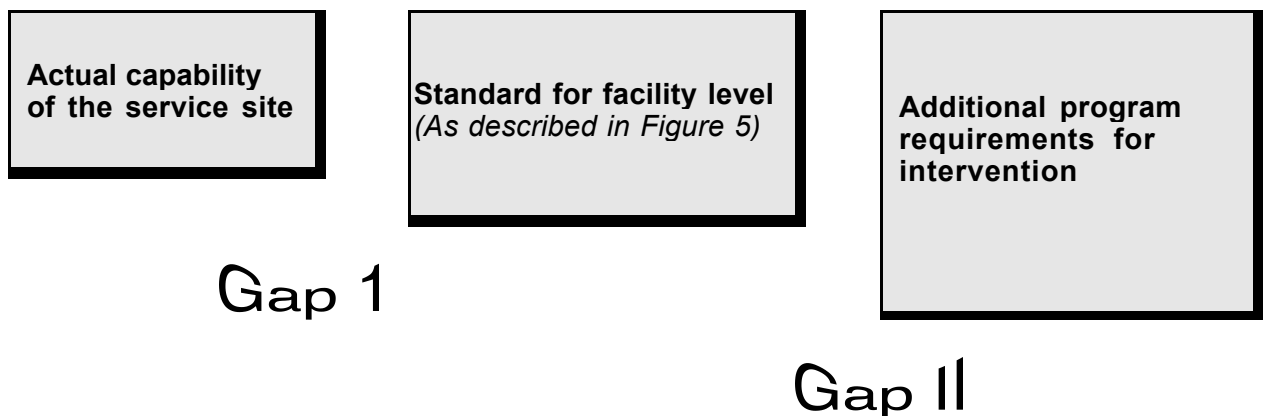
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## **Resources required for the intervention**

A definable set of resources must be present at a site for services of acceptable quality to be provided. Figure 5 described a standard set of resources for each service level.

It is clear, however, that not all service sites actually attain this standard. The available resources — infrastructure, materials, equipment and skills — may fall short. In the diagram below, Gap I depicts the difference between the site's actual capability and the requirements for the standard.

Facilities may also face another type of gap: some reproductive health interventions will require resources beyond the standard as it is currently defined. This difference is shown as Gap II. In order for a service site to deliver the new services, Gaps I and II must be filled. Of course, large gaps will require greater amounts of resources to fill than will small gaps.



While the program resources required for an intervention comprise both Gaps I and II, assessing Gap I — the difference between the actual capacity of the service site and the standard — requires situation-specific information on actual capabilities. However, Gap II — the resources required to introduce an intervention to a site with defined standards — can be specified for each intervention. As program planners apply the framework, the resources needed can be measured by the size of Gap I.

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► **FACTOR 4: COST OF THE INTERVENTION**

Information on the monetary cost of introducing and sustaining a set of activities is critical in the process of setting priorities. Comparing costs of different interventions can help planners choose among program alternatives. Absolute costs, however, are insufficient: planners need a denominator common to all options so that relative costs can be compared. The numerator and denominator that we suggest be used when applying the framework are described below.

***Numerator: Marginal cost***

The *real cost* of an intervention includes all the resources used to provide the service, including salaries, training, materials and supplies, utilities and depreciation on equipment and infrastructure. In most instances, however, program planners want different cost information to set their priorities: they want to know how much it will cost to add a particular service to the set they already provide. This is the *marginal cost* of the intervention.

The marginal costs correspond to the *additional program requirements* for the intervention, or Gap II, discussed above. That is, marginal costs will be estimated based on the resources required for the intervention beyond what is defined as standard for the facility level. As program planners apply the framework, they must adjust the estimate to include the costs associated with filling Gap I — the difference between the actual state of the facility and the standard.

The appropriateness of using marginal rather than real costs becomes clear when a practical example is considered. In a hospital, adding a new type of surgery, such as cesarean sections, would require spending on some items (training, equipment and materials) but not on others (operating room, doctors, surgical nurses) that are already available.<sup>b</sup> Adding that service to a health center, however, (which does not have an operating room or appropriate staff) would require construction, substantial new equipment, new staff, etc. While the real costs of the service may be comparable in the two sites, the actual funds required — the program planners' concern — would be far lower

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<sup>b</sup>. It is clear that activities can not be continually added to a service site with an unchanging level of fixed resources. Overburdening staff and equipment is poor management and results in a decrease in quality. However, many resources within health systems are underutilized.

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in the hospital than in the health center. Since existing resources are considered in specifying the minimum facility level for an intervention in the framework, the marginal cost — the amount the authorities must actually spend — is the more accurate estimate for setting priorities.

***Denominator: Population coverage***

Population coverage is a widely used and readily understood measure. It conforms to national, regional and facility-specific health plans, which often include coverage objectives. In this case and for most reproductive health concerns, the segment of the population of prime interest is women of reproductive age (WRA). However, since overall population coverage is a more widely-used planning measure, and since WRA can be readily calculated when needed, the denominator we suggest for use with the framework — (per) 500,000 population — reflects total population.

Another denominator was considered before choosing population coverage. Disability-adjusted life years, or DALYs, is a measure constructed by the World Bank and the World Health Organization to measure the global burden of disease due to specific causes.<sup>23</sup> Ideally, efficacy and cost-effectiveness analyses could be advanced by calculating the number of DALYs saved due to a specific intervention and then figuring the cost per DALY saved. While the prospect of using DALYs for planning and management is enticing, it is not yet sufficiently familiar, malleable or accessible for routine use within programs. Therefore, the more familiar and program-compatible measure of population coverage was chosen as the denominator for use with the framework.

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► **FACTOR 5: CAPACITY OF THE HEALTH SYSTEM TO IMPLEMENT AND SUSTAIN THE INTERVENTION**

The success of an intervention will be influenced by the capacity of the overall health system to introduce and maintain it. A strong health system can facilitate new activities, while a weak one may be unable to sustain it, or may require additional inputs. In the framework, system capacity consists of four major components.

***Components of health system capacity***

*Human resource management.* Capacity increases with the ability to project, carry out and sustain appropriate staff deployment and harmonize training with job requirements.

*Support and supervision.* Capacity increases with the ability of the system to provide regular and effective in-service training, technical updates and supervision.

*Monitoring and evaluation.* Capacity increases with the effectiveness of the system's collection, analysis and use of service-related and other data in designing and implementing programs.

*Logistics.* Capacity increases with the regularity and adequacy of the delivery of supplies and commodities to service sites.

*Financial management.* Capacity increases with the system's ability to maintain accurate and timely financial transfers and records.

Health system capacity is a descriptive measure that needs to be assessed with reference to a specific context.

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► **Factor 6: Cultural, policy and legal factors**

Cultural, policy and legal factors may either help or hinder the introduction of new activities. While these factors will rarely, in and of themselves, determine whether an activity should be attempted, their influence on effectiveness and costs (whether positive or negative) must be considered.

One concern is cultural influences on health behavior and health-seeking behavior. For example, if it has been found that gynecological exams are avoided by women in a proposed program area, program planners may choose to respond to their concerns (perhaps through public education or staff training). These added activities may increase the cost of the intervention; not adding them may limit its effectiveness. Cultural factors may also help programs, as in the case of working with trusted traditional practitioners to introduce new information and services into a community.

In many countries, policy and law regulate aspects of reproductive health services including qualifications of the provider, criteria for receiving services and whether a procedure (such as abortion) may be performed at all.

Where such regulations act as constraints, modification of the intervention may be possible. For example, program planners may modify its scope, starting with a small pilot project rather than a large-scale service program, in the hope of changing policy. Or they may agree to work with physicians (if only they are permitted to perform certain procedures) instead of midwives, even though midwives may be preferable because of greater cultural acceptability, lower cost and wider distribution. These choices, while practical and perhaps necessary in order to undertake the activity, will affect costs and effectiveness.

As is the case with health system capacity presented above (Factor 5), culture, policy and law are country- (or area-) specific conditions. Once the relevant information is gathered, its constraining or facilitating effects on potential interventions can be assessed. While all activities will occur in the same social and policy environment, some may be more directly affected by it than others.

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## SETTING PRIORITIES


In order to set priorities for programs, information on the various factors needs to be brought together and considered as a whole. One means of condensing the information on the factors is by rating each as low, medium or high.

Clearly, the most desirable activity is one that responds to a highly important problem; is itself of high efficacy; requires low programmatic inputs; would be implemented within a high capacity health system; has low marginal costs; and has low cultural and other constraints. Another activity responding to the same highly important problem but found to have opposite characteristics (low efficacy, high programmatic requirements, etc.) would be far less desirable. Choosing between two such interventions would be a simple matter. Actual comparisons are, however, unlikely to be so neat. Therefore, a clear means of displaying the results of all the data collected appears in Figure 6.

While refinements of this procedure are possible, a clear visual display summarizing the data is practical. The diagram is arranged so that the desirable traits appear at the top of the columns: these are *high* importance, *high* efficacy, *low* program requirements, *low* marginal costs, *high* health system capacity and *low* constraints. Each intervention is summarized in one diagram. As the intervention is assessed and appraisals made for each of the key factors, the appropriate cells are shaded. Higher priority is accorded to the interventions with shading nearer the top of the diagram. An intervention with the ideal traits listed above would show shading in a straight line across the top of the diagram.

In setting priorities, it is important to give added weight to interventions that respond to several problems. For example, one intervention to reduce sexually transmitted diseases (STDs) is condom distribution. Using the framework, this intervention would be assessed relative to other means of reducing STDs, such as various means of screening and treatment. In the final decision, however, the additional effects of condom distribution (on unwanted pregnancy and HIV transmission) should be considered, even if these are not specific goals of the STD program. Similarly, any additional effects of the screening and treatment intervention should also be considered (such as an upgraded laboratory able to handle blood transfusions for obstetric and other surgery). These overlapping effects are further discussed in the example in Appendix 1.

**Figure 6**  
**Setting Priorities Among Reproductive Health Interventions: A Summary Diagram**

| <b>SETTING REPRODUCTIVE HEALTH PRIORITIES</b>                                     |                                  |                                     |                             |                                    |                               |  |
|---|----------------------------------|-------------------------------------|-----------------------------|------------------------------------|-------------------------------|--|
| <b>PROBLEM X</b>  |                                  |                                     | <b>INTERVENTION A</b>       |                                    |                               |  |
| <b>Priority</b>   | <b>Importance of the Problem</b> | <b>Efficacy of the Intervention</b> | <b>Program Requirements</b> | <b>Marginal Costs/ 500,000 Pop</b> | <b>Health System Capacity</b> | <b>Cultural/ Policy/ Legal Constraints</b> |
| <b>Higher</b>   | High                             | High                                | Low                         | Low                                | High                          | Low  |
|  | Low                              | Low                                 | High                        | High                               | Low                           | High                                       |
| <b>Lower</b>  | Medium                           | Medium                              | Medium                      | Medium                             | Medium                        | Medium                                     |
| <b>Additional Effects of the Intervention</b>                                     |                                  |                                     |                             |                                    |                               |  |

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## **STRENGTHS AND LIMITATIONS OF THE FRAMEWORK**

The framework presented here offers policy-makers and planners a systematic process for appraising reproductive health program options and choosing priorities. To apply the process, information on the key factors is required. While it could be argued that this information should always be tailored to a specific environment, the difficulty of obtaining detailed, accurate and timely data is a common frustration of health planners.

A strength of the framework is that much of the data required to apply it in a given situation need not be gathered in that situation. Four of the six key factors can be evaluated based on information pertinent to most settings (Figure 7). Efficacy and program requirements are based on scientific studies and generally accepted protocols, and are therefore relevant to any program. While planners may choose to collect country-specific information on these factors, the results are not likely to differ substantially from those based on generally-applicable studies and protocols (such as those used in the example in Appendix 1.) Importance of the problem and marginal costs can be considered using worldwide and regional data. While these data may not reflect the precise situation, obtaining more accurate information may be very difficult, expensive or impossible. Where such data are available or can be readily obtained, such as through the use of rapid assessment tools, planners can tailor the framework to their local situation. The remaining two factors — health system capacity, and cultural, policy and legal issues — are highly sensitive to local circumstances and should be assessed with regard to a specific situation.

This combination of generally applicable and situation-specific information enhances accuracy and relevance. It is a potent mix for setting priorities.

We expect to produce a manual to help planners apply the framework. It will include instructions for the steps in the appraisal process as well as data on reproductive health problems and interventions for the factors for which such information is relevant. As planners use the framework, they will have the choice of using these data, locality-specific information (if it is available), or a combination of the two. Some local information (on health system capacity and constraints, at a minimum) will, of course, always be required. However, with the availability of generally relevant data, lack of information will become less of a constraint to good planning than would otherwise be the case.

| <b>Figure 7<br/>Sources of Information on Key Factors</b> |  |   |  |
|---|--|---|--|
| <b>Key Factors</b>  | <b>Sources of Information</b>  |   |  |
|   | <b>Research studies,<br/>service protocols<br/><i>Generally<br/>applicable</i></b> | <b>Worldwide,<br/>regional data<br/><i>Generally<br/>applicable</i></b> | <b>Local information<br/><i>Situation specific</i></b> |
| Importance of the problem                                 |  | ✓   | ✓  |
| Efficacy of the intervention                              | ✓  |   |  |
| Program requirements                                      | ✓  |   |  |
| Marginal costs per 500,000 population                     |  | ✓   |  |
| Health system capacity                                    |  |   | ✓  |
| Cultural/policy/legal constraints                         |  |   | ✓  |

The limitations of the framework must also be recognized. While conceived in response to the ICPD mandate to improve women's reproductive health, it only addresses activities for which the health sector can realistically play the lead implementing role. Some health problems — such as female genital mutilation and sexual violence — may be most effectively addressed through social and legal change, not through the health system. The health sector has a role in such activities, but it may well be to support the lead agencies just as these organizations should support the health sector in its activities. Clearly, action on many fronts is required to improve women's reproductive health, their health in general and their economic and social status in society. This framework is intended to improve the health sector's response to these challenges.

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## ***Appendix 1***

### **Example of a Framework Application:**

#### **Choosing the Highest Priority Interventions for the Problem of Mortality and Morbidity from Induced Abortion**

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## **A Note on Appendix 1**

The following is a factor-by-factor application of the framework to address the problem of mortality and morbidity from induced abortion. Each factor is appraised using data available from published studies, generally-accepted service protocols and worldwide and regional data compilations. For the purpose of the example, a fictional (but realistic) case is used for the two factors for which local information is required (health system capacity and cultural/legal/policy constraints).

Following the detailed appraisals for each of the six key factors, the information is summarized in simple diagrams to help clarify the priorities. The priorities are then identified and discussed.

This example illustrates in detail the process of choosing priorities from among all the options available to improve reproductive health. Whether locality-specific or more generally-applicable data are used, the framework can help in the process of systematically appraising each option to determine program priorities.

| <b>EXAMPLE</b>  |           | <b>Choosing priorities to address mortality and morbidity from induced abortion</b>   |             |   |
|---|-----------|---|-------------|---|
| <b>► Factor 1</b>   |           | <b>Importance of the problem</b>  |             |   |
| <b>a. Severity for the affected individual</b>  |           | <ul style="list-style-type: none"> <li>• Women suffer immediate and long term consequences of unsafe abortion:               <ul style="list-style-type: none"> <li>► Common complications: sepsis; hemorrhage; genital injuries, e.g., perforated uterus; toxic reactions (from herbs, drugs, chemicals)</li> <li>► Treatment may require hysterectomy</li> <li>► Long term consequences include chronic pelvic pain, pelvic inflammatory disease, tubal occlusion, secondary infertility and increased likelihood of ectopic pregnancy, premature delivery and spontaneous abortion</li> </ul> </li> <li>• Death is associated with clandestine abortion, from complications listed above</li> </ul>  |             |   |
| <b>b. Magnitude in the population</b>   |           | <ul style="list-style-type: none"> <li>• Unsafe abortions are common:               <ul style="list-style-type: none"> <li>► Estimated 20 million unsafe abortions performed worldwide annually (10% of all pregnancies)<sup>24</sup></li> <li>► Estimated proportions of women 15-49 having (illegal) induced abortion annually: Peru 5.2%; Chile 4.5%; DR 4.4%; Brazil 3.7%; Colombia 3.4%; Mexico 2.3%<sup>25</sup></li> </ul> </li> <li>• Mortality and morbidity are high:               <ul style="list-style-type: none"> <li>► Estimated 70,000 deaths annually from unsafe abortion (350 deaths/100,000 unsafe procedures)<sup>26</sup></li> <li>► Estimated 240-330 morbidities per death (16.8-23.1 million morbidities);<sup>27</sup> 31-47% of women having induced clandestine abortions experience 1 or more complications; estimated 1 in range of 3 to 7 women having abortions require hospitalization, depending on safety of common procedures used<sup>28</sup></li> </ul> </li> </ul> |             |   |
| <b>c. Related morbidity/mortality, social effects &amp; human rights implications</b>                         |           | <ul style="list-style-type: none"> <li>• Clients and providers risk legal punishment</li> <li>• Clandestine abortion is often costly to the client</li> <li>• Clients of illegal practitioners have no recourse if poor care is received; no quality standards pertain to illegal practitioners<sup>29</sup></li> <li>• Infertility carries grave repercussions for women in cultures in which women's worth is closely associated with childbearing</li> <li>• Denial of access to information and means to "decide freely the number, spacing and timing of their children" is an infringement of basic human rights</li> </ul>   |             |   |
| <b>Appraisal</b>  |           |   |             |   |
| <b>Rate each criterion on scale</b><br><i>High=3                      Medium=2                      Low=1</i> |           |   |             | <b>IMPORTANCE</b><br><i>7-9 High<br/>4-6 Medium<br/>0-3 Low</i> |
| Severity  | Magnitude | Social/human rights effects   | Total score |   |
| High (3)  | High (3)  | Medium (2)  | 8           | <b>HIGH</b>   |

*Note* In this example, only one problem is considered, so its **Importance** rating of **High** is constant for all the interventions appraised.

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## IDENTIFYING THE POTENTIAL INTERVENTIONS

In considering the example on induced abortion, three categories of potential interventions emerge. Mortality and morbidity from abortion can be reduced by preventing the unwanted pregnancy; by preventing the abortion if a woman is already pregnant; and/or by reducing the dangers of abortion and possible complications once it is chosen.

At this step in the framework, it is important to note that including interventions among those to be appraised does not connote endorsement. Indeed, the point of using the framework is to consider the options rationally and systematically rather than rely on conventional wisdom. Analysis can reveal which interventions are effective as well as those which are not. Both types of findings are important for program planning.

One potential intervention to prevent pregnancy would be to increase modern contraceptive use. This includes education, counseling, referral and services. As this intervention is discussed throughout this paper, it should be noted that efforts could be directed to the general reproductive-age population or specifically to women, men, adolescents or other sub-groups. Post-abortion family planning services target a particularly important sub-group of women, those who have already had an unwanted pregnancy and who, without services, are assumed to be at higher-than-average risk of another.

The health sector would appropriately lead the intervention to increase family planning use but, ideally, would not act alone. Linking such a program to the activities of a wide variety of community groups could strengthen its reach and effect.

The second potential intervention to prevent pregnancy would involve promoting abstinence and/or delayed sexual activity among adolescents. This intervention too could be led by the health sector, especially as part of a community-based program. However, other groups may be better placed to reach young people *before* they become sexually active. Thus, school, youth, religious and other community groups (offering skills development, job and leadership training, peer counseling and community service) might more appropriately lead such an intervention, with the health system supporting their efforts through providing health information and education.

The option of preventing abortion among women who are already pregnant has limited program choices. An idea sometimes put forth to reduce abortions is the promotion of adoption. Others recommend increased economic and social support to pregnant women before and after the birth. If such programs were initiated, it is likely that religious or social organizations, rather than the health sector, would lead them. These options are therefore not appraised in the

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framework (although it would be advisable for an organization considering them to undertake a careful analysis of their likelihood of success).

Several interventions have been shown to reduce illness and death once a woman has decided to obtain an abortion. First, safe abortion services, including pre- and post-abortion counseling, could be made widely available. Second, emergency treatment for complications of unsafe abortion could be provided, along with appropriate follow-up care. Third, abortion laws and policy could be liberalized if restrictions exist. The first two of these potential interventions are appraised in the framework, since the health sector would logically lead such efforts. The policy option is not assessed since the role of the health sector would probably be to support the policy and rights groups that would appropriately drive such a movement.

Another potential intervention is the package of services known as post-abortion care. As defined by International Projects Assistance Services (IPAS), post-abortion care consists of emergency treatment services for complications of abortion; post-abortion family planning counseling and services; and links between emergency treatment services and comprehensive reproductive health care.<sup>30</sup> It thus comprises individual interventions which, as indicated above, will be appraised in the framework. Although each intervention is appraised individually, program planners may choose to combine them in practice.

The table on the following page lists the interventions discussed and indicates whether the health sector would play a lead or support role in carrying them out. As already noted, only those interventions which would realistically be *led* by the health sector are appraised in the framework. In the case of mortality and morbidity from induced abortion, these interventions are:

- ▶ Increase modern contraceptive use
- ▶ Provide safe abortion
- ▶ Provide emergency treatment for complications of unsafe abortion

These are the interventions addressed in the remainder of the example.



**EXAMPLE**                      **Choosing priorities to address mortality and morbidity from induced abortion**

▶ **Factor 2**                      **Efficacy of the potential interventions**

**Intervention: Increase use of modern contraceptives**

- ▶ Theoretical effectiveness of modern methods is high (most 90-99%)<sup>31</sup>
- ▶ Use effectiveness is lower, ranging from about 80 to 99%. Varies with method, age, frequency of intercourse<sup>32</sup>
- ▶ Users of effective methods are least likely to have abortions
- ▶ *Panama study*:<sup>33</sup>

|   | <i>Abortions/1000 women</i> |
|---|-----------------------------|
| Users of effective methods (pill, IUD, sterilization) | 20                          |
| Users of all other methods                            | 79                          |
| Non-users   | 91                          |
- ▶ Use of contraception does not prevent all abortions
  - ▶ Colombia: of 602 abortion clients, 58% were using method when pregnancy occurred; 13% were using hormonal method, IUD or sterilization<sup>34</sup>
  - ▶ US: 47% unintended pregnancies occur among women using method. 41% of these ended in abortion (1987)<sup>35</sup>
- ▶ Cumulative failure of contraceptive methods is relatively high, even for effective methods. E.g., approximately 2/3 of IUD users will experience a pregnancy during 10 years of use, though the monthly risk of conception is only 1%<sup>36</sup>

**Intervention: Provide safe abortion**

- ▶ Aggregate mortality rate from all techniques of legal abortion is low: 0.6/100,000 procedures in 13 countries with good data<sup>37</sup>
- ▶ Emergency (postcoital) contraception is effective: emergency pill treatment reduced risk of pregnancy by 75% in 2,829 cycles studied<sup>38</sup>
- ▶ Early non-invasive abortion is effective: RU486 (mifepristone)+prostaglandin: 96% efficacy in pregnancies up to 49 days; 95% up to 63 days<sup>39</sup>
- ▶ MVA preferable to curettage: Zimbabwe comparison<sup>40</sup>

|                        | <i>MVA (n=834)</i> | <i>Curettage (n=589)</i> |
|------------------------|--------------------|--------------------------|
| incomplete evacuation  | 0%                 | 0.7%                     |
| death                  | 0                  | 0                        |
| excessive bleeding     | 0.2%               | 0.7%                     |
| uterine perforation    | 0                  | 0.2%                     |
| cervical trauma        | 0.1%               | 0.3%                     |
| pain at follow-up      | 0.3%               | 2.7%                     |
| infection at follow-up | 1.6%               | 2.5%                     |
- ▶ Early abortion is safer than later abortion: US 1981-85 mortality per 100,000 abortions: 0.2 at <=8 weeks; 0.3 at 9-10 weeks; 0.6 at 11-12 weeks; 3.7 at 16-20 weeks; 12.7 at >= 21 weeks<sup>41</sup>

| <b>EXAMPLE</b>   | <b>Choosing priorities to address mortality and morbidity from induced abortion</b> |  |
|--|---|--|
| ▶ <b>Factor 2</b>  | <b><i>Efficacy of the potential interventions (continued)</i></b>                   |  |
| <b><i>Intervention: Provide emergency treatment for complications of unsafe abortion</i></b>   |   |  |
| <ul style="list-style-type: none"> <li>▶ Common complications: sepsis; hemorrhage; genital injuries (e.g., perforated uterus); toxic reactions (from herbs, drugs, chemicals)</li> <li>▶ Highly effective treatments exist to prevent death from virtually all complications: maternal deaths from all causes per 100,000 live births: 8 (U.S.); 0-9 (Western Europe); 9 (Japan)<sup>42</sup></li> <li>▶ Factors affecting effectiveness of treatment include promptness of medical care, adequacy of skills, material and equipment, condition of patient on arrival</li> </ul> |   |  |
| <b><i>Appraisal</i></b>  | <b><i>Efficacy of Intervention</i></b>  |  |
| <i>Increase use of modern contraceptives</i>   | <i>Medium</i>   |  |
| <i>Provide safe abortion</i>   | <i>High</i>   |  |
| <i>Provide emergency treatment for complications of unsafe abortion</i>  | <i>High</i>   |  |

| <b>EXAMPLE</b> <b>Choosing priorities to address mortality and morbidity from induced abortion</b>   |  |  |
|--|--|--|
| <b>► Factor 3</b> <b>Site level and program requirements for the intervention</b>  |  |  |
| <b>Intervention</b>  | <b>Minimum* Service Site/ Facility Level</b>                               | <b>Additional Program Requirements</b>   |
| <p><b><i>Increase use of modern contraceptives</i></b></p> <ul style="list-style-type: none"> <li>► Temporary methods: vaginal tablets, condoms, oral contraceptives</li> <li>► Temporary methods: above plus injectable</li> <li>► All temporary methods: above plus IUD</li> <li>► All methods: above plus implants and sterilization</li> </ul> | <p>Level 1</p> <p>Level 2</p> <p>Level 3</p> <p>Level 4</p>                | <p>Training, contraceptives</p> <p>Training, contraceptives</p> <p>Above plus IUD insertion kit</p> <p>Above plus sterilization kit</p>  |
| <p><b><i>Provide safe abortion</i></b></p> <ul style="list-style-type: none"> <li>► Emergency contraception</li> <li>► Early abortion</li> <li>► Vacuum aspiration (VA), including manual vacuum aspiration (MVA)</li> <li>► Other 1st trimester procedures, including sharp curettage</li> <li>► 2nd trimester surgical abortion</li> </ul>       | <p>Level 2</p> <p>Level 3</p> <p>Level 3</p> <p>Level 4</p> <p>Level 4</p> | <p>Training, contraceptives</p> <p>Training, mifepristone + prostaglandin</p> <p>Training, VA/MVA kit</p> <p>Training, curettage equipment, equipment for uterine evacuation</p> <p>Training, equipment for uterine evacuation</p> |
| <p><b><i>Provide emergency treatment for complications of unsafe abortions</i></b></p> <ul style="list-style-type: none"> <li>► Moderate complications</li> <li>► Severe complications</li> </ul>  | <p>Level 3</p> <p>Level 4</p>  | <p>Training, MVA kit, curettage equipment</p> <p>Training, above plus equipment for uterine evacuation</p>   |

\* Interventions can be carried out at the minimum as well as all higher levels.

| <b>EXAMPLE</b>  |  | <b>Choosing priorities to address mortality and morbidity from induced abortion</b> |  |  |
|---|--|---|--|--|
| <b>► Factor 4</b>   |  | <b>Costs of the intervention</b>  |  |  |
| <b>Information/ Cost Items*</b>   |  |   |  |  |
|   | <b>Increase use of modern contraceptives</b> | <b>Provide safe abortion</b>  | <b>Provide emergency treatment for complications</b> |  |
| <b>Coverage</b>   |  |   |  |  |
| Population  | 500,000                                      | 500,000   | 500,000  |  |
| Women of reproductive age (25% of total population)                     | 125,000                                      | 125,000   | 125,000  |  |
| <b>Number of service sites</b>  |  |   |  |  |
| Level 1   | 500  | 0   | 0  |  |
| Level 2   | 25   | 25  | 0  |  |
| Level 3   | 4  | 4   | 4  |  |
| Level 4   | 1  | 1   | 1  |  |
| Level 5   | 0  | 0   | 0  |  |
| <b>Number of workers to be trained</b>                                  | 570  | 70  | 30   |  |
| <b>Marginal costs/500,000 population**</b>                              |  |   |  |  |
| Training  | \$60,000                                     | \$16,500  | \$17,500   |  |
| Equipment   | \$17,000                                     | \$3,000   | \$7,500  |  |
| Supplies and commodities  | \$31,500                                     | \$19,000  | \$10,000   |  |
|   | <b>\$108,500</b>                             | <b>\$38,500</b>   | <b>\$35,000</b>                                      |  |
| <b>Appraisal</b>  | <b>Marginal costs/500,000 population</b>     |   |  |  |
| <i>Increase use of modern contraceptives</i>                            | <i>\$108,500</i>                             | <i>Medium</i>   |  |  |
| <i>Provide safe abortion</i>  | <i>\$ 38,500</i>                             | <i>Low</i>  |  |  |
| <i>Provide emergency treatment for complications of unsafe abortion</i> | <i>\$35,000</i>                              | <i>Low</i>  |  |  |

\* Details of calculations can be found in Appendix 2.

\*\* Figures are rounded to nearest \$500.

|   |   |
|---|---|
| <b>EXAMPLE</b>  | <b>Choosing priorities to address mortality and morbidity from induced abortion</b>   |
| ▶ <b>Factor 5</b>   | <b><i>Capacity of the health system to implement and sustain the intervention</i></b> |
| <p>Unlike the factors discussed so far, health system capacity needs to be assessed with regard to a specific country or region. For the purposes of this example, let us take the case of a country with the following strengths and weaknesses in its public-sector health system.</p>  |   |
| <p><b><i>Human resource management</i></b><br/> The MOH has a good overall record of filling posts: about 80 percent of all posts are filled at a given time. However, urban/rural and facility disparities are apparent: only 65 percent of rural health center posts are filled while the corresponding figure for urban hospitals is 110 percent.</p> <p><b><i>Support and supervision</i></b><br/> In general, the system is weak. Few staff members have explicit supervision responsibilities and rarely do national, regional or district planners provide resources for support and supervision in their budgets.</p> <p><b><i>Logistics</i></b><br/> The centrally-managed essential drug program, the largest logistics effort in the country, works reasonably well: less than 20 percent of deliveries were missed in the last year. Drugs often run out between deliveries, however. Other ad hoc supply systems — for special orders and non-essential supplies — are less successful. Stock shortages are most likely in the least accessible service sites.</p> <p><b><i>Financial management</i></b><br/> Financial transfers from the central level to the regions to the facilities are accurate but often late. Recent experience with charging fees for services has had mixed success; no systematic plan was made prior to introducing the change.</p> |   |
| <p><b><i>Appraisal</i></b><br/> Since all the interventions depend upon these elements of the health system, all are affected. However, those that depend more upon weaker elements of the system may be more severely affected. For example, in this case, virtually no supervision or support should be expected, especially in distant rural areas. This is likely to have a greater negative impact on volunteers and auxiliary staff in communities and at the lower facility levels than on midwives and physicians at the higher levels.</p>   |   |
| <p><b><i>Capacity of Health System to Implement the Intervention</i></b></p>  |   |
| <p><i>Increase use of contraceptives</i></p> <p><i>Provide safe abortion</i></p> <p><i>Provide emergency treatment for complications of unsafe abortion</i></p>   | <p><i>Low</i></p> <p><i>Medium</i></p> <p><i>Medium</i></p>                           |

|  |   |
|--|---|
| <p><b>EXAMPLE</b></p> <p>► <b>Factor 6</b></p>   | <p><b>Choosing priorities to address mortality and morbidity from induced abortion</b></p> <p><b><i>Cultural, political and legal factors</i></b></p> |
| <p>As noted, information on culture, policy and law needs to be collected with reference to specific situations. For the purposes of the example, we will take the case of a country with the following social and policy environment.</p>   |   |
| <p><b><i>Cultural factors</i></b></p> <p>It is generally and strongly held that a couple should have only as many children as they can afford. The concept of family planning is thus generally acceptable.</p> <p>The country's traditional, as well as Muslim and Christian, beliefs prohibit sex among young people and unmarried women and condemn abortion. Deaths from induced abortion are considered tragic, but deserved.</p> <p>Many women suffering from complications of abortion either avoid health facilities or go only after long delays. This holds even when services are relatively accessible, for reasons that include shame and fear of legal reprisal.</p> <p><b><i>Policy and legal factors</i></b></p> <p>MOH policy on providers is, on the whole, unrestrictive. Surgery is restricted to physicians. Other providers are permitted to carry out all other procedures (except abortion).</p> <p>Abortion is not permitted except in cases in which the woman's life or general physical health is at risk.</p> <p>Contraceptives are officially limited to married women. Marriage status for men is not specified.</p> <p>All modern contraceptives are permitted. Women must have their husbands' consent for sterilization.</p> |   |
| <p><b><i>Appraisal</i></b></p> <p><i>Increase use of contraceptives</i></p> <p><i>Provide safe abortion</i></p> <p><i>Provide emergency treatment for complications of abortion</i></p>  | <p><b><i>Cultural/Policy/Legal Constraints Associated with Intervention</i></b></p> <p><i>Medium</i></p> <p><i>High</i></p> <p><i>Medium</i></p>      |

**EXAMPLE****Choosing priorities to address mortality and morbidity from induced abortion*****Setting Priorities***

The three diagrams on the following pages summarize the information collected on the problem of mortality and morbidity from induced abortion. Each diagram depicts one of the potential interventions: the first illustrates increased use of modern contraceptives; the second, providing safe abortion; and the third, providing emergency treatment of complications of abortion. The shaded cells represent the appraisals attributed to each factor for each intervention, as discussed in the Example segments above. *The closer the shaded line is to the top of the diagram, the higher the priority of the intervention.*

Of the three interventions, providing emergency treatment for complications emerges as the highest priority. Like safe abortion, it is highly effective, relatively low-cost and has medium program requirements. Because both emergency treatment and abortion are one-time procedures and are carried out by relatively highly-trained staff (most by midwives and physicians), the poor system capacity is not likely to have a seriously debilitating effect. Emergency treatment has a clear advantage over safe abortion, however, in view of abortion's legal status and the cultural bias against it. The efficacy and program-related factors would propel safe abortion into the second priority position but, in the given situation, the legal and cultural sanctions seem likely to seriously constrain any efforts to make the service available. For this reason, safe abortion can not be viewed as an appropriate program choice.

Increasing contraceptive use is more culturally and legally feasible than providing safe abortion but would be hampered by its dependence on the weak health system for regular supply and supervision. Most importantly, the efficacy of contraceptives in preventing mortality and morbidity from abortion is rated as medium, as compared to the high efficacy of both safe abortion and emergency treatment of complications. The cost is also high as compared to the other interventions. While costs could be lowered by limiting the scope of the activities (by training fewer people or serving fewer clients, for example), such changes would further limit the intervention's contribution to saving lives. Considering family planning's other benefits, as well as the legal and cultural constraints facing the provision of safe abortion, family planning emerges as a second priority.

**Example**                    **Choosing priorities to address mortality and morbidity from induced abortion**

*Setting Priorities (continued)*

| <i>INTERVENTION    Increase use of modern contraceptives</i>   |                                  |                                     |                             |                                    |                        |   |
|--|----------------------------------|-------------------------------------|-----------------------------|------------------------------------|------------------------|---|
| <b>Priority</b>  | <b>Importance of the Problem</b> | <b>Efficacy of the Intervention</b> | <b>Program Requirements</b> | <b>Marginal Costs/ 500,000 Pop</b> | <b>System Capacity</b> | <b>Cultural/ Policy/Legal Constraints</b> |
| <b>Higher</b>  |                                  |                                     |                             |                                    |                        |   |
| ↕  |                                  |                                     |                             |                                    |                        |   |
| <b>Lower</b>   |                                  |                                     |                             |                                    |                        |   |
| <b>Additional effects</b> Reduced unwanted pregnancy, maternal mortality and morbidity from all causes, STDs and HIV transmission and subsequent infertility |                                  |                                     |                             |                                    |                        |   |

| <i>INTERVENTION    Provide safe abortion</i>  |                                  |                                     |                             |                                    |                        |   |
|---|----------------------------------|-------------------------------------|-----------------------------|------------------------------------|------------------------|---|
| <b>Priority</b>   | <b>Importance of the Problem</b> | <b>Efficacy of the Intervention</b> | <b>Program Requirements</b> | <b>Marginal Costs/ 500,000 Pop</b> | <b>System Capacity</b> | <b>Cultural/ Policy/Legal Constraints</b> |
| <b>Higher</b>   |                                  |                                     |                             |                                    |                        |   |
| ↕   |                                  |                                     |                             |                                    |                        |   |
| <b>Lower</b>  |                                  |                                     |                             |                                    |                        |   |
| <b>Additional effects</b> Improved surgical capability for all causes of maternal mortality; improved general surgical capability |                                  |                                     |                             |                                    |                        |   |

**Example**

**Choosing priorities to address mortality and morbidity from induced abortion**

*Setting Priorities (continued)*

| <i>INTERVENTION Provide emergency treatment for complications of unsafe abortion</i> |   |                                     |                             |                                    |                        |   |
|--|---|-------------------------------------|-----------------------------|------------------------------------|------------------------|---|
| <b>Priority</b>  | <b>Importance of the Problem</b>  | <b>Efficacy of the Intervention</b> | <b>Program Requirements</b> | <b>Marginal Costs/ 500,000 Pop</b> | <b>System Capacity</b> | <b>Cultural/ Policy/Legal Constraints</b> |
| <b>Higher</b>  |   |                                     |                             |                                    |                        |   |
| ↕  |   |                                     |                             |                                    |                        |   |
| <b>Lower</b>   |   |                                     |                             |                                    |                        |   |
| <b>Additional effects</b>  | Improved surgical capability for all causes of maternal mortality; improved general surgical capability |                                     |                             |                                    |                        |   |

**Reminder–**

The closer the shaded line is to the top of the diagram, the higher the priority of the intervention.

**EXAMPLE****Choosing priorities to address mortality and morbidity from induced abortion*****Setting Priorities (continued)***

Although each intervention is appraised separately in the framework, combining them may make good program sense. In this case, the resulting priorities are consistent with the provision of post-abortion care, which is composed of emergency treatment of complications, post-abortion family planning counseling and services and links to other reproductive health services.

As noted earlier, only interventions for which the health sector would play the lead role are considered in this framework. Other organizations' activities are also important, however. For example, social, legal and political action resulting in legalized abortion would reduce the need for emergency treatment and ultimately reduce abortion-related illness and death. Supporting such activities led by women's or social action groups should be an integral component of the health sector's work.

## Appendix 2 Details of Marginal Cost Estimates

The bases for the calculation of cost estimates presented in the section on *Costs of the Intervention* are explained here. Note: Figures were rounded for the example.

### Population and Health System Assumptions

|   |         |
|---|---------|
| Population                                    | 500,000 |
| Women of reproductive age (25% of population) | 125,000 |
| Number of service sites                       |         |
| Level 1 (1 per 1,000 population)              | 500     |
| Level 2 (1 per 20,000 population)             | 25      |
| Level 3 (1 per 125,000 population)            | 4       |
| Level 4 (1 per 500,000 population)            | 1       |
| Level 5 (not needed for interventions)        | 0       |

### Training

#### Number of workers to be trained

Intervention A: Increase use of modern contraceptives

|                    |           |     |
|--------------------|-----------|-----|
| 1 from each of 500 | Level 1 = | 500 |
| 2 from each of 25  | Level 2 = | 50  |
| 4 from each of 4   | Level 3 = | 16  |
| 4 from each of 1   | Level 4 = | 4   |

Intervention B: Provide safe abortion

|                   |           |    |
|-------------------|-----------|----|
| 2 from each of 25 | Level 2 = | 50 |
| 4 from each of 4  | Level 3 = | 16 |
| 4 from each of 1  | Level 4 = | 4  |

Intervention C: Provide emergency treatment for complications

|                  |           |    |
|------------------|-----------|----|
| 6 from each of 4 | Level 3 = | 24 |
| 6 from each of 1 | Level 4 = | 6  |

**Training costs** (Includes estimates for transport, meals, lodging, training materials. Does not include salaries or fees.)

|                | Costs per trainee                    | Number of workers | Total           |
|----------------|--------------------------------------|-------------------|-----------------|
| Intervention A |                                      |                   |                 |
| Level 1        | \$ 5/day x 10 days + \$25 = \$ 75    | 500               | \$37,500        |
| Level 2        | \$15/day x 10 days + \$25 = \$175    | 50                | \$ 8,750        |
| Level 3        | \$25/day x 30 days + \$50 = \$800    | 16                | \$12,800        |
| Level 4        | \$50/day x 3 days + \$100 = \$250    | 4                 | \$ 1,000        |
|                | <i>Training cost, Intervention A</i> |                   | <b>\$60,050</b> |
| Intervention B |                                      |                   |                 |
| Level 2        | \$15/day x 5 days + \$25 = \$100     | 50                | \$ 5,000        |
| L. 3 & 4       | \$35/day x 15 days + \$50 = \$575    | 20                | \$11,500        |
|                | <i>Training cost, Intervention B</i> |                   | <b>\$16,500</b> |
| Intervention C |                                      |                   |                 |
| L. 3 & 4       | \$35/day x 15 days + \$50 = \$575    | 30                | \$17,250        |
|                | <i>Training cost, Intervention C</i> |                   | <b>\$17,250</b> |

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## Appendix 2 (continued)

### Equipment

|                |   |
|----------------|---|
| Intervention A | Level 1: \$5 per site<br>Level 2: \$75 per site<br>Level 3&4: IUD kit @ \$378 per 100 insertions (estimate 2,500 insertions = 25 kits); \$200 per site other expenses<br>Level 4: sterilization kit @ \$428 per 50 procedures (estimate 250 procedures = 5 kits)<br>$(\$5 \times 500 + \$75 \times 25 + \$378 \times 25 + \$200 \times 5 + \$428 \times 5) = \mathbf{\$16,965}$ |
| Intervention B | Levels 3&4: MVA kit \$23 per 50 procedures (estimate 3,750 abortions in facilities = 75 kits); \$250 per site other expenses<br>$(\$23 \times 75 + \$250 \times 5) = \mathbf{\$2,975}$  |
| Intervention C | Levels 3&4: MVA kits and other equipment (estimate 1,000 complications seen at facilities) @ \$1500 per site<br>$(\$1500 \times 5) = \mathbf{\$7,500}$  |

### Supplies and Commodities

|                |   |
|----------------|---|
| Intervention A | Assume 12,500 new contraceptive users, mean annual commodities cost per user \$2.50<br>$(12,500 \times \$2.50) = \mathbf{\$31,250}$ |
| Intervention B | Assume 3,750 abortions, mean drugs and supplies cost \$5/procedure<br>$(3,750 \times \$5) = \mathbf{\$18,750}$                      |
| Intervention C | Assume 1,000 complications, mean drugs and supplies cost \$10/procedure<br>$(1,000 \times \$10) = \mathbf{\$10,000}$                |

### Summary: Marginal costs/500,000 population (Figures are rounded to nearest \$500)

|                          | Intervention A   | Intervention B  | Intervention C  |
|--------------------------|------------------|-----------------|-----------------|
| Training                 | \$60,000         | \$16,500        | \$17,500        |
| Equipment                | \$17,000         | \$ 3,000        | \$ 7,500        |
| Supplies and commodities | \$31,500         | \$19,000        | \$10,000        |
|                          | <b>\$108,500</b> | <b>\$38,500</b> | <b>\$35,000</b> |

## References

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- <sup>1</sup>. United Nations. *Population and Development: Programme of Action adopted at the International Conference on Population and Development, Cairo, 5-13 September, 1994, Volume 1*. United Nations Department of Economic and Social Information and Policy Analysis. ST/ESA/SER.A/149, March 1995.
- <sup>2</sup>. United Nations Population Fund. "Guidelines for UNFPA Support for Reproductive Health, Including Family Planning and Sexual Health." UNFPA/CM/83/14, Rev.4. UNFPA, 22 November, 1995.
- <sup>3</sup>. United Nations Population Fund. "Guidelines for UNFPA Support for Reproductive Health, Including Family Planning and Sexual Health." UNFPA/CM/83/14, Rev.4. UNFPA, 22 November, 1995. Cover letter.
- <sup>4</sup>. United Nations Population Fund. "Guidelines for UNFPA Support for Reproductive Health, Including Family Planning and Sexual Health." UNFPA/CM/83/14, Rev.4. UNFPA, 22 November, 1995. p.2.
- <sup>5</sup>. World Health Organization. *Achieving Reproductive Health For All: The Role of WHO*. A.L. Waddell, Ed. WHO/FHE/95.6. pp.18-22.
- <sup>6</sup>. World Health Organization. *Achieving Reproductive Health For All: The Role of WHO*. A.L. Waddell, Ed. WHO/FHE/95.6. pp.2-4.
- <sup>7</sup>. "Guidelines on Reproductive Health for the UN Resident Coordinator System." Draft, 30 October, 1995.
- <sup>8</sup>. UNICEF. "UNICEF and Women's Reproductive Health." 1995.
- <sup>9</sup>. UNICEF. "Making It Happen: UNICEF and Women's Health." Draft, May 1996.
- <sup>10</sup>. Tinker, Anne, Tom Merrick, Alusoji Adeyi. *Improving Reproductive Health: The Role of the World Bank*. The World Bank, 1995.
- <sup>11</sup>. Jameson, Dean T., José-Luis Bobadilla, Robert Hecht, Kenneth Hill, Philip Musgrove, Helen Saxenian, Jee-Peng Tan, Seth Berkeley, Christopher J.L. Murray. *World Development Report 1993: Investing in Health*. World Bank, Oxford University Press, Oxford, 1993.
- <sup>12</sup>. United States Agency for International Development. "Reproductive Health Programs Supported by USAID: A Progress Report on Implementing the Cairo Program of Action." USAID, May 1996. p.4.
- <sup>13</sup>. UK Overseas Development Administration and the U.S. Agency for International Development. "Implementing Reproductive Health Programmes. Report of a Donor Workshop Co-sponsored by the UK Overseas Development Administration and the U.S. Agency for International Development." New York, June 12-14, 1995.
- <sup>14</sup>. The Robert H. Ebert Program on Critical Issues in Reproductive Health and Population. *Reproductive Health Approach to Family Planning*. The Population Council, New York. December 1994.

- 
15. Hardee, Karen and Kathryn M. Yount. *From Rhetoric to Reality: Delivering Reproductive Health Promises through Integrated Services*. Family Health International Working Papers No. WP95-01, 1995.
16. International Planned Parenthood Federation. *Vision 2000: Sexual and Reproductive Health. Family planning puts promises into practice*. International Planned Parenthood Federation, London 1995.
17. Reproductive Health Working Group. "Guidelines for CARE Reproductive Health Programs." Draft, 1996.
18. UK Overseas Development Administration and the U.S. Agency for International Development. "Implementing Reproductive Health Programmes. Report of a Donor Workshop Co-sponsored by the UK Overseas Development Administration and the U.S. Agency for International Development." New York, June 12-14, 1995. pp.9,15,19.
19. Garcia-Moreno, Claudia, Amparo Claro. "Challenges from the Women's Health Movement: Women's Rights versus Population Control." In *Population Policies Reconsidered: Health, Empowerment and Rights*, Gita Sen, Adrienne Germain, Lincoln C. Chen, Eds. International Women's Health Coalition, New York and Harvard Center for Population and Development Studies, Boston. Distributed by Harvard University Press, March 1994.
20. *Women's Declaration on Population Policies*. International Women's Health Coalition serving as Secretariat, New York, 1992.
21. McIntosh, C. Alison, Jason L. Finkle. "The Cairo Conference on Population and Development: A New Paradigm?" *Population and Development Review*, vol.21, no.2, June 1995:223-260.
22. World Health Organization. *Achieving Reproductive Health For All: The Role of WHO*. A.L. Waddell, Ed. WHO/FHE/95.6. p.16.
23. Jameson, Dean T., José-Luis Bobadilla, Robert Hecht, Kenneth Hill, Philip Musgrove, Helen Saxenian, Jee-Peng Tan, Seth Berkeley, Christopher J.L. Murray. *World Development Report 1993: Investing in Health*. World Bank, Oxford University Press, Oxford, 1993.
24. Maternal Health and Safe Motherhood Programme, Division of Family Health, World Health Organization. *Mother-Baby Package: Implementing safe motherhood in countries*. WHO/FHE/MSM/94.11. World Health Organization, Geneva, 1994. p.2.
25. Alan Guttmacher Institute. *Clandestine Abortion: A Latin American Reality*. The Alan Guttmacher Institute, New York, 1994. p.22.
26. Maternal Health and Safe Motherhood Programme, Division of Family Health, World Health Organization. *Mother-Baby Package: Implementing safe motherhood in countries*. WHO/FHE/MSM/94.11. World Health Organization, Geneva, 1994. p.2.
27. Finger, William R. "Maternal Morbidities Affect Tens of Millions." *Network*, vol.14., no.3, February 1994:8-11.

- 
28. Alan Guttmacher Institute. *Clandestine Abortion: A Latin American Reality*. The Alan Guttmacher Institute, New York 1994. p.18.
29. Kissling, Frances. "Abortion: The Link Between Legality and Safety." *Reproductive Health Matters*. No.2, November 1993. pp.65-67.
30. International Projects Assistance Services. *Advances in abortion care*, vol.4, no.1, 1994.
31. Hatcher, Robert A. et al. *Contraceptive Technology, Sixteenth Revised Edition*. Irvington Publishers, New York. 1994. p.113.
32. Hatcher, Robert A. et al. *Contraceptive Technology, Sixteenth Revised Edition*. Irvington Publishers, New York. 1994. pp.112-122.
33. Ross, John A., Marjorie Rich, Janet P. Molzan. *Management Strategies for Family Planning Programs*. Center for Population and Family Health, Columbia University, 1989. pp.44-45.
34. Mora, Margoth and Jorge Villareal. "Unwanted Pregnancy and Abortion: Bogot, Colombia". *Reproductive Health Matters*, Number 2, November 1993. p.16.
35. Alan Guttmacher Institute. *Preventing Pregnancy, Protecting Health: A New Look at Birth Control Choices in the United States*. Alan Guttmacher Institute, New York, 1991. p.33.
36. Ross, John A., Marjorie Rich, Janet P. Molzan. *Management Strategies for Family Planning Programs*. Center for Population and Family Health, Columbia University, 1989. pp.38-39.
37. Henshaw, Stanley K. "Induced Abortion: A World Review, 1990." *International Family Planning Perspectives*, vol.16. no.2, June 1990:59-65.
38. Hatcher, Robert A., James Trussell, Felicia Stewart et al. *Contraceptive Technology, 16th Revised Edition*. Irvington Publishers, Inc., New York. p.419.
39. Baird, David T. "Clinical Use of Mifepristone (RU 486)." *Annals of Medicine* 25:65-69, 1993.
40. Mahomed, K., J. Healy, S. Tandon. "A comparison of manual vacuum aspiration (MVA) and sharp curettage in the management of incomplete abortion." *International Journal of Gynecology and Obstetrics*, 46(1994):27-32.
41. Henshaw, Stanley K. "Induced Abortion: A World Review, 1990." *International Family Planning Perspectives*, vol.16. no.2, June 1990:59-65.
42. United Nations, Population Division. *World Abortion Policies, 1994*. United Nations, March 1994.