

A PROPOSED ADOLESCENT REPRODUCTIVE HEALTH INITIATIVE

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by

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Despite the input from many people, only the author is responsible for the way in which ideas have been expressed in this concept paper.

BIOGRAPHICAL DATA

Douglas Kirby, Ph.D., is Director of Research at ETR Associates in California. He has directed nation-wide studies of adolescent sexual behavior, sexuality education programs, school-based clinics, and direct mailings of STD/AIDS pamphlets to adolescent males. Currently he is principal investigator or co-principal investigator of evaluations of several school-based programs designed to delay the onset of intercourse or increase the use of contraception. He co-authored research on the Reducing the Risk curriculum which substantially reduced unprotected intercourse, both by delaying the onset of intercourse and increasing the use of contraception. Recently, he has directed a national panel of experts which reviewed the literature on school-based programs designed to affect sexual and contraceptive behavior. Over the years, he has also authored or co-authored numerous volumes, articles, and chapters both on these programs and on methods of evaluating them.

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ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
CDC	Centers for Disease Control and Prevention
CBD	community-based distribution
CORA	Center of Orientation for Adolescents (Mexico)
FGM	female genital mutilation
EVALUATION	Evaluation of Family Planning Program Impact (project)
DASH	Division of Adolescent and School Health at CDC
HIV	human immunodeficiency virus
ICPD	International Conference on Population and Development (Cairo Conference)
NGO	nongovernmental organization
OPTIONS	Options for Population Policy (project)
MCH	maternal and child health
RAPID	Resources for the Awareness of Population Impact on Development (project)
STD	sexually transmitted disease
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

Overview of the Concept Paper

This concept paper (1) summarizes empirical evidence on adolescent reproductive problems and demonstrates the need for an international adolescent reproductive health initiative; (2) reviews existing programs and the evidence of their effectiveness; (3) identifies their major limitations; (4) suggests an overall paradigm for addressing these limitations; (5) describes in some detail five major groups of activities that ideally should be incorporated into an international adolescent reproductive health initiative; and (6) identifies other activities that do not fit into these groups but would contribute to adolescent reproductive health.

This concept paper is based in part on a review of many published articles and monographs; interviews with USAID staff, Cooperating Agencies, NGOs, and multilateral organizations; and cables from USAID Missions.

Adolescents and Their Reproductive Health Needs

Adolescent reproductive health is an important concern. Part of its importance arises from the sheer number of adolescents in the world: There are currently more than one billion young people 10–19 years old in the world today. Of these, 513 million adolescents are 15–19 years old. The actual number of adolescents in some developing regions will increase dramatically in the coming years; in Africa, the number of young women ages 15–19 will triple between 1985 and 2020.

Adolescent reproductive health is also important because of the reproductive needs and problems of adolescents. Throughout the developing world, each year there are about 13 million births among adolescents ages 15–19. These constitute about one-fifth of all births worldwide and produce a birth rate of about 70 per 1,000.

This birth rate for the entire developing world obscures the extremely high adolescent birth rates of some regions and some countries. For example, the birth rate to women under 20 in Niger is 239 per 1,000, and the birth rate of this same age group in Bangladesh is 180 per 1,000. Too commonly, adolescent birth rates are highest in those countries which are poorest and can least afford these adolescent births.

High adolescent birth rates have a significant impact on the population growth rate in developing countries and on the lives of the individual women, men, and children involved. For example, in comparison with births among adult women, births among adolescents are associated with higher infant and maternal morbidity and mortality. These births also lead to reduced educational attainment and occasionally social ostracism for the mother.

Each year between 1 million and 4.4 million adolescents terminate their pregnancies with abortions. For a variety of reasons, adolescents are more likely to seek abortions later in their pregnancies than are adult women, and many of the abortions are performed under unsafe conditions. Thus, there is a high mortality associated with such abortions. For example, in a

university hospital in Nigeria, 72 percent of the deaths among women under age 19 were caused by complications of induced abortions.

Data on sexually transmitted diseases (STDs) among adolescents in the developing world are not available for all countries, but best estimates indicate that about one out of 20 teenagers in the world contracts an STD each year. This includes about six million youth who have become infected with the human immunodeficiency virus (HIV).

To prevent unintended pregnancy and STDs, adolescents either need to abstain from sexual intercourse or use condoms or other forms of contraception. Married women are unlikely to abstain from intercourse, but even among married women ages 15–19 in the developing world, only 17 percent currently practice family planning. Among unmarried sexually active adolescents, contraceptive use is believed to be even lower.

In addition to these reproductive health problems, many adolescents in the developing world lack the information and skills needed to make responsible sexual and contraceptive decisions and to carry out those decisions; many have poor access to convenient, confidential, low-cost reproductive health services, including contraceptive services and services to test and treat STDs; many fail to receive adequate nutrition, prenatal care, and safe birth services if they become pregnant; many are sexually abused or experience inappropriate sexual pressure or violence; and finally, many undergo female circumcision and subsequently experience various health and psychological problems.

Consequently, there are numerous important adolescent reproductive health needs that should be addressed by an international adolescent reproductive health initiative.

Programs to Address the Reproductive Health Needs of Adolescents

Both the developing and the developed worlds have implemented many different types of programs to address adolescent reproductive health problems, especially adolescent pregnancy and STDs. For example, there are school programs that provide information, teach assertiveness skills, and encourage youth to delay intercourse or use condoms or other forms of contraception; community clinics that provide education about reproduction and contraception to youth in the community and offer special reproductive health services for adolescents in the clinic; peer programs that educate youth and sometimes provide condoms and/or make referrals; high school and university health clubs that address a wide variety of health issues; integrated youth centers that provide health education, rap sessions, recreation, counseling, vocational preparation, art work, or other activities attractive to adolescents; special small-group discussions and other programs for high-risk groups (e.g., street youth and prostitutes); social marketing programs that promote the use of condoms and include media campaigns that appeal to youth; and mass media promotions that use popular entertainers to encourage youth to delay having sex.

All of these programs have been implemented successfully in one or more developing countries, indicating that, at a minimum, communities will accept them, adolescents will participate in some of them, and youth will respond positively to some of them.

Major Limitations of These Programs

However, as a group, the adolescent reproductive health programs that have been implemented have three major limitations. First, there is a paucity of evidence demonstrating that programs for adolescents in the developing world actually reduce sexual risk-taking behavior or decrease rates of pregnancy or STDs. There are very few studies, and their results are mixed. Much more research has been conducted in the United States but also with mixed results. In general, research in the United States indicates that some programs designed to change sexual and contraceptive behavior did not measurably do so, but that some sex education programs with specific characteristics can delay the onset of intercourse and can increase the use of contraception by adolescents. Research on programs for adults in the developing world is more positive, suggesting that several approaches have been very effective in reducing unprotected sex, pregnancy rates, and rates of HIV transmission. In sum, there is a strong need to determine which programs are effective and which are cost-effective.

Second, few of the adolescent reproductive health programs that have been implemented are institutionalized and have secure funding. A review of pregnancy prevention programs for adolescents indicated that most were implemented by NGOs and relied heavily on international financial support. Thus, there is a strong need to strengthen the social and political support for programs, secure their funding, and, in general, institutionalize them.

Third, although there is little empirical research on the proportion of adolescents in developing countries that receives a wide variety of adolescent reproductive health services, it is widely believed that in many developing countries, large proportions of adolescents are not given the knowledge, skills, contraceptive services, and other reproductive health services they need. That is, programs reach only a small proportion of adolescents in need. Thus, effective programs need to be expanded and replicated.

Major Groups of Activities to Address the Limitations of Existing Adolescent Reproductive Health Programs

To address these limitations, five groups of activities are proposed. These include the following:

- (1) Review and disseminate evaluation results and materials of effective programs further.
- (2) Build and improve international linkages, support, and coordination among international organizations.
- (3) Build and improve national infrastructures to support adolescent reproductive health.
- (4) Build and expand local capability to implement programs effectively.
- (5) Implement and rigorously evaluate promising approaches to addressing adolescent reproductive health.

This is a very challenging agenda, especially given modest funds. Recognizing this, this concept paper suggests a few possible ways to increase or leverage these funds, e.g.,

encourage other USAID reproductive health projects to address adolescent needs, secure additional support from and coordination with other international agencies, and encourage host countries to conduct as many activities as possible.

Nevertheless, USAID will undoubtedly have to choose among the proposed activities. Rather than include or exclude entire groups of activities as they are defined above, it is probably most efficacious to select activities from within each of the five groups.

Selected Activities for Two Phases

In order for this initiative to have a significant impact on adolescent sexual behavior in the developing world, it should last at least 10 years. During this period, the optimal mix of activities should change; thus, the initiative can be divided into two or more phases that should overlap each other. Following are recommended activities for each of the two phases:

Phase I:

- Identify research being conducted throughout the world and convene a consensus panel to summarize the effectiveness of different programs and identify the most promising approaches to reducing adolescent unprotected intercourse, pregnancy, and STDs.
- Identify what other international agencies are doing in adolescent reproductive health and encourage them to expand their funding for this effort and coordinate efforts.
- Add sessions on adolescent reproductive health to existing international health meetings.
- Select a small number of countries, about one per region, and increase national support for programs and efforts to change their national policies.
- Increase the training capacity of regional training centers which will in turn improve local capability.
- Expand the wide range of clinical and non-clinical programs that serve adolescents.
- Select about five or six of the most promising approaches to reducing sexual risk-taking behavior and carefully evaluate their impact. To reduce costs, this activity should be integrated with the activity above.

Phase II:

- Continue many of the Phase I activities.
- If the effort to increase social and political support for adolescent reproductive health is successful at the national level and leads to significant changes in policies and funding, expand those efforts to other countries. If these efforts do not yield much return, explore alternative strategies for gaining support.
- If research data demonstrate that specific programs in the demonstration and evaluation projects are particularly effective, implement and evaluate these models in additional settings and cultures. Also, efforts should be directed toward developing materials and training and securing the funding necessary to implement these effective models more widely in additional countries.

1. INTRODUCTION

1.1 Purposes of This Concept Paper

This concept paper has several purposes: (1) summarize empirical evidence on adolescent reproductive health problems and demonstrate clearly the need for an adolescent reproductive health initiative; (2) review existing programs and the evidence of their effectiveness; (3) identify major limitations in these programs which prevent them from adequately addressing adolescent reproductive health problems; (4) present an overall paradigm for an adolescent reproductive health initiative, i.e., describe major groups or types of activities that the USAID Office of Population could undertake to advance adolescent reproductive health throughout the developing world; (5) describe more specific activities that should be undertaken; and (6) identify other specific activities that do not fit into this paradigm but that could contribute to the advancement of adolescent reproductive health.

This concept paper is based in part on a review of many published articles and monographs; interviews with USAID staff, Cooperating Agencies, NGOs, and multilateral organizations; and cables from USAID Missions.

1.2 The Components of Adolescent Reproductive Health

"Adolescent reproductive health"—the concept and its components will have different definitions and meanings in different cultures, but nevertheless, it is useful to attempt to identify components that would be important in many cultures. In the area of reproductive health, adolescents should have the right to a variety of things. These include the following:

- Prior to puberty, information about the physical and emotional changes that take place as adolescents proceed through puberty.
- Information about the factual aspects of human sexuality, including reasons to delay intercourse and use condoms or other forms of contraception.
- Clear and consistent statements of their parents' and society's values about relationships, sexual intimacy, intercourse, planning families, preventing sexually transmitted diseases (STDs), and using condoms and other forms of contraception.
- Clear statements of the positive, healthful, and meaningful aspects of human sexuality, as well as the negative consequences of some sexual behaviors.
- Instruction and practice on how to make sexual and contraceptive decisions consistent with their values and goals and how to effectively communicate these decisions to others.
- Prior to marriage, information, guidance, or counseling about sexual intimacy, planning births, avoiding STDs, and using contraception.

- Whether married or unmarried, access to convenient, confidential, and low-cost methods of obtaining condoms and other forms of contraception.
- Whether married or unmarried, access to other convenient, confidential, and low-cost reproductive health services, such as gynecological exams, counseling, STD tests, and other tests.
- When female adolescents become pregnant, access to appropriate counseling about all legal alternatives.
- If they choose to go to term, access to appropriate prenatal care, nutritional counseling, and nutritional supplements, if necessary.
- During birth, access to safe birthing practices and appropriate care if there are obstetric complications.
- After birth, access to postpartum care.
- During the prenatal and postpartum periods, encouragement to breastfeed their children.
- Whenever appropriate, nutritional support for the mothers.
- If abortion is legal, access to safe and low-cost abortion services and encouragement to seek abortions earlier in the pregnancy, rather than later.
- If abortion is not legal, access to prompt, safe services for those seeking care after illegal abortions.
- Freedom from rituals or practices, such as female genital mutilation, that violate women's fundamental rights and produce unnecessary health problems.
- Freedom from sexual abuse.
- Freedom from undue pressure—physical, psychological, or economic—either to have sex or to refrain from using condoms or other forms of contraception during sex.

To facilitate the reproductive health rights of adolescents, the adolescents' families, schools, community health clinics, and communities should more broadly provide a variety of information, norms, and services. Examples of these are provided in Table 1.

TABLE 1

EXAMPLES OF THINGS THAT SHOULD BE PROVIDED BY DIFFERENT GROUPS AND INSTITUTIONS FOR DIFFERENT EVENTS IN ADOLESCENTS' LIVES				
	FAMILIES	SCHOOLS	HEALTH CLINICS	OTHER COMMUNITY INSTITUTIONS
SEXUAL MATURATION	Provide information and reassurance about normal sexual maturation; respect and protect children's rights to avoid sexual abuse	Provide information and reassurance about normal sexual maturation	Provide age-appropriate health screenings and information about maturation	Emphasize norms against child sexual abuse and female genital mutilation and for proper nutrition
MARRIAGE	Provide information about sexual intimacy and encourage planning of children and contraceptive use	Encourage adolescents to avoid early marriage; provide information about marriage and family planning	Provide information and counseling on sexual intimacy, family planning, and contraception	Legislate and encourage community norms that discourage early marriage
SEXUAL INTERCOURSE	Provide clear values about premarital sexual intercourse and contraceptive use	Provide information, help clarify values, and teach skills to delay intercourse and avoid unprotected intercourse; provide information on the impact of substance use on decision making	Through outreach efforts, provide information and teach skills to avoid unprotected intercourse and to access reproductive health services	Treat sexual intercourse and its consequences realistically in the media; emphasize norms that encourage youth to delay intercourse; legislate and emphasize norms to discourage anyone from coercing others to engage in unwanted sexual practices
USE OF CONDOMS AND OTHER FORMS OF CONTRACEPTION	Discuss the need to avoid unintended pregnancy and STDs; encourage youth to use condoms and other forms of contraception if they have sex	Provide information on the reasons to avoid unintended pregnancy and STDs; provide information on condoms and other forms of contraception (including where to get them and how to use them); teach skills on how to insist on use of contraception if having sex	Provide a range of contraceptives conveniently, confidentially, and at low cost; offer special programs for adolescents	Implement policies that allow adolescents to obtain contraceptives; emphasize media and community norms that encourage the use of contraceptives if having sex

	FAMILIES	SCHOOLS	HEALTH CLINICS	OTHER COMMUNITY INSTITUTIONS
PREGNANCY	Encourage proper nutrition and prenatal care during pregnancy	Encourage pregnant adolescents to remain in school as long as possible; provide information about avoiding substance use during pregnancy, having a good diet, and obtaining prenatal care	Encourage adolescents to obtain early pregnancy tests; provide early counseling about all legal options; provide early and consistent prenatal care and information; provide nutritional supplements, if needed	Emphasize community norms to encourage proper health care during pregnancy
CHILDBIRTH	Encourage proper nutrition and care after childbirth; encourage breast-feeding of infants	Encourage adolescent mothers to return to school after giving birth	Provide safe birthing services; encourage mothers to breastfeed their infants	Enforce policies that allow adolescent mothers to return to school
ABORTION		Provide accurate information about abortion	Provide safe abortion services, if legal; provide post-abortion counseling and services as needed	If abortion is legal, encourage laws that do not unduly restrict abortion services to adolescents
SEXUALLY TRANSMITTED DISEASE	Discuss reasons to avoid STDs, including HIV	Provide accurate information about STDs, including how to avoid getting STDs and when and how to get treatment	Provide information about prevention, confidential testing, and STD services	Encourage all sexually active individuals to use condoms as appropriate; make condoms readily available at low cost

1.3 The Organization of This Concept Paper

Chapter 2 of this concept paper will present empirical data on adolescent reproductive health needs in the developing world. It will demonstrate that adolescents represent a demographically important group and that they have many reproductive health problems which fully justify an adolescent reproductive health initiative. All of these needs are important and should be addressed whenever feasible, but given the large number of adolescent reproductive health needs and limited resources, it is necessary to prioritize. Chapter 2 will recommend the focus be placed on changing sexual and contraceptive behaviors that expose adolescents to the risk of unintended pregnancy and STDs (e.g., delaying the onset of intercourse, reducing the frequency of intercourse, and increasing the use of condoms and other forms of contraception). By reducing sexual risk-taking behaviors, the proposed initiative will reduce unintended adolescent pregnancies, abortions, births, and STDs, including HIV, and all the public health, social, and economic consequences of those pregnancies, abortions, births, and STDs. To the extent feasible, this initiative should also address nutrition, safe pregnancy services, female genital mutilation, and the use of coercion as they relate to adolescent reproductive health.

Chapter 3 will describe current programs in the developing world which aim to reduce sexual risk-taking behavior and what is known about their effectiveness. It will conclude that many pilot programs have been successfully implemented, thereby demonstrating the political feasibility of implementing such programs and success in reaching adolescents. However, it will also conclude that three characteristics of these programs greatly limit their replication: They have not been evaluated, and there is little evidence of whether or not they actually reduce sexual risk-taking behavior, let alone reduce the rate of adolescent pregnancy and STDs; they have not been institutionalized; and they reach only a small proportion of all adolescents in need.

Chapters 4 through 9 describe a plan for an adolescent reproductive initiative. They suggest that different groups of activities in the initiative should provide evidence of the effectiveness of programs, increase and coordinate the international infrastructure to support programs, help build the national infrastructure to support programs, build the capability at the local level to actually implement programs effectively, and implement and carefully evaluate the impact of promising programs. Specific activities that should be completed within each of these larger groups of activities are then described in somewhat greater detail.

Finally, in Chapter 10, the paper concludes with a recommended set of activities that are particularly important and form a somewhat integrated package.

2. ADOLESCENT REPRODUCTIVE HEALTH NEEDS

2.1 The Growing Number of Adolescents in the World

Part of the importance and magnitude of adolescent reproductive health needs lies in the number of adolescents in the world and the growth in that number. According to the World Health Organization (WHO), there are currently more than one billion young people 10–19 years old in the world (WHO, 1989). Of these, 513 million adolescents are 15–19 years old (Population Reference Bureau and the Center for Population Options, 1994).

When adolescence is defined more broadly to include individuals 10–24 years old, adolescents constitute one out of three people alive today. In many developing countries this age group will continue to constitute between a quarter and a third of the total population until well into the 21st century (WHO, 1989).

The actual number of adolescents in some developing regions will increase dramatically in the coming years. For example, in Africa, the number of young women ages 15–19 will triple between 1985 and 2020 (WHO, 1989).

In addition, about 83 percent of all adolescents live in developing countries where, in general, adolescent reproductive health problems are greatest and where services are least available.

Thus, simply in terms of their numbers, the growth over time in those numbers, the proportion of the total population they constitute, and their disproportionate location in developing countries, adolescents constitute an important group of people.

Despite relatively good health overall, adolescents encounter numerous reproductive health problems that have an enormous impact both on these adolescents and on society at large.

2.2 Adolescent Births and Their Consequences

Throughout the developing world, each year there are about 13 million births among adolescents ages 15–19. These constitute about one-fifth of all births worldwide. This results in a birth rate of about 70 per 1,000 (Population Reference Bureau and the Center for Population Options, 1994).

This adolescent birth rate for the entire developing world obscures the extremely high adolescent birth rates of some regions and some countries. For example, the birth rate to women under 20 in Niger (239 per 1,000) is more than 50 times greater than that of Japan (four per 1,000). In Africa, the mean birth rate for 15–19 year old females is 120 per 1,000; in Latin America, 80 per 1,000; and in Asia, 50 per 1,000. Within these regions there is also considerable variation. For example, Nepal has a birth rate of 100

per 1,000, and Bangladesh has a birth rate of 180 per 1,000, while other countries have much lower birth rates. Too commonly, the adolescent birth rates are highest in those countries which are poorest and can least afford these adolescent births.

In some regions, adolescent birth rates are much higher in rural areas than in urban areas. For example, in Central and South American countries, the adolescent birth rate for rural areas is between 36 percent higher (Colombia) and 92 percent higher (Honduras) than the adolescent birth rate in urban areas (Population Reference Bureau, 1992).

2.2.1 Impact On an Expanding World Population

When girls marry at age 15, the gap between generations may be less than 20 years; when girls marry at age 25, the gap may increase to 30 years. This increased gap has a large impact on a country's population growth rate.

Multiple studies have also found that younger mothers have subsequent children sooner than older women. For example, in the United States, 47 percent of adolescent mothers were pregnant within a year, whereas only 23 percent of older mothers were pregnant within a year. Adolescent mothers also have a greater total number of children than do women who bear their first child at an older age. These two factors produce an even greater impact on population growth rate.

2.2.2 Increased Health Risks and Mortality Associated with Earlier Childbearing

In the developing world, mortality during childbearing is excessively high for all women of childbearing age. In the developing world in 1988, there were about 420 maternal deaths per 100,000 live births; this figure is more than 16 times higher than the corresponding figure for the industrial world (26 per 100,000 live births) (Tinker, Koblinsky, and Daly, 1993). This translates into about 500,000 maternal deaths annually throughout the developing world (Gordis et al, 1993).

Furthermore, the maternal risks of childbearing are even greater for young women; the younger the age of the mother, the greater the risk associated with pregnancy and childbirth, particularly if she does not receive adequate prenatal care. Serious health risks to the mother include pre-eclamptic toxemia, anemia, malnutrition, cephalopelvic disproportion, vesicovaginal and rectovaginal fistulae, and difficult delivery (United Nations, 1989).

Although data are incomplete, scattered examples indicate earlier childbearing is associated with higher maternal mortality rates. According to WHO, pregnant women ages 15–19 in Algeria, Bangladesh, Ethiopia, Indonesia, and Nigeria are up to twice as likely to die of pregnancy-related causes than pregnant women in their twenties or early thirties (WHO, 1989b). Worldwide, pregnancy-related complications are the leading cause of death among young women (Population Reference Bureau and the Center for Population Options, 1994).

Data indicate that the risks are even greater for the very young. For example, in Jamaica and Nigeria, pregnant women younger than 15 are four to eight times more likely to die during pregnancy and childbirth than pregnant women ages 15–19. Even in a developed country such as the United States, the maternal death rate among mothers under 15 years of age is 2.5 times higher than the rate among mothers ages 20–24 (WHO, 1989b).

The impact of adolescent childbearing on morbidity is not limited to the mother. Infants born to adolescent mothers are at a higher risk of low birth weight, prematurity, and still birth (WHO, 1989b). In Cuba, for example, the infant mortality rate was 33 per 1,000 live births to mothers ages 15–19 and 14 per 1,000 live births to mothers ages 20–25 (WHO, 1989b).

Higher mortality for either the mother or the infant is partially caused by insufficient time for the mother to mature physiologically. For example, if pregnancy occurs soon after menarche when the pelvis has not had time to develop completely, it may be too small to allow the baby's head to pass through during delivery. In the developing world where Cesarean sections cannot always be performed, this is especially a problem.

Part of this higher mortality is also caused by delayed and reduced prenatal care among adolescent women. There are a variety of reasons why adolescent women are less likely to obtain prenatal care than older women: they may not be married and may not believe or accept the fact that they are pregnant; they may be less familiar with the health care system; and they may have fewer resources to obtain prenatal care.

2.2.3 Importance of Proper Nutrition Among Pregnant Adolescent Women

For at least five reasons, adolescent females in developing countries may not have diets adequate to prepare them for pregnancy. First, poverty sometimes restricts the overall availability of food. Second, gender discrimination in the distribution of food within the household may compound the problem. Third, girls commonly undertake heavy household work early in their lives, and this increases their nutritional needs. Fourth, girls are still growing and developing and thus have greater nutritional needs than adult women. Finally, the reproductive cycles of pregnancy, childbirth, and lactation are nutritionally very demanding (Kurz et al, 1994). As a result, pregnant adolescent girls are disproportionately likely to have compromised stature, incomplete pelvic growth, and greater risk of maternal death from obstructed labor (Kurz et al, 1994).

2.2.4 Social Consequences Associated with Adolescent Parenting

In some countries, unmarried pregnant girls face severe ostracism. For example, in Rwanda, some pregnant girls are disowned by their families; this sometimes results in child abandonment and prostitution (Senderowitz, 1994; Population Reference Bureau, 1992).

If pregnancy occurs prior to the completion of education, then education is likely to be interrupted or terminated, either because the mother is expelled from school or because the additional responsibilities and costs of motherhood make it prohibitively difficult for the mother to continue her education. Studies in the Caribbean and Nigeria demonstrate that many adolescent mothers drop out of school and/or seek abortions for these reasons (Population Reference Bureau, 1992).

Of course, the relationship between educational level and childbearing is reciprocal—level of education has an impact on childbearing and childbearing has an impact on completed level of education. Studies in the United States indicate that adolescent childbearing has a long-term causal impact on educational attainment, welfare dependency, and career success (Nort et al, 1992). As Nafis Sadik, Executive Director of the United Nations Population Fund (UNFPA), stated, "...adolescent fertility worldwide continues to be a roadblock to girls' and women's educational achievement, their status and their full participation in society." (The Center for Population Options, 1992, p. 3.)

While pregnancy and motherhood may have the greater impact on females, males are also affected. Studies have shown that men who become fathers before the age of 19 are less likely to graduate and have fewer employment opportunities than those who become fathers after the age of 24 (WHO, 1989).

2.2.5 Premaritally Conceived Births and Their Consequences

In Asia, the proportion of first births among adolescents that are conceived premaritally is typically under 10 percent and often under 5 percent (UN, 1989). In Africa, the majority of adolescent women conceive their first child after marriage, but a significant percentage do not. In 11 countries studied, between 20 percent and 88 percent of first births were conceived prior to or outside of marriage (Population Reference Bureau, 1992). In Latin America, between 25 percent and 63 percent of adolescent women conceived their first child premaritally (Remez, 1989).

These figures are for births conceived premaritally, not pregnancies. Undoubtedly, the proportions of pregnancies conceived premaritally are higher, because many premarital pregnancies are terminated by abortion.

These premaritally conceived births among adolescents are commonly accompanied by the same negative consequences associated with other adolescent births. However, because premaritally conceived births are less likely to be planned and are not conceived within marriage, the pregnant adolescents may be more likely to be ostracized and drop out of school and may be less likely to obtain needed prenatal care.

2.3 Adolescent Abortions and Their Consequences

Between 1 million and 4.4 million adolescent women in developing countries have abortions each year. Many of these are performed under unsafe conditions (Population Reference Bureau and the Center for Population Options, 1994).

Because of ignorance, denial, fear of social disapproval, fear of abortion, and/or restricted access to abortion services, adolescents are more likely to seek abortion later in their pregnancy than are adult women. This, alone, increases their risk of serious complications. In addition, the younger the adolescent, the more likely her abortion will be self-induced or that the provider will not be medically trained. Consequently, in comparison with older women, younger women are more likely to experience septicemia, hemorrhaging, and damage to reproductive organs (Population Reference Bureau and the Center for Population Options, 1994). Finally, if additional post-abortion medical attention is needed, adolescents often take longer to obtain this care (Senderowitz, 1994).

Data from 27 studies in sub-Saharan Africa revealed that adolescent women accounted for as many as 60 percent of those hospitalized for abortion complications (Population Reference Bureau and the Center for Population Options, 1994). In Nigeria, a 13-year review of maternal deaths at a University Hospital indicated that complications of induced abortions caused 72 percent of deaths among women under the age of 19 (Unuigbo, Ornsay, and Orhue, 1988).

2.4 Sexually Transmitted Diseases Among Adolescents

According to WHO, data on the incidence of sexually transmitted disease among adolescents are not available on a global level, but there are indications that STDs are more prevalent among 15–29 year olds than among older adults (WHO, 1989b). This is especially likely in countries where youth have more sexual partners prior to marriage and adults have fewer sexual partners outside of marriage.

According to estimates from the Population Reference Bureau and the Center for Population Options, one out of 20 teenagers in the world contracts an STD each year (Population Reference Bureau and the Center for Population Options, 1994).

There are better data for the United States on sexually transmitted disease. Among all sexually active people, teenagers have the highest rates of STD of any age group (Department of Health and Human Services, 1990); in 1991, the rate of gonorrhea among 15–19 year old females was 22 times higher (1,043 per 100,000) than the rate for women 30 years of age or older (48 per 100,000) (Webster and Berman, 1993).

In the United States, approximately one in four young people will have been infected by at least one STD by age 21 (Department of Health and Human Services, 1990). Best estimates from the developing world indicate that STD rates among adolescents are at

least as high, and perhaps higher, than among adolescents in the developed world (World Health Organization, 1986).

2.4.1 HIV and AIDS

Throughout the world, about half of all HIV infections have occurred among people younger than 25. Thus far, at least six million youth have been infected with HIV. Unfortunately, this number is growing rapidly. Although data do not exist specifically for adolescents, it is estimated that sexual transmission accounts for about three-fourths of all HIV infections, and about half of new infections occur among women (Family Health International, 1994). If other countries in sub-Saharan Africa attain HIV prevalence rates similar to that of Uganda, then by the year 2000, about 4.5 million youth ages 15–24 will have become infected with HIV in that region.

2.5 Access to and Use of Contraception

Among married women ages 15–19 in the developing world, only 17 percent currently practice family planning (Population Reference Bureau and the Center for Population Options, 1994). Again, this average reflects wide variation. In some developing countries such as Mauritius, Turkey, and Thailand, more than 40 percent of married women ages 15–19 practice family planning, while in other countries, such as Côte d'Ivoire, Niger, Nigeria, Uganda and Nepal, only 1 percent or 2 percent do so and in Haiti, only 5 percent do so. Clearly, these extremely low rates of contraceptive use among adolescent married women place them at high risk of pregnancy.

Even among married adolescent women who have an interest in spacing or limiting their births, substantial percentages (sometimes 20 percent to 40 percent) are not using contraception (Population Reference Bureau and the Center for Population Options, 1994). This is a particularly important group: Because they are married, they know they will have sex more or less routinely; they do not want to give birth at that time; and they are not using contraception.

Among unmarried sexually active adolescents, contraceptive use is believed to be even lower, but relatively few data are available (Population Reference Bureau and the Center for Population Options, 1994). In Botswana, 22 percent of unmarried, sexually active young women use modern contraceptive methods. In Nigeria and Zimbabwe, the figures are 11 percent and 14 percent, respectively (Population Reference Bureau, 1992). A review of several small studies in Latin America and Asia indicated that the percentages varied from about 16 percent among sexually experienced unmarried female 15–19 year olds in Honduras to about 43 percent of sexually experienced unmarried females 15–19 in Panama (Senderowitz, 1994). Even when contraceptives are used, they are not always effective methods.

2.5.1 Reasons for Not Using Contraception During Intercourse

Several studies in different countries have asked adolescents why they did not always use contraception if they had sexual intercourse. In Africa, several studies found unplanned sexual activity, lack of information, difficulty in obtaining contraception, opposition from the partner, and religious proscription as major reasons for nonuse (Senderowitz, 1994). Studies in Latin America found that the adolescent did not expect to have sex and did not know about contraception (Morris, 1992). In Bangkok, the major reasons were little concern about pregnancy, poor contraceptive knowledge, partner opposition, fear of contraceptives, and the failure to expect intercourse (Koetsawang, 1990). Insufficient funds to obtain contraception, embarrassment about obtaining contraceptives, and possible disapproval if others learned they were using contraceptives are additional reasons that youth have given for not using contraceptives (Boohene, Tsodzai, Hardee-Cleveland, Weir, and Janowitz, 1989).

2.6 Access to Diagnosis and Treatment for STDs

The review of material for this concept paper did not uncover any systematic data on the availability of STD diagnosis and treatment for STDs. Undoubtedly, the availability of STD diagnosis and treatment varies greatly among countries and even within some countries. According to several people interviewed, STD diagnosis and treatment is less available in the poorest countries, and, within those countries, it is less available in rural areas. Several professionals who have worked in these countries observed that diagnostic tests for STDs are too expensive to use for large-scale screenings and in the field, they are too imprecise to determine which specific STDs individuals may have. Therefore, the treatment administered may not always be the most appropriate. Given that STDs other than HIV facilitate the transmission of HIV, this is an especially important problem. Thus, there remains a great need for the development of less expensive STD tests, tests that can be more precise in rural areas, and increased funding for these tests.

2.7 Adolescent Knowledge About Contraception, Pregnancy, and STDs

Adolescent knowledge of contraception, pregnancy, and STDs varies considerably from region to region and from country to country within regions. Surveys conducted in Latin America have indicated that most adolescents ages 15–19 knew about the birth control pill, but this varied from 46 percent in Guatemala to 97 percent in Brazil (Singh and Wulf, 1990). Most adolescents in five South American cities knew the three principal modes of HIV transmission (Remez, 1989). In Africa, less than two-thirds of adolescents in many countries knew about at least one method of modern contraception, but this varied from about 30 percent in Mali to more than 90 percent in Botswana (Senderowitz, 1994).

These statistics on knowledge about basic facts provide a more positive picture than the statistics on more specific information. Many youth do not have correct information on detailed questions. For example, many remain confused about the safest time of

the menstrual cycle to engage in sexual intercourse, whether a female can become pregnant the first time she has sex, whether the female has to climax in order to become pregnant, and how to use some of the methods of contraception.

However, the importance of this additional information can be questioned. Although greater information would logically lead to improved decision making, studies repeatedly demonstrate that knowledge about sexuality and contraception is very weakly related to risk-taking behavior (Whitley and Schofield, 1985–86).

2.8 Female Genital Mutilation

Female genital mutilation (FGM), sometimes called female circumcision, includes two types, clitoridectomy (the removal of the clitoris) and infibulation (removal of additional sensitive tissue and stitching together of skin over the vagina). Some operations involve more than removal of the clitoris, but less than infibulation.

Throughout the entire world, but mostly in Africa, an estimated 85–114 million girls and women have undergone genital mutilation. Each year, at least two million girls undergo genital mutilation (Toubia, 1993).

The physical consequences for both clitoridectomy and infibulation are serious. The possible complications of clitoridectomy include protracted bleeding (and possibly anemia), various infections including septicemia, urine retention, stress and shock, and damage to the urethra or anus. In addition, there is often a great deal of pain during the operation.

Because infibulation involves the cutting and stitching of additional tissue, the risks—both short-term and long-term—are greater than for clitoridectomy. Short-term complications include greater risk of bleeding, hemorrhaging, infection, and urine retention. Longer-term complications include repeated bladder infections, excessive scar tissue, dermoid cysts, frequent reproductive tract infections caused by the small vaginal opening, chronic pelvic infection, infertility, and special problems during birth. Pain during menstruation is also experienced by some women.

In addition to these physical complications, there are also sexual and psychological effects, including loss of sexual pleasure and orgasm, and changes in self-perception. More than one person has referred to the "severe psychological trauma" that accompanies FGM (Toubia, 1993).

2.9 Sexual Abuse and Sexual Violence

There exist a variety of kinds of sexual abuse and violence against adolescents. These include physical sexual abuse, sexual harassment, sexual assault, rape, forced prostitution, and the threat of violence if contraceptive use is suggested. According to The Population Council, these problems have too commonly been neglected by family

planning practitioners, yet they have an important impact on adolescent reproductive health (Heise, 1994).

A variety of studies summarized by The Population Council (1994) indicate that sexual abuse and assault against young females is common:

- A study of female clients at an STD clinic in Nigeria reported that 16 percent were children under the age of 5, and another 6 percent were children ages 6–15 (Kisekka and Otesana, 1988).
- A study of 12–16 year old maternity patients in Peru revealed that 90 percent of them had been raped, the vast majority by a close male relative (Rosas, 1992).
- Thirty-three percent of a random sample of women in Barbados reported that they were sexually abused in childhood or adolescence (Handwerker, 1993).
- A study of girls ages 11–15 in Jamaica revealed that 40 percent reported the primary reason for their first intercourse was "forced" (Allen, 1982).
- Research in Mexico and Peru indicated that some women did not use contraception because of the fear of being abandoned, beaten, or accused of infidelity (Folch-Lyon 1981; Fort 1989).

Furthermore, several of the people interviewed for this concept paper stated that many young women do not insist on using condoms because of the threat of violence from their partners.

For this review, it cannot be determined whether these examples are typical of abuse in most developing countries or only represent some of the most shocking statistics. Nevertheless, they certainly suggest that sexual abuse and assault are prevalent in a variety of countries.

Sexual abuse directly leads to physical health problems such as physical injury, STDs, and unintended pregnancy; it also leads to long-term problems such as increased substance use, greater frequency of intercourse at an earlier age, less use of contraception, sex with more partners, prostitution, increased chances of future victimization, and a variety of psychological problems (Heise, 1994).

2.10 Other Reasons to Address Adolescent Reproductive Health Issues

The sections above have discussed several important reasons for addressing adolescent reproductive health issues: the large number of adolescents in the world; their high birth rates; the high rates of morbidity and mortality associated with these births; the social and other consequences of these births; the need for improved nutrition before, during, and after pregnancy; the prevalence of female genital mutilation; and the prevalence of sexual abuse and assault.

There are at least two additional reasons for addressing adolescent reproductive health needs. First, sexual habits are formed during adolescence. Common experience notes that it is often more difficult to change established habits than it is to create good habits initially. This has been documented in other health areas, such as smoking (WHO, 1989c).

Second, at least two studies in the United States have revealed that (1) educational programs can delay the onset of intercourse and (2) some educational programs may more effectively increase use of contraception if they reach adolescents before they begin having intercourse instead of after they have initiated intercourse and have established habits of not always using contraception (Howard and McCabe, 1990; Kirby et al, 1991). That is, it is important to reach some young people before they begin having sex.

2.11 Summary and Conclusions

Several conclusions can be reached from this analysis of empirical data:

- Demographically, adolescents represent an important group of people.
- There are more than 13 million births to adolescents in developing countries each year. Many countries have very high adolescent birth rates. Birth rates are often higher in rural areas than urban areas.
- Significantly reducing the adolescent birth rates in developing countries can significantly reduce the overall population growth rates in these countries.
- Adolescent births place both the mothers and the infants at risk. Maternal and infant morbidity and mortality are greater for births among adolescents ages 15–19 than for births among women in their twenties or thirties. The risks are especially high for adolescents younger than age 15.
- Lack of adequate nutrition adds to the health problems of many adolescent females bearing children.
- Unintended adolescent pregnancies and births have important social, educational, and economic consequences for the mothers and their infants. For example, school completion is commonly reduced for adolescent mothers.
- More than one million adolescent women in developing countries obtain abortions each year, and many of these are performed under unsafe conditions. Adolescents seek abortion later in their pregnancies than do adult women.
- About one in 20 adolescents in the world contracts an STD each year; the rates are believed to be higher in developing countries.
- About one-half of all HIV infections in the entire world have occurred among young people under the age of 25.
- Only 15 percent of married adolescent women in the developing world currently practice family planning.
- Adolescent access to STD diagnosis and treatment is limited in many countries in the developing world.

- At least two million adolescent females undergo genital mutilation each year.
- Substantial percentages of adolescent women experience sexual harassment, sexual abuse, rape, forced prostitution, and the threat of violence if they try to use condoms or other forms of contraception. Accurate data do not exist, but the prevalence of these problems undoubtedly varies considerably from country to country.
- Adolescence is a time in each person's life when it is still possible to encourage the formation of healthy reproductive health practices instead of changing well-established unhealthy habits.
- There is a great need for an adolescent reproductive health initiative that addresses these problems and encourages healthy reproductive health practices.

3. PROGRAMS TO PREVENT PREGNANCY AND STDs AMONG ADOLESCENTS

Resources for this initiative, as for all initiatives, are limited. Furthermore, in this concept paper it is not possible to discuss adequately all of the different types of programs that have been developed to address all of the adolescent reproductive health problems discussed in the previous section. Consequently, it will be necessary to focus on selected problems and goals.

Much of the remainder of this concept paper will focus on reducing sexual risk-taking behaviors for two reasons: First, unintended pregnancies, abortions, births, STDs, HIV, and all the health, social, and economic consequences of these are among the most prevalent and most important of all adolescent reproductive health problems. Second, all of these can be reduced by reducing sexual risk-taking behaviors (i.e., by delaying the onset of intercourse, reducing the frequency of intercourse, reducing the number of sexual partners, and increasing the use of condoms and other forms of contraception).

However, because other reproductive health problems are also important, additional activities to address them will also be suggested wherever possible.

3.1 The Wide Variety of Adolescent Programs

Both the developed and developing worlds have implemented innumerable programs to prevent adolescent pregnancy and STDs. For example, these include:

- School programs designed to increase self-esteem and life skills.
- Sex or acquired immunodeficiency syndrome (AIDS) education programs in schools that encourage youth to delay intercourse or to use condoms or other forms of contraception.
- Drama productions that perform skits or plays about poignant aspects of adolescent sexuality (e.g., getting pregnant or becoming HIV positive).
- Community clinics that provide education about reproduction and contraception to youth in the community.
- Community clinics that offer special reproductive health services for adolescents.
- School and community peer programs in which adolescents the same age or slightly older educate their peers about contraception, pregnancy, and STDs.
- High school and university health clubs that address a wide variety of health issues.
- Integrated youth centers that provide health education, rap sessions, recreation, counseling, vocational preparation, art work, or other activities attractive to adolescents.
- Anti-AIDS clubs that focus on AIDS prevention.

- School and community programs that bring together adolescents and their parents and seek to increase parent/child communication.
- Clubs in which youth take pledges to avoid sex until marriage.
- Special small group discussions and other programs for high-risk groups (e.g., street youth and prostitutes).
- Social marketing programs that promote the use of condoms and include media campaigns that appeal to youth.
- Mass media promotions that include popular entertainers encouraging youth to delay having sex.
- School programs designed to keep school dropouts in school and thereby prevent pregnancy.
- School or community programs designed to help supervise youth after school or keep them occupied with sports or other forms of recreation.
- Programs to encourage youth to plan for careers and delay childbearing.

This is only a partial list.

Many of these programs differ from one another in one or more characteristics. Thus, it is difficult to create a typology that captures both the variation in programs and the salient characteristics of these programs, especially because the salient characteristics of programs have not yet been determined.

There are at least six characteristics that can be used to create typologies:

- Setting: e.g., school vs. clinic vs. community
- Desired objectives: e.g., increasing knowledge and skills vs. increasing access to contraception vs. increasing motivation to avoid pregnancy by improving life options
- Desired goals: e.g., preventing first pregnancy vs. preventing negative consequences vs. preventing subsequent births vs. preventing STDs including HIV
- Target group: e.g., adolescents vs. parents of adolescents; all youth vs. high-risk groups; females vs. males; married vs. unmarried; older adolescents vs. younger adolescents
- Focus: e.g., education vs. reproductive health services
- Type of facilitator: e.g., adult vs. peer

The first two of these can be used to construct the typology in Table 2.

TABLE 2

A TYPOLOGY OF PROGRAMS TO REDUCE UNPROTECTED SEXUAL INTERCOURSE			
	SCHOOL	CLINIC	COMMUNITY
PROGRAMS TO IMPROVE KNOWLEDGE, ATTITUDES, AND SKILLS	Comprehensive health education, sex and HIV education, peer programs	Clinic education programs, clinic outreach programs, peer outreach programs	Youth education programs, parent/child programs, media campaigns
PROGRAMS DESIGNED TO PROVIDE OR IMPROVE ACCESS TO CONTRACEPTIVES	School-based clinics, school condom programs	Family planning services in clinics, clinic outreach programs	Community-based distribution of contraceptives, social marketing
PROGRAMS DESIGNED TO IMPROVE LIFE OPTIONS	Special school programs to reduce school dropouts and increase career opportunities	Comprehensive programs for pregnant or parenting adolescents	Comprehensive community programs to improve adolescents' futures, multi-service youth centers

3.1.1 Implementation

All of the programs given as examples above and all of the programs representing each of the cells in Table 2 have been implemented in at least one developing country and typically in many developing countries. This demonstrates that it is at least possible, both socially and politically, to implement these programs in one or more developing countries. Naturally, because of the great cultural diversity of developing countries, not all of these programs would be acceptable in all developing countries.

All of these programs have also demonstrated an additional type of success: reasonable numbers of youth participated in or were reached by each of these programs. Moreover, observations by staff and/or participant surveys have indicated that the youth liked the programs and benefited from them.

3.1.2 Service to Limited Numbers

There is little empirical research on the proportion of adolescents in developing countries that receives a wide variety of adolescent reproductive health services, but it is widely believed that in many developing countries, large proportions of adolescents are not given the knowledge, skills, contraceptive services, and other reproductive health services they need. The statistics on adolescent pregnancies, abortions, births, and their effects on morbidity and mortality certainly suggest that most adolescents are not participating in effective programs.

According to WHO, laws in most countries restrict adolescents' access to information and services, and a few countries prohibit the distribution of contraceptives to unmarried people or to young people. Other countries require parental consent which can severely restrict access. There are also claims that most reproductive health service systems either explicitly or implicitly exclude or neglect young people (Senderowitz, 1994). Even when there are no legal restrictions against the provision of reproductive health services to clinics, many clinic staff turn away adolescents or treat them in a demeaning or judgmental manner and thereby discourage them from obtaining services.

On the other hand, at least one review claims that community-based family planning services are becoming more available to adolescents, both married and unmarried, and that the greatest obstacles are practical obstacles, not legal obstacles, e.g., poor hours, cost, lack of transportation, and fears about lack of confidentiality (Senderowitz, 1994).

Although there is great need to reach larger proportions of youth with nearly all programs, at least one review concluded that there are more educational programs for youth than reproductive health services (The Rockefeller Foundation, 1994). In sub-Saharan Africa, most countries claim that they have some family life education. Unfortunately, the quality of this family life education is commonly perceived as poor, and schools desperately need materials and training.

3.1.3 Lack of Institutionalization

There is little research on the funding sources of programs in developing countries that serve adolescent reproductive needs. However, the Center for Population Options reviewed 103 pregnancy prevention programs in developing countries and concluded that most programs were conducted by NGOs and most relied heavily on international financial support (Center for Population Options, 1991). Conditions obviously vary from country to country, but it is widely believed that many existing programs are not institutionalized—that is, they do not have stable, ongoing sources of funding from their own countries nor clear political and institutional support.

3.2 Research on the Impact of Adolescent Reproductive Health Programs on Sexual and Contraceptive Behaviors

Before reviewing the research on the impact of adolescent reproductive health programs, it should be recognized that changing health behaviors and sustaining these changes is difficult. Given the extent to which sexual behavior is affected by innumerable hormonal, psycho-social, familial, and societal factors, changing adolescent sexual behavior may be even more difficult than changing other health behaviors.

There are three bodies of research that can shed light on the effectiveness of different approaches to reducing sexual risk-taking behavior among adolescents: (1) research on programs for adolescents in the developing world, (2) research on programs for adolescents in the United States, and (3) research on programs for adults in the developing world.

3.2.1 Evaluations of Programs in Developing Countries

According to a recent review of adolescent health programs, "Few projects include scientific evaluation, and those that do are too new to allow an assessment of quantitative outcomes." (Senderowitz, 1994, p. 42). Numerous people interviewed for this concept paper expressed similar beliefs and knew of few studies which measured the impact of programs on sexual and contraceptive behavior. During the preparation of this concept paper, it was not possible to conduct a thorough search on the effectiveness of adolescent reproductive health programs in all professional research journals. However, some effort was directed toward finding such research. Only a few studies were found, of which only some have been published.

The first is an unpublished review of 19 sex and HIV education programs presented at the World AIDS Conference in Berlin in 1993 (Baldo et al, 1993). All but one of the studies the review examined took place in the United States or other developed countries. It concluded that these programs did not hasten the onset of intercourse and a few may have increased the use of contraception among adolescents.

Several studies have examined programs in Mexico. The first of these was funded by The Population Council and examined a life planning curriculum implemented in Mexico (Instituto Mexicano de Investigacion de Familia y Poblacion, 1990). It found that the program did not hasten the onset of intercourse but did increase the likelihood that contraception was used if the course was provided before the adolescents started having sexual intercourse.

A second study in Mexico examined the impact of a sex education program in secondary schools. It found that the program increased knowledge and encouraged parent/child communication, but it did not measure the impact on actual sexual or contraceptive behaviors (Weis et al, 1992).

A third study in Mexico did not examine the impact of the programs on sexual and contraceptive behaviors but examined the number of youth reached and the cost per young adult user. It concluded that a community youth program reached more youth at a lower cost than did an integrated youth center (Townsend et al, 1987). Several years later, the impact of the community program was evaluated. That evaluation did not find a significant impact of the program on contraceptive use, but both the weak evaluation design and small sample size could have obscured any reasonable program impact (Infante et al, 1993).

Another study in Latin America did not measure the impact of a specific program but rather the impact of sex education as it is taught in several cities. The study is based on the Young Adult Reproductive Health Surveys conducted in 10 cities and three countries. In five Latin American cities—Mexico City; Guatemala City; Quito and Guayaquil, Ecuador; and Santiago, Chile—the study found that women who had received sexuality education were more likely to have delayed the onset of intercourse (Hernandez et al, 1993). Another study examined data from five of these surveys and found that use of contraception at first intercourse was greater for those who had previously had some sex education than for those who had not. The impact was greater for females than for males (Population Reference Bureau, 1992a).

Other studies have not measured the impact of sex education programs on sexual behavior but have measured the impact of mass media programs on whether or not adolescents had heard the messages and telephoned hot lines. Programs in Mexico, the Philippines, and Nigeria did have one or more of these positive effects (Population Communication Services, 1992).

This paucity of research studies suggests that the vast majority of programmatic approaches implemented in the developing world have simply not been evaluated and their actual impact on adolescent sexual and contraceptive behavior is simply not known.

In addition, some of the programs cost much more than do others; some reach more youth than others; some reach youth more intensively than others. Unfortunately, good evidence does not exist indicating which approaches are the most cost-effective.

3.2.2 Evidence from Research in the United States

The adolescent birth rate of the United States is remarkably similar to that of developing countries (6 per 1,000 versus 7 per 1,000). Thus, a review of programs and research in the United States is relevant for three reasons: (1) it is these programs or modifications of them that many people recommend be implemented abroad; (2) most of the research available has been conducted in the United States; and (3) the United States has a wide range of adolescent cultures, some of which resemble adolescent cultures in some developing nations.

Despite the reasons for reviewing research in the United States, one should be very cautious about generalizing from this research to other countries. After all, the needs and behaviors of adolescents in the United States may differ considerably from those in many developing countries. For example, adolescents in the United States may be more knowledgeable about contraception, pregnancy, and AIDS than their counterparts in some other countries; they may also have greater access to contraceptives than adolescents in some developing countries. Thus, increasing knowledge or improving access to contraceptives may have a greater impact in some developing countries than in the United States.

Social and political change in the United States. Between the mid-1950s and the mid-1970s, the birth rates for 15–19 year olds in the U.S. declined dramatically, from 82 births per 1,000 to 53 per 1,000 (Hofferth and Hayes, 1987). This large decline is commonly attributed, in part, to an increasing proportion of young women deciding to delay marriage and pursue higher education and/or professional careers.

Since the mid-1970s, there have been several major trends in American society which have had an impact on adolescent sexual behavior: (1) the sexual revolution, which contributed to an increase in the proportion of adult women who engaged in premarital sexual intercourse, began to have an impact on adolescents; (2) the media increased the sexual content of their programs; and (3) many groups and institutions working with youth began a more concerted effort to reduce unintended pregnancy and STDs among American youth. There are many examples of these trends. Television shows more commonly suggested sexual intercourse outside of marriage. Television and radio media greatly increased the number of stories and documentaries about sexual behavior, pregnancy, and AIDS. Magazines intended for somewhat older audiences, but nevertheless read by youth, greatly increased both the frequency and frankness of their discussions of sexual issues. Sex education programs were mandated by 47 of the 50 states, and HIV education programs were mandated by all 50 states. The proportion of youth receiving at least a modicum of sex education or AIDS education increased to at least 85 percent. In general, people learned to talk far more openly about sexual issues. In addition, oral contraceptives became more available to young women, and condoms became more available in nearly all drug stores and many convenience and grocery stores. Finally, a 1973 Supreme Court decision made abortion legal in all states, although some states subsequently passed parental consent laws and other restrictions that made abortion more difficult to obtain for adolescents.

What changes in adolescent sexual and contraceptive behavior occurred during these enormous society-wide changes?

- The proportion of youth having sexual intercourse increased somewhat.
- The use of contraception among sexually experienced youth increased somewhat.
- The birth rate among sexually experienced youth decreased slightly from 123 per 1,000 in 1976 to 107 per 1,000 in 1990.
- The birth rate for all 15–19 year old females increased slightly from 53 per 1,000 in 1976 to 62 per 1,000 in 1991.

- The adolescent gonorrhea rate failed to experience the decline observed in the adult STD rate (The Alan Guttmacher Institute, 1994; National Center for Health Statistics, 1994).

Thus, the cumulative effect of all of the changes in the United States discussed above clearly did not have the expected impact on adolescent pregnancy and birth rates. Therefore, one should certainly be cautious about recommending to other countries the changes that have been implemented in the United States without carefully evaluating the actual impact of interventions on behavior in those countries.

Evaluations of school-based sexuality education and HIV education programs. In developing countries, not all adolescents are in school, thus one might question the relevance of research on school-based programs. However, by 1985, 46 percent of young people ages 12–17 in the developing world were in school, and the proportion keeps increasing—enrollment has almost doubled during the past 30 years (WHO, 1989). Furthermore, the impact of some school-based programs may be about the same as the impact of similar programs implemented out of school.

Research indicates that sexuality and HIV education programs in the United States do not hasten the onset of intercourse. Seven studies, based on national surveys, measured the impact of a cross-section of sexuality or HIV education programs in this country. The weight of the evidence from these studies indicates that these programs—especially those that included both abstinence and contraception—did not hasten the onset of intercourse (Anderson et al, 1990; Furstenberg, Moore, Peterson, 1985; Dawson, 1986; Kirby et al, 1994; Ku, Sonenstein, Pleck, 1993; Marsiglio, Mott, 1986; Zelnik, Kim, 1982). However, several studies indicated that programs which focused only on contraception and were implemented among younger adolescents may have hastened the onset of intercourse among younger females (Dawson, 1986; Ku, Sonenstein, Pleck, 1993; Marsiglio, Mott, 1986; Zelnik, Kim, 1982). Five additional studies evaluated the impact of specific sexuality education and HIV education programs, all of which included instruction on contraception. These studies demonstrated that none of these programs hastened the onset of intercourse; all of them either had no effect on the initiation of intercourse or actually delayed the onset of intercourse (Kirby et al, 1994).

Research also demonstrates that sexuality education and HIV education programs do not increase either the frequency of intercourse or the number of sexual partners. Six studies of both cross-sectional surveys and individual curricula consistently produced the same results (Kirby et al, 1994).

Research studies on the impact of programs on condom use and other forms of contraception are mixed. The weight of the evidence from the national surveys indicates that sexuality education programs do increase somewhat the use of contraceptives and HIV education programs do increase somewhat the use of condoms. However, the data are not always consistent. Studies of individual programs indicate that some programs, but not all, can increase contraceptive or condom use among sexually experienced youth.

There were four specific curricula which led to the increase in the use of condoms or other forms of contraception among some groups of participants (Howard, McCabe, 1990; Kirby et al, 1991; Schinke, Blythe, Gilcrest, 1981; Walter, Vaughn, 1993). However, other curricula did not significantly increase the use of contraception.

These four effective curricula which reduced unprotected intercourse by delaying the onset of intercourse and/or increasing the use of contraception had seven common characteristics: (1) a theoretical grounding in social learning or social influence theories which emphasize improvement in norms and skills and learning from experience more than simple knowledge acquisition, (2) a narrow focus on reducing specific sexual risk-taking behaviors such as postponing sexual involvement or using contraception, (3) experiential activities to convey information on the risks of unprotected sex and how to avoid those risks and personalize that information, (4) instruction on social influences and pressures, (5) reinforcement of individual values and group norms against unprotected sex that are age- and experience-appropriate, (6) activities to increase relevant skills and/or confidence in these skills, and (7) special training for the teachers or staff implementing the curricula (Kirby et al, 1994).

The most important of these characteristics may be a clear message about behavior. Whereas the effective curricula clearly emphasized postponing sexual involvement, avoiding unprotected intercourse through abstinence or protection, or always using protection, the few specific curricula that failed to effectively change behavior used a general decision-making approach, did not focus on specific behaviors, and did not give a clear behavioral message.

One reason that sexuality and AIDS education programs which increased knowledge did not necessarily reduce sexual risk-taking behavior is that most adolescents in the United States already know the very basic facts. For example, most adolescents know that unprotected intercourse can lead to pregnancy and STDs and they at least know of the existence of two or more methods of contraception.

This raises the question: Is this basic knowledge relatively universal among adolescents? As indicated in the previous section, knowledge about contraception varies considerably from country to country.

Studies of school-based programs designed to improve adolescent access to contraceptives. Evaluations of school-based clinics which have facilitated access to contraceptives either by prescribing or dispensing contraceptives represent a particularly relevant body of research because school-based clinics can embody some of the most important characteristics of the ideal adolescent family planning clinic. School-based clinics are very accessible, convenient, confidential, comprehensive; sometimes provide free contraceptives; and commonly have a caring staff.

Three large studies have examined the impact of U.S. school-based clinics on either sexual and contraceptive behavior or birth rates. The first study (Kirby, Waszak, Ziegler, 1991) examined the impact of four clinics that either prescribed or dispensed

contraceptives. None of the clinics studied demonstrated a measurable impact on the initiation or frequency of sexual intercourse. One of the clinics did not have a significant impact on contraceptive use; one was associated with higher condom use by males and higher oral contraceptive use by females; one was associated with higher contraceptive use by females, but not by males; and one was associated with lower contraceptive use by females, but not males (Kirby, Waszak, Ziegler, 1991).

The second study was an analysis of the impact of five St. Paul, Minnesota, school-based clinics which prescribed contraceptives and made provisions for the dispensation of those contraceptives at a nearby hospital clinic (Kirby et al, 1993). That study did not find any evidence that the clinics reduced birth rates.

The third study, not yet published, is of a large number of clinics in the United States. It found that the clinics which prescribed or dispensed contraceptives did not significantly increase the use of contraceptives nor decrease pregnancy or birth rates among adolescents.

These negative findings are partially offset by the study of one school-linked clinic (Zabin et al, 1986). In Baltimore, an adolescent reproductive health clinic, called the "Self Center," provided educational, counseling, and reproductive health services in that clinic and educational and counseling services in two schools—a junior high school that was four blocks away and a high school that was across the street. In both schools, the staff implemented a peer education program and after-school group discussions, while clinic staff provided individual counseling, group counseling, and contraceptive services in the clinic. According to survey data collected from the program schools and matched comparison schools, there was an increase in the use of contraception among students in the program schools.

In general, a panel of experts that reviewed the research on school-based clinics concluded that there is not yet sufficient evidence to determine whether or not school-based clinics providing contraception significantly increase the use of contraception by adolescents (Kirby et al, 1994).

School-based programs to improve life options. Thus far, there has been only one published study that has measured the impact of a life options program on contraceptive behavior. That program included a sexuality education component, academic tutoring, a limited mentoring program, and summer employment. It did not find consistent and significant impact on sexual and contraceptive behavior, despite a very strong evaluation design (Grossman, Sipe, 1992).

Clinic programs to increase access to contraception. Relatively few studies have evaluated the impact of family planning clinic programs on adolescent sexual and contraceptive behavior, pregnancy, or birth rates.

Only one study has evaluated the impact of community family planning clinics on the sexual and contraceptive behaviors of the adolescents within the communities they served. This study, yet to be published, found that when the clinics expanded their

programs to better serve adolescents in their communities, they did not have a measurable impact on those adolescents' sexual or contraceptive behaviors.

Other studies have used sophisticated statistical approaches to compare adolescent pregnancy and birth rates with the number of family planning clinics or enrollment in family planning clinics in either counties or states. The first study developed several plausible statistical models. The majority of these studies indicated that enrollment in family planning clinics was associated with slightly lower adolescent birth rates (Forrest, Hermalin, Henshaw, 1981). This finding was further supported by a second study of the relationship between enrollment in family planning programs and adolescent fertility (Anderson and Cope, 1987).

A third study examined the relationship between family planning clinics and both pregnancy rates and birth rates among states (Olsen, Weed, 1986). The results indicated that the number of family planning clinics per 1,000 adolescents was negatively related to birth rates. However, it also examined the impact on pregnancy rates and found that enrollment in family planning clinics was positively related to pregnancy rates, suggesting that family planning clinics may have resulted in an increase in the abortion rate.

In sum, the idea that improving access to contraceptives will increase the use of contraceptives and thereby decrease pregnancy rates is certainly plausible, perhaps even compelling in its logic. On the other hand, a compelling body of research does not exist which demonstrates that increasing access to family planning clinics does, in fact, reduce pregnancy rates among adolescents. Perhaps condoms and other forms of contraception have been sufficiently available to young people in the United States so that improved access does not measurably increase contraceptive use or decrease pregnancy.

3.2.3 Evidence from Studies of Adults in Developing Countries

Although studies of adults in developing countries are important to review because they can suggest effective approaches to reducing sexual risk-taking behavior, their applicability to adolescents should be questioned because there are very important ways in which adolescents differ from adults. In comparison with adults, adolescents have less knowledge about pregnancy, STDs, and contraception; have fewer social skills to resist pressures to have unprotected sex; experience more conflicting norms and social pressures about sex; have shorter-term relationships; are much less likely to have ever had sex; engage in intercourse less frequently; are much less likely to plan to have sex; are more likely to have unexpected sex; have greater embarrassment about obtaining condoms or other contraceptives; have fewer resources to pay for contraceptives; have greater difficulty accessing reproductive health services; and, in general, are more likely to encounter barriers to obtaining and using contraceptives.

Findings from research on family planning programs. It is not possible in this concept paper to review all the research on the impact of family planning programs in developing countries. Moreover, despite a large amount of scholarly research, some debate remains about the magnitude of the impact of programs.

However, it can be safely stated that the weight of the evidence strongly indicates that in the developing world, family planning programs have effectively reduced the pregnancy and birth rates of women. Their success is dependent on the complex interaction between family planning programs and changing economic, social, and environmental factors and on the quality of the family planning programs (USAID, 1991). Experience has indicated that successful family planning programs include nine key components:

- Adequate contraceptive supplies
- The provision of a variety of contraceptive methods
- Multiple sources of delivering contraceptives
- Sound management
- Public and private sector involvement
- Strong leadership
- The measurement and evaluation of program impact
- Comprehensive and appropriate training of all staff
- Effective information and communication

Findings from efforts to reduce the sexual transmission of HIV. There has been much less published research on the impact of programs to prevent HIV transmission. However, people in the field have begun to identify important lessons for prevention programs (Lampthey, 1994):

- Behavioral research has provided a critical understanding of why people engage in risk-taking behavior and how to possibly change that behavior.
- Prevention programs can work.
- A comprehensive AIDS prevention program should include three components: (1) a communication/education component designed to reduce high-risk sexual behavior, increase use of condoms, improve low-risk norms, and increase STD symptom recognition and care-seeking; (2) provision of acceptable, affordable, and accessible condoms; and (3) improved STD diagnosis and treatment.
- To change behavior, people need a realistic perception of their own personal risk and vulnerability, peer groups that support reducing their risk-taking behavior, and skills to practice safer sex.
- To sustain change, community and societal factors must be addressed (e.g., greater respect for women).
- Targeting high-risk groups can be a successful strategy for slowing the spread of HIV.
- Condom social marketing is particularly promising.

- To have a broad impact, programs must be replicated widely, reach large numbers of people at risk, and be institutionalized. That is, programs need greater resources, supportive policies, and greater involvement of the private sector and community-based organizations.

3.3 Impact of State and National Policies and Mandates that Affect Adolescent Reproductive Health

There are numerous governmental policies and mandates that can affect adolescent access to sex education and reproductive health services. When these are changed, they can affect sex education and reproductive health services. For example, if existing national policies prohibit instruction about contraception in schools, restrict adolescents' access to contraceptive services, or limit adolescents' access to legal abortion services, then changing these policies will undoubtedly have some impact on adolescent contraceptive use, abortion rates, and probably birth rates. Clearly, there are examples to support this. For example, when abortion became legal in all states in the U.S. in 1973, abortion rates did increase for several years among adolescents.

On the other hand, changing government policies does not always lead to the expected change. Efforts to legislate the age of marriage is a good example. Nearly every country has a legal minimum age of marriage, ranging from 12–20 for females and 14–22 for males (United Nations, 1989). In the past two decades, about 54 countries have changed their legal minimum age for marriage, for the most part upward (Paxman, Zuckerman, 1987). While one would logically assume that the legal minimum age of marriage would affect the actual age of marriage, this is not entirely true for several reasons. First, most commonly the increase in the mean age of marriage typically preceded the change in the legal minimum age (Paxman and Zuckerman, 1987). Second, in many countries where the traditions to marry early are strong, many marriages occur prior to the legal minimum age. Third, increases in education among females sometimes leads to both a delay in the mean age of marriage and to increases in the legal minimum age of marriage (Agyei and Epema, 1992). Thus, it is not at all clear that increasing the legal minimum age of marriage substantially increases the mean age of marriage.

Similarly, when New Jersey mandated sex education in all public schools, the programs studied did not change substantively; instead the schools simply labeled whatever they were previously doing as sex education (Muraskin, 1986). When the U.S. Supreme Court declared abortion legal in all states, the abortion rate among adolescents did increase for several years, but the adolescent birth rate did not continue its previous decline (Hofferth and Hayes, 1987).

Possible conclusions may be that removing government restrictions may allow significant numbers of people to do things they previously wanted to do (e.g., teach contraception in schools, obtain contraceptives, or have an abortion), but mandating activities may be less effective unless the government provides the necessary support (e.g., funding, training, and materials) to implement the mandate.

3.4 Conclusions

This review suggests several possible conclusions:

- Many programs have been implemented and have served adolescents, indicating that, at a minimum, communities will accept the programs, adolescents will participate in some of them, and youth do respond positively to some of them.
- Programs for adolescents probably reach only a very small proportion of adolescents. Programs providing contraceptive services may be even less common than educational programs, although the latter may be poor in quality.
- Few of these programs for adolescents are institutionalized and have secure funding.
- In the developing world, there is a paucity of evidence demonstrating that programs for adolescents actually reduce sexual risk-taking behavior or decrease rates of pregnancy or STD. The results from the few studies are mixed.
- There has been much more research conducted in the United States. This research also has mixed results. In general, it indicates that sex education programs with specific characteristics can delay the onset of intercourse and increase the use of contraception. It is not clear whether or not improving access to contraceptives has a significant impact on behavior.
- Research on programs for adults in the developing world is more positive, suggesting that several approaches have been very effective in reducing unprotected sex, pregnancy rates, and rates of HIV transmission.
- Changes in legal mandates and policies sometimes have desired effects but other times do not produce the expected effects.

Given the paucity of studies on the impact of programs, and also given the mixed findings of the existing studies, it is hazardous to recommend any particular approach as potentially the most effective or most cost-effective. However, it is true that there is more evidence in both the United States and the developing world that sex education programs do not hasten the onset of intercourse, sometimes delay the onset of intercourse, and sometimes increase the use of contraception. It is also true that, in comparison with some other reproductive health programs, sex education programs cost relatively little to implement in schools. Therefore, if sex education programs can be implemented before youth have sex and before substantial proportions of students drop out of school, and if they include the seven characteristics of sex education programs found to be important, then they may represent one of the most cost-effective approaches to reducing adolescent sexual risk-taking behavior.

4. A PLAN FOR THE USAID OFFICE OF POPULATION REPRODUCTIVE HEALTH INITIATIVE

The USAID international adolescent reproductive health initiative should be based primarily on the need to address the major limitations of existing programs designed to respond to adolescent reproductive health needs and should build on USAID's current strengths and long-term interests and concerns.

4.1 The Three Major Limitations of Existing Programs

Chapter 3 concluded that in the developing world many innovative reproductive health programs have been successfully implemented for adolescents, but they face at least three critical limitations: (1) the actual impact of these programs on sexual and contraceptive behaviors and on pregnancy, birth, and STD rates has not been well evaluated, (2) the programs are not institutionalized, and (3) they reach only a small proportion of youth in need.

Because policy-makers and program planners do not know which programs most effectively meet adolescent reproductive needs and which do so most cost-effectively, there is much less certainty and consensus surrounding which approaches to replicate. In addition, the lack of evidence of effectiveness makes it more difficult to increase funding, sustain funding, and, more generally, to institutionalize programs. Advocacy groups can only quote evidence of need; they cannot provide evidence of proven success in reducing pregnancy rates, STD rates, or other reproductive needs. Thus, there is a great need to conduct rigorous evaluations of the most promising programs and determine whether or not, and to what degree, they have a positive impact on behavior.

Because many programs are not institutionalized, they do not receive the necessary political, social, and financial support, not only to sustain themselves, but to expand and replicate their programs. Too often, programs are not sustained when foreign donors end their funding. Thus, programs must be institutionalized to be successful in the long term.

Because existing adolescent programs reach only a small proportion of adolescents in need, millions of adolescents experience many of the reproductive health problems identified in Chapter 2. Thus, there is a great need to expand and replicate the most promising programs and increase the proportion of adolescents in need that are served.

The importance of all three of these limitations should be fully recognized. If programs that are implemented are not effective, if the programs are not institutionalized and sustained, or if only a small proportion of youth are reached, then large numbers of youth will not be reached by effective programs. Simply stated, countries need to know what works and need to acquire the national and local capability to implement what

works. In many—perhaps most—developing countries, communities lack the knowledge about what works and the financial resources as well as the local capability to implement a successful strategy. Thus, it is important to address all three limitations.

These three critical limitations can easily be translated into three important goals for the adolescent reproductive health initiative: (1) determine which programmatic approaches are both effective and cost-effective in addressing adolescent needs (e.g., decreasing unintended pregnancy and STD and HIV rates); (2) build and increase the institutionalization of programs; and (3) increase the proportion of youth reached by programs. These three goals are identified in Figure 1.

4.2 Approaches for Addressing These Limitations and Reaching These Goals

To address these limitations and meet these goals effectively, several things must be accomplished. To determine which programs are effective, all research on different programmatic approaches conducted anywhere in the world needs to be more carefully reviewed and summarized and additional promising interventions need to be implemented and carefully evaluated. To facilitate the institutionalization of programs, international donors need to increase their support and coordination; political and social support within countries needs to be generated; funding must be increased and the stability of this funding must be assured; and supportive institutions at the national level need to be built. To increase the proportion of youth that are reached, resources and capability at the local level must be increased dramatically. These activities are summarized in Figure 1.

Notably, these activities are also consistent with the time-honored paradigm for implementing programs to address social problems. These steps are the following: (1) conduct research to identify and document the social problems and the need for addressing them; (2) develop and pilot test programs and materials to assess and demonstrate that the programs can be implemented, the community will support them, the target population will participate, and the programs appear to be successful; (3) rigorously measure the impact of the programs on specified outcome behaviors to determine whether the programs have a statistically and programmatically significant impact; (4) develop the institutional support to expand and sustain the programs; and (5) develop the training and materials necessary to increase the local capability to implement the programs and then replicate the programs in many communities.

Although there is a logical order to these five steps, in reality, they overlap. For example, evaluation continues to refine and improve programs while they are being replicated, and often both the development of institutional support and the provision of training are gradual processes that last over time and occur simultaneously. Thus, to the extent feasible, the adolescent reproductive health initiative should address all five steps.

Finally, it should be recognized that these broad activities lead to a variety of somewhat more specific activities at the international, national, and local levels. Therefore, the concept paper divides activities into these three levels.

FIGURE 1

**AN OVERALL PARADIGM FOR THE INITIATIVE:
THE MAJOR GOALS OF THE INITIATIVE AND
THE MAJOR GROUPS OF ACTIVITIES DESIGNED TO REACH THOSE GOALS**

MAJOR GOALS

Determine which programs are effective and which are cost-effective

Strengthen the institutionalization of programs

Increase the proportion of youth reached by programs

MAJOR ACTIVITIES

Review and summarize all existing research in the world on the impact of different programs (Activity Group #1)

Conduct demonstration projects and carefully evaluate their impact (Activity Group #5)

Increase international funding and coordination (Activity Group #2)

Improve national infrastructure: increase social, political, and economic support for programs at the national level (Activity Group #3)

Review and improve government policies and regulations (Activity Group #3)

Help institutionalize programs (Activity Group #3)

Strengthen supportive institutions at the national level (Activity Groups #3 and #4)

Increase political and social support at the national level (Activity Group #2)

Increase available funding (Activity Group #2)

Implement demonstration projects (Activity Group #5)

Strengthen NGOs to help support local capability (Activity Groups #2 and #3)

Develop and/or strengthen training and materials to improve local capability (Activity Group #4)

Addressing the three primary goals and completing all five steps obviously requires considerable resources. Thus, before describing in greater detail more specific activities that should be completed to address these goals, this concept paper will briefly examine available resources.

4.3 Available Resources and Methods of Increasing Their Impact

As noted earlier, this initiative, like all initiatives, has limited funding. There are currently funds allocated for an adolescent reproductive health project. Nevertheless, given the 513 million adolescents ages 15–19 in the world, the available funds per adolescent represent a modest amount.

This has three very important implications. First, it means that the proposed initiative cannot be overly ambitious. If the resources are modest, then the goals must also be appropriately modest. This initiative will clearly not be able to meet everyone's interests and objectives.

Second, it will be important to maximize and leverage available resources. There are several ways this might be done. These include the following.

The Office of Population currently funds other reproductive health projects not specifically intended for adolescents. Although most of these resources are already allocated to specific Cooperating Agencies and specific projects, some of those agencies and projects may be able to incorporate additional components with positive implications for adolescents. For example, when decisions are made about developing new contraceptives, the special needs of adolescents could be considered. If Population Communication Services launches new initiatives, more of those could be directed toward adolescents. If Safe Motherhood programs are expanding in new areas, these programs can be adapted to include the special needs of adolescents. If developing countries are reviewing their population policies, they can be encouraged to recognize adolescent needs. All of these activities should be part of the USAID adolescent reproductive health initiative.

It also may be possible to supplement USAID funds with funds from other international agencies, such as the World Health Organization, UNFPA, and the International Bank for Reconstruction and Development (World Bank); other individual countries concerned about population problems; and private foundations concerned with these problems. The International Conference on Population and Development (ICPD) in Cairo will undoubtedly heighten the world consciousness about population problems, including adolescent reproductive health problems. Thus, approaching other possible donors may be especially timely.

Third, this initiative should encourage host countries to contribute to the cost of implementing programs. For example, developing countries may be willing to provide the teachers and the teachers' time if a sex education program is being added to the school curricula. Once the curricula are adopted and the teachers are trained, there

are comparatively few additional expenses. Developing countries may also be willing to provide coordination and to implement other activities. Requiring host countries to contribute at least a little may also be an important step in the institutionalization of the program. As another example, at relatively little cost, existing reproductive health clinics may be willing to eliminate restrictive policies regarding the provision of services to adolescents.

4.4 The Need to Make Choices

Given the overwhelming reproductive health needs of adolescents, it is tempting to try to undertake too many activities. However, such an attempt may diminish the quality needed to make a real impact. Thus, it is necessary to carefully choose among various alternatives.

This concept paper will recommend more activities than can possibly be supported by the available funding. This is intentional; it will give USAID various options from which to choose.

4.5 Proposed Activities

This concept paper will describe five major groups of activities that reflect the reproductive health needs of adolescents, the three major limitations of programs, and the strengths of USAID and its Cooperating Agencies. These groups include:

- (1) Review and disseminate evaluation results and materials for effective programs further.
- (2) Build and improve international linkages, support, and coordination among international organizations.
- (3) Build and improve national infrastructures to support adolescent reproductive health.
- (4) Build and expand local capability to implement programs effectively.
- (5) Implement and evaluate promising approaches to addressing adolescent reproductive health.

The following chapters of this concept paper discuss each of these major groups of activities in greater detail.

5. ACTIVITY GROUP #1: REVIEW AND DISSEMINATE EVALUATION RESULTS AND PROGRAM DESCRIPTIONS

5.1 Overview

Currently there are numerous periodicals such as Population Reports, International Family Planning Perspectives, Demography, Network, AIDS Captions, and others which present studies of adolescent reproductive health programs. In addition, there are annual meetings of professional organizations and other occasional conferences where programs are described and discussed. Thus, information about programs is shared to some extent internationally.

However, many policy-makers, program designers, and evaluators are not familiar with the studies that have taken place throughout the world (including those in developed countries), the lessons that program staffs have learned about what worked and what did not, and the effectiveness of different kinds of programs. No one has identified all the studies that have been completed, reviewed those studies, conducted meta-analyses, convened review panels, and distributed the findings. These activities need to be undertaken.

The question can legitimately be raised: How can this be done if there are few evaluations of adolescent reproductive health programs? There are two parts to the answer. First, there are undoubtedly more studies that have been completed, some published in languages other than English, that were not uncovered for review in this concept paper. Second, there are a number of studies under way, and their results may become available at any time. Particularly because of the paucity of previously published studies, the findings from these current studies need to be summarized and disseminated as quickly as possible.

This group of activities is discussed first, in part because it can be completed the most quickly and in part because the results can and should affect the completion of the other activities. The results can be used to (1) involve other international organizations, (2) coordinate programmatic efforts by other international organizations, (3) gain national support for adolescent reproductive health programs, (4) guide support and training for greater local capacity, and (5) guide the demonstration and evaluation projects.

5.2 Specific Activities

There are five specific activities that are not currently being conducted and should be included in this group of activities. These include the following: (1) develop a registry of past and ongoing research studies, (2) conduct meta-analyses, (3) conduct cost-benefit studies, (4) convene consensus panels, and (5) distribute the results of the first four activities.

Develop a research registry. All studies of adolescent reproductive health programs meeting reasonable standards of scientific rigor and either previously published or currently in progress should be identified, summarized, and included in the registry. This registry should include research being conducted in all languages; the summaries of studies being conducted in foreign languages should be translated to English. Large and important studies should be monitored; as their results become known, they should be added immediately to the registry.

The registry should be used as the basis for the other four activities in this activity group. Registry contents should also be distributed to others (see discussion below).

The Division of Adolescent and School Health (DASH) within the Centers for Disease Control and Prevention (CDC) has created such a registry for adolescent programs in the United States and thus has familiarity with this approach. The possibility exists to expand it to include all international studies.

In addition, WHO and the International Youth Foundation are gathering summaries of promising adolescent reproductive health programs. The proposed activity should either build on or be coordinated with these efforts.

Conduct meta-analyses of research studies. The meta-analyses can build on information in the research registry. As studies are completed and published, their findings can be incorporated into meta-analyses of similar programs. Meta-analyses are advantageous because results which may not have been statistically significant in a specific study because of limited sample size may be significant when multiple studies are combined. Thus, meta-analyses are capable of detecting important trends that individual studies cannot detect.

DASH at CDC is currently conducting meta-analyses of U.S. programs. It may be possible to expand that effort to all international programs.

Conduct cost-benefit studies. If either individual studies or the meta-analyses indicate that programs have a measurable impact on behavior and/or on pregnancy, birth, or STD rates, and if the costs of the programs can be approximated, then it is both possible and advantageous to conduct cost-benefit analyses. Because different approaches to addressing adolescent reproductive health have different effects, as well as different costs, these cost-benefit studies are particularly important. Because costs and benefits may vary considerably from country, these should be conducted for small groups of countries, to the extent feasible.

Convene consensus panels. Consensus panel reviews differ from reviews of the literature by single authors insofar as the panel members are carefully selected to include experts who can objectively and critically analyze the quality of the research, who represent a variety of different views on the topic, and who represent important agencies which will give considerable attention to the outcomes of the review panel. To the extent feasible, consensus panels should also include people with practical experience in implementing programs in order to provide additional insights. If

consensus panels are constituted in this manner, their consensus is likely to carry greater weight than reviews by single authors.

A review panel should be convened to identify and review all relevant research and assess the following topics:

- What can be concluded from the research on effective ways to reach adolescents?
- What can be concluded from research on the impact of adolescent programs on adolescent sexual and contraceptive behavior, pregnancy rates, abortion rates, birth rates, and STD rates?
- Which approaches are the most promising?
- What are the salient characteristics of effective programs?
- What are the most critical questions remaining about program effectiveness that should be addressed by research?

To the extent feasible, different consensus panels should be convened to address the following topics:

- What are effective strategies for building social and political support and gaining acceptance for adolescent reproductive health programs?
- What are effective strategies for getting out-of-school youth involved in programs?
- What are effective strategies for training school teachers, clinic staff, other traditional health care providers, and other appropriate groups of people how to work with adolescents regarding sexuality?

Panel members should be instructed to read critically identified papers on the topic. After deliberations, the panel members should reach consensus on a variety of topics, if possible.

These review panels should be convened as soon as possible because their conclusions may affect other components of this initiative. Given that there are numerous studies in progress, these review panels should be convened periodically—about once every two years—to update the reviews.

The cost of these review panels may be reduced if they are added to an international conference that many of the panel members would be likely to attend anyway.

Distribute the results to all interested parties. Summaries of the studies in the registry should be made available to people needing the information, e.g., researchers, policy-makers, and program developers. The results of the meta-analyses, the cost-benefit analyses, and the consensus panels should be published and distributed to people and institutions concerned with this issue.

There are at least two possible ways to distribute these materials. The first is to create a clearinghouse for all evaluation and research papers and materials. This would make

these materials available to international agencies, USAID Missions, policy-makers, and program staff throughout the world.

A second way of distributing the materials is through one or more of the current systems, e.g., presentations could be given at international conferences and papers could be incorporated into the appropriate periodicals, such as Population Reports.

5.3 Other Possible Related Activities

The initiative should also encourage established journals to publish special issues on adolescent reproductive health. Some journals could have a series focusing on promising approaches to adolescent reproductive health.

5.4 Extending These Activities to Other Topic Areas

Although the five activities in this group should focus on those programs designed to reduce unprotected intercourse, unwanted pregnancy, and STDs, the same types of activities could be completed for other outcome areas, such as reducing maternal and child mortality during and after birth, reducing sexual abuse and violence against women, and reducing female genital mutilation. If these five activities are completed for the different topic areas, they should, however, involve different experts on the panels.

5.5 Costs and Funding of This Group of Activities

This activity group is the least expensive of the five groups of activities. By expanding the activities currently being conducted by DASH, WHO, the International Youth Foundation, or other groups, it may be possible to complete the activities in Activity Group #1 at relatively low cost. Because the results may facilitate subsequent fund-raising for adolescent reproductive health programs, this group of activities is highly recommended.

6. ACTIVITY GROUP #2: INCREASE INTERNATIONAL RECOGNITION OF THE IMPORTANCE OF ADOLESCENT REPRODUCTIVE HEALTH, INCREASE SUPPORT FOR ADOLESCENT REPRODUCTIVE HEALTH, AND IMPROVE COORDINATION AMONG INTERNATIONAL ORGANIZATIONS

6.1 Overview

Currently, there is considerable support among international organizations, donor countries, and foundations for population activities and activities to reduce the spread of HIV, and there are examples of efforts to address adolescents, e.g., the joint strategy among WHO, UNICEF, and UNFPA, and the collaboration mentioned above between WHO and the International Youth Organization. Overall, however, there has been relatively little effort devoted to adolescent reproductive health. Many groups are concerned with reproductive health issues that should involve adolescents (e.g., reducing unintended pregnancy, birth rates, and the spread of HIV), but they fail to recognize that many adolescents are sexually active, constitute an important part of their target population, and have special needs that should be addressed. One goal of this initiative should be to encourage international agencies to consistently recognize that adolescents represent an important part of their target populations and adolescent reproductive health needs should be properly addressed.

Finally, among those who are supporting adolescent programs, there is some awareness of what other groups are doing, but there is relatively little coordination and cooperation. This coordination and cooperation needs to be improved.

Although increasing the recognition that adolescents are an important group, increasing support for adolescent reproductive health, and improving coordination are clearly a challenge, several factors enhance the timing and chances of success:

- Evidence demonstrating the importance of adolescent reproductive health has become increasingly compelling.
- The Cairo Conference has given greater visibility to the problems of population in general and to adolescent birth rates in particular.
- The prevalence of HIV among adolescents is increasing, and concern about HIV and adolescents is increasing.

Although it is often difficult to coordinate the activities of large international organizations, some coordination may nevertheless be possible. For example, some organizations are particularly interested in the development of microbicides which may be a promising method of preventing pregnancy and STDs, including AIDS; others are most interested in improving methods of distributing contraceptives; still others are most interested in evaluating impact. Clearly, there is at least the potential for effective coordination among these parties.

Similarly, many organizations are primarily concerned with preventing pregnancy while others are concerned with preventing STDs and AIDS. Because condoms are used for both purposes, combining pregnancy prevention messages and AIDS prevention messages in the same program can strengthen the program.

Finally, some organizations have more funding, while others have more political clout with developing countries. By combining forces, these organizations can be more effective when working with developing countries.

The feasibility of international linkages has been previously demonstrated in both population and HIV/AIDS initiatives. Although linkages and cooperation were never perfect, they were effective.

6.2 Specific Activities

USAID already has contacts with most international agencies in the area of population and HIV/AIDS and has started to develop informal contacts regarding adolescent reproductive health.

Designing all the activities in this activity group is beyond the scope of this concept paper. However, the following are possible activities that could be incorporated into this activity group:

- Examine the strategies that have been successfully used to generate international support and coordination in other areas, such as family planning and the control of HIV.
- Identify all the international agencies, donor countries, and foundations that are currently funding, supporting, or coordinating projects with adolescents and summarize their activities. Convene a meeting with these groups to at least acquaint each agency with what the other agencies are doing. Structure the meeting to encourage agencies to discuss and coordinate their activities.
- Identify all the international agencies, donor countries, and foundations that are not currently funding adolescent programs but could or should have an interest in adolescent reproductive health. Regularly send them the materials discussed below and encourage their involvement and support. Encourage them to select staff for adolescent reproductive health working groups.
- Create and distribute a compelling position paper that describes adolescent sexual activity and the need for adolescent reproductive health programs. This paper could be based, in part, on some of the statistics provided in Chapter 2 of this concept paper.
- Develop and distribute a single video or multiple videos in multiple languages that dramatically portray the need for an adolescent reproductive health initiative and the economic and social costs of failing to address this issue.

- Use the reviews of effective programs and other materials discussed in Activity Group #1 to generate support.
- Be prepared to capitalize on any event that brings adolescent reproductive health to the attention of international agencies (e.g., the Cairo Conference).
- Highlight success stories in adolescent reproductive health.
- Continue and expand informal networking.
- Convene special sessions on adolescent reproductive health at all international and regional conferences on either reproductive health or adolescent health.
- Convene biannual conferences for all international agencies working in adolescent reproductive health.
- Encourage the reproductive health working groups in other agencies to review their family planning, HIV/AIDS, and overall health policies, guidelines, programs, and projects to ensure that adolescents are adequately addressed.
- Encourage groups traditionally focused on family planning or prevention of STDs to also consider what they can do to prevent female genital mutilation and sexual abuse and violence and encourage improved nutrition and safe pregnancy services.

6.3 Costs and Funding of This Group of Activities

The cost of implementing all these activities is considerable. From a cost-effectiveness standpoint, these activities should be implemented for at least two reasons. First, they may substantially increase the total amount of funding available to adolescent reproductive health activities worldwide.

Second, the costs can be reduced through several mechanisms. USAID already networks with other international organizations; this can be supplemented. The costs of the review panels will be borne by Activity Group #1. The costs of developing videos could perhaps be covered by Cooperating Agencies that already develop video materials on or for the developing world. Finally, international conferences already take place; adding special sessions on adolescent reproductive health often only requires taking the initiative and presenting a compelling case rather than spending a large amount of money.

This group of activities is highly recommended because it (1) may increase recognition of the existence and importance of adolescent sexual behavior and reproductive health needs, (2) may increase financial support for adolescent reproductive health programs, and (3) may improve coordination.

7. ACTIVITY GROUP #3: BUILD AND IMPROVE NATIONAL INFRASTRUCTURES TO SUPPORT ADOLESCENT REPRODUCTIVE HEALTH

7.1 Overview

In many developing countries there is little official acknowledgment that many adolescents are engaging in sexual intercourse and have the numerous and important reproductive health problems discussed in Chapter 2. In many countries there is little social, political, or economic support for programs to address these issues. In fact, some countries have policies that intentionally or unintentionally prevent adolescents from participating in programs. For example, some countries may intentionally prohibit reproductive health clinics from serving adolescents, particularly unmarried adolescents, while others may levy tariffs on condoms or may increase the cost of condoms or services, thereby unintentionally making them prohibitively expensive to adolescents.

The objectives of this activity group are to select a small number of countries in different regions and develop, expand, and/or improve political, economic, and institutional support at the national level for adolescent reproductive health programs. Assuming that these selected countries do expand their support, they subsequently will serve as models for other countries within the same regions.

7.2 Specific Activities

This group of activities includes a number of different activities that build on one another.

7.2.1 Select Countries

This concept paper recommends that between one and three countries per region be selected. Clearly, ignoring costs, more countries are better. If there are more countries selected in each region, more countries will be directly affected; there will be more countries to model success; and there will be greater opportunity for the selected countries in each region to share observations on their successes and failures. On the other hand, costs cannot be ignored, and therefore fewer than three countries per region may have to be selected.

A variety of criteria should be used to select countries, for example:

- The adolescent reproductive health needs of each country
- The extent to which a country has potential resources such that a small amount of external support can create a critical mass and make a significant difference

- The extent to which a country is respected by others in that region and can serve as a model

7.2.2 Conduct an Assessment of Each Selected Country

Prior to selecting the countries, some assessment of potential countries must be conducted. Once the countries are chosen, a more thorough assessment of the selected countries should be completed. This assessment should answer the following questions:

- What are the most important adolescent reproductive health needs in each country?
- Who is doing what to address those needs?
- What needs to be done?
- Which barriers and policies must be changed and can be changed, and which must be accepted, tolerated, and circumvented to the extent appropriate?
- What are the most important barriers to generating support and changing policies?
- Which groups and which individuals are key decision-makers in this area?

This component should be comprehensive and include an assessment of such things as teaching family life education in schools, making contraceptives available to adolescents at existing clinics, allowing pregnant adolescents to attend school, protecting adolescents from abuse and mutilation, and improving safe pregnancy practices. Additional examples are given below.

7.2.3 Create a National Plan for Identifying National Objectives and Possible Legislative and Policy Changes and for Building Support for These Changes

Following a careful needs assessment, a national plan should be created for each country. Clearly, these plans will differ for different countries and will reflect each country's unique needs, resources, cultural beliefs, and so forth.

Historically, some countries have developed national plans to reduce population growth rates. Both the processes and components of those plans should be examined and adapted as appropriate for national plans to address adolescent reproductive health.

National plans should include a series of objectives to be met in a specified period of time. They could be analogous to the U.S. Year 2000 Objectives. Objectives for adolescents could include the following:

- Improve the education of young females
- Delay the onset of marriage
- Delay the initiation of intercourse

- Increase the use of condoms
- Increase the use of other types of contraception
- Reduce the number of sexual partners
- Reduce pregnancy and abortion rates
- Reduce STD rates
- Improve prenatal care and nutrition
- Reduce maternal and child morbidity and mortality
- Reduce commercial sexual activity
- Reduce sexual violence against females
- Eliminate female genital mutilation

To achieve these goals there are numerous things that nations can do at the national level. Following is a list of possible mandates, laws, and policies that countries could implement.

- Support policies and programs which expand educational and employment opportunities for youth, particularly for girls and young women.
- Mandate early and appropriate sexuality education and HIV education universally throughout the school system and through programs designed to reach out-of-school youth.
- Ensure that policies do not prevent the teaching of contraception in sex education to appropriate age groups.
- Encourage institutions that train teachers to train them to teach sex and HIV education effectively.
- Provide funding for training and materials.
- Enact policies to prevent pregnant teenagers and mothers from being dismissed from schools, and support alternative education and skills development programs for pregnant girls and young mothers.
- Ensure that laws, policies, guidelines, and practices relating to the provision of contraceptives explicitly allow unmarried as well as married adolescents to obtain contraceptives and that condoms, in particular, are easily accessible and affordable to youth.
- Support the development of sexual and reproductive health services directed at youth through special programs which are easily accessible, acceptable, and affordable.
- Ensure that national population policies address adolescent reproductive health needs.
- Ensure that national policies on AIDS address the needs of adolescents in a coordinated manner with other youth policies.
- Eliminate tariffs on condoms or other contraceptives.
- Eliminate policies which preclude prepacked STD kits in the clinics.
- Develop policies to improve adolescent access to safe abortion services, where legal, treatment of septic and incomplete abortion, and post-abortion contraceptive services.
- Encourage medical institutions to offer training on adolescent medicine and how to work effectively with adolescents.

- Encourage the development of societies for adolescent medicine.
- Enact laws and create enforcement mechanisms to prohibit traditional practices which are detrimental to the health of adolescents including female genital mutilation and child marriage.
- Enact laws and create enforcement mechanisms to protect young girls and boys from being sexually exploited by older men and women and by the commercial sex industry.
- Enact laws that provide legal protection of children and adolescents from sexual violence.

Certainly, people from the host countries should be thoroughly involved in the development of these plans and the objectives and possible changes in mandates, laws, and policies. However, as they develop these objectives and policies, they can be supported in a variety of ways by international agencies, USAID Missions, and Cooperating Agencies.

There are differing views regarding whether or not to specify adolescent reproductive health programs in government budgets. Some people believe that doing so is necessary to ensure that adolescent programs actually receive funds. Others believe that doing so will create unnecessary controversy and may prevent any funds from being spent on adolescents. The latter group argues that the goal should be for adolescents to receive the same services as adults, not to have them be perceived as different.

Currently, the USAID Office of Population has several ongoing projects whose expertise could have a major impact on national and local policies on adolescents. The Options for Population Policy II (OPTIONS II) Project or its successor could examine legal, regulatory, and administrative barriers that limit the rights of adolescents and adversely affect their health.

A very important part of each national plan should include the processes and strategies for changing government policies and generating social and political support. The following activities discuss possible strategies.

7.2.4 Demonstrate Need

Knowledge among policy-makers is often limited and inaccurate, and they need adequate and relevant information to make adolescent activities a priority and to provide support and/or funds. At the very least, policy-makers need adequate information in order to avoid creating barriers to adolescent programs. Thus, one of the first steps in any national plan is presumably demonstrating need to appropriate groups and decision-makers.

Following are several suggestions to provide more compelling evidence of need:

- When conducting Demographic and Health Surveys, always include enough adolescents to do separate analyses for 15–17 year olds and for 18–19 year olds. If possible and appropriate, collect data on youth under age 15.
- Assess what data on adolescents are already available in the country.
- Work with health institutions to begin collecting additional epidemiological data, e.g., the percentage of infant births to adolescents, the percentage of maternal deaths among adolescents, the percentage of all abortions to adolescents, and the percentage of the STD caseload that are adolescents. As appropriate, these data should be gender-specific (e.g., STD rates).
- Work with health institutions to begin collecting adolescent data on other topics such as female genital mutilation, the sexual, physiological, and psychological effects of FGM, sexual abuse and violence, and the cost of treating sexual abuse.
- Try to improve data collection from other institutions.
- Statistically model the economic impact of high birth rates, or high STD and AIDS rates.

Whenever possible, data from the host country should be used. However, when such data do not exist, it can be useful to utilize data from similar countries.

The **Resources for the Awareness of Population Impact on Development (RAPID)** Project could assist in the education of policy-makers about the extent and magnitude of the economic and social consequences of adolescent pregnancy, early childbearing, unsafe and illegal abortions, HIV/AIDS, and STDs.

7.2.5 Implement Activities to Increase Social Awareness

Given a clear national plan, objectives to be achieved, national policies to change, and evidence of need, it then becomes necessary to increase public awareness and generate needed social and political support.

There are several ways to increase public awareness of adolescent needs:

- Issue a national report on adolescent reproductive health which incorporates much of the evidence discussed above.
- Educate news columnists and encourage them to give the issue visibility over time.
- Develop a video that highlights adolescent pregnancy, HIV, sexual abuse, or genital mutilation in a poignant way and that could be used in more than one country or could be easily adapted for different countries.
- Educate the media and develop one or more soap operas to deal with the topic in a manner that will raise viewer consciousness and concern.
- Create one or a small number of teen panels and have them provide guidance, provide the teen viewpoint, appear in the media, meet with policy-

makers, attend conferences and meetings within the country, review materials, suggest ideas, and, in general, convince adults of their reproductive health needs.

Although the public needs to become aware of adolescent health problems that should be addressed, a media campaign should preferably be more positive. It should focus on prevention, which is more acceptable. It should also have a broad banner. For example, it might link pregnancy among young teens with the end of their educational and social development and might have a positive banner of "Personal Health and Development."

7.2.6 Develop Coalitions and Political Support

Given the politically sensitive nature of the issue of adolescent reproductive health and the barriers involved, coalitions should be formed and should advocate adolescent reproductive health. These groups should include people in both the public and private sectors, e.g., educators, reproductive health providers, health officials, professional societies (medical associations), youth-serving agencies, labor unions (especially the welfare and health committees), any national organizations of churches (especially those with women's divisions), other religious leaders, the media, local community officials, parents, and youth themselves. Because these programs are often controversial, the success of an activity may be contingent on support from many segments of society.

Although churches sometimes oppose programs designed to address adolescent reproductive health, it is important to meet with them. At a minimum, potential opposition may be prevented, and sometimes support may be engendered.

Ultimately, it is critical to begin working directly with government agencies, e.g., the ministries of education, social welfare, or youth, sports, and culture. During the assessment discussed above, the jurisdiction of different agencies should be reviewed, as should their potential leadership and barriers. When meeting with government leaders (or churches and other groups), coalitions should identify the most promising leaders, meet with those leaders and with someone who has their trust, make a strong case to them, and then negotiate their support.

7.2.7 Facilitate Institutionalization of Programs in Nongovernmental Organizations

The section above on creating a national plan and changing government policies identified a large number of policies that should be changed to improve adolescent reproductive health. Clearly, activities that lead to these policy changes will facilitate the institutionalization of programs. However, it is also possible to institutionalize programs in nongovernmental youth-serving agencies.

Although governmental agencies may sometimes have greater funding and a more stable funding base, NGOs have several advantages. NGOs can take greater risks,

move more quickly, and sometimes get more done. Furthermore, in many developing countries there are already NGOs that have a commitment to and experience in adolescent reproductive health. This capability should be utilized.

In most developing countries there exist youth-serving organizations (e.g., Girl Guides or Boy Scouts) which work with adolescent females or males but focus little on reproductive health. If they develop and add a sex or HIV education component to their activities, provide training to local staff, and provide materials to local agencies, then this curriculum may become institutionalized throughout the nation.

The national plan should identify these youth-serving agencies and other NGOs and include plans for helping them develop and institutionalize an appropriate reproductive health program. Those activities and plans can be funded by this initiative.

Once again, it is important to develop a critical mass within a country and within specific NGOs in order to sustain these activities both financially and programmatically after donor support ends.

7.2.8 Evaluate the Impact of Particular Activities

Because Activity Group #3 is designed both to improve national support for adolescent reproductive health in the selected countries and serve as a model for subsequent generation of such support in additional countries, it is important to conduct an ongoing formative evaluation of these activities. This evaluation will make it possible to share lessons learned with other countries about what worked and what did not. The evaluation is particularly necessary because this group of activities includes a large number and a wide variety of activities to create social and political support for changes in laws and policies, and, undoubtedly, some of them will be considerably more effective than others.

The evaluation should describe the activities that were undertaken and should document any changes in social and political support or national laws and policies, and any changes that occurred at the local level resulting from these national changes. To the extent feasible, the evaluation should attempt to estimate the extent to which these activities (as opposed to other events) produced the changes in policy. It should also be based on extensive interviews with numerous people involved in the activities. To enhance the objectivity of the evaluation, it should be completed by an independent contractor.

7.2.9 Disseminate Materials and Evaluation Results

This group of activities should produce at least two materials that should be subsequently shared with organizations in other countries striving to improve national support in their countries. These materials include a manual on how to conduct an assessment of a country—the components of that assessment and the processes for completing it—and a manual on how to create a national plan—possible objectives,

policy changes, and strategies for implementing the plan. Both of these should be based on the formative research. The materials should be realistic and should include examples of success.

7.3 Costs and Funding of This Group of Activities

This activity group is not inexpensive, especially if more than one country per region is selected. However, it may be possible to coordinate the activities with other international agencies that are striving to develop national strategies to improve family planning services or reduce HIV transmission.

The next activity group, discussed below, involves the implementation of demonstration projects at the local level. Implementing the previously described group of activities at the national level can provide some foundation for implementing these activities at the local level.

Some countries, such as India, are very large, and the cost of working at the national level may be prohibitive. Furthermore, important policies may be established by individual states or provinces and not by the national governments. Where this is true, effectiveness may be increased and costs reduced by selecting a particular state or province within a country.

8. ACTIVITY GROUP #4: BUILD AND EXPAND LOCAL CAPABILITY TO IMPLEMENT PROGRAMS EFFECTIVELY

8.1 Overview

Whereas the previous group of activities focused on improving support and institutionalization at the national level, this group of activities focuses on improving capability at the local level. Thus, it is described separately. However, the two groups of activities should certainly be coordinated, and conceivably they could be combined into a single larger group of activities.

As discussed above, one of the great limitations of current programs is that they fail to reach a large proportion of youth. For example, according to professionals in the field, even where sex education programs do exist, most are "watered down," some are taught by poorly trained teachers who are uncomfortable teaching such sensitive and controversial material, and most are not trained to use non-didactic, interactive teaching methods. Of those reproductive health programs that serve adults, many have restrictive policies, do not have staff trained to work with adolescents, and do not have other program features that would attract youth.

This group of activities has two major objectives. The first is to increase the prevalence and improve the quality of sexuality education offered by a wide range of organizations and thereby improve adolescent knowledge about reproduction, STD, contraception, and prenatal care; increase skills to avoid undesired sexual intercourse and unprotected sexual intercourse; encourage norms consistent with the values of the society and against undue pressure to have sex and against unprotected intercourse; discourage sexual violence against women; and discourage female genital mutilation. The second objective is to improve reproductive health services broadly defined and provided by a wide range of groups and thereby improve access to condoms and other forms of contraception and improve prenatal care and nutrition.

These objectives should be achieved primarily through the provision of grants to appropriate agencies in the host countries, training, curricula, and other materials. However, other activities should also take place at the local level. These different activities are discussed more fully below.

8.2 Specific Activities

8.2.1 Work with Existing Organizations in the Host Countries

This group of activities should strengthen and build on the capabilities already existing in each country. Thus, it should identify governmental agencies, NGOs, and private voluntary organizations that have demonstrated both commitment to and capability in adolescent reproductive health. They should help develop, implement, and evaluate efforts to improve local capability. This will undoubtedly improve both the quality of

these activities and the capability of these organizations. It will also facilitate the development of a critical mass of interest and capability.

8.2.2 Select Specific Regions or Communities Within Countries

This group of activities should be implemented in countries selected for the third activity group. However, it is not possible to improve the local capability in all communities or regions within these countries. Thus, specific regions or communities within each country must be selected.

The criteria for selecting communities or regions within countries are similar to those for selecting countries. There needs to be a balance among the following:

- The reproductive health needs of adolescents in the communities
- The availability of potential resources and capability within the communities
- The ability of the communities to subsequently serve as models for other communities in each country

8.2.3 Assess Needs and Resources and Create a Plan

Just as it was important to identify the needs and resources at the national level and create a national plan, it is also important to complete the same process at the local level. Within each community or region within a country, the existence and quality of sex education and reproductive health programs should be assessed. Existing organizations, networks, coalitions, and other resources should be identified and nourished. These resources should provide their perceptions and understandings of the important reproductive health needs for adolescents; they should suggest effective approaches for addressing these needs.

These needs, local resources, outside resources, and strategies for addressing these needs should be incorporated into a plan. The plan should also include strategies for gaining the support of local community decision-makers and leaders, if additional support is necessary.

8.2.4 Improve Sex Education Programs

The review of research above indicated that sex education programs with specified characteristics can reduce unprotected intercourse by delaying the onset of intercourse, reducing the frequency of intercourse without protection, or reducing the number of sexual partners. Thus, these programs should be improved and/or replicated.

As part of the community/regional assessment, the existence and quality of sex education curricula should be reviewed. If excellent curricula that are well suited to the target populations already exist, then they should be utilized more widely and the proverbial wheel should not be reinvented. On the other hand, if such curricula do not

exist, then promising curricula should be created. These new curricula should build on what already exists, if feasible. They should also reflect the local needs and the local culture, as well as the characteristics of curricula that have been demonstrated to effectively change behavior. In most communities, these curricula should integrate both pregnancy and STD/HIV prevention; they should clearly present the advantages of different types of contraception in preventing both unwanted pregnancy and STDs.

These curricula should not only be implemented in schools, where they may reach fewer than half of all adolescents, but also by a wide variety of groups serving youth, e.g., groups sponsoring youth sports programs, health clinics, and Girl Guides.

8.2.5 Improve Social Marketing and Media Campaigns for Adolescents

Adolescents can be educated not only by sex education programs but also by social marketing efforts that make contraceptives available through the private sector. Social marketing efforts directed toward adults can be expanded to include components that also appeal to youth. For example, in Turkey, as part of a promotion of a particular brand of jeans, condoms were placed in the pocket of every pair. By using attractive 21-year-old models, this probably appealed to adolescents as well as adults, yet was more politically acceptable because the models were not adolescents.

In addition, there have been media campaigns directed toward youth. Mass media campaigns involving Tatiani and Johnny in Mexico, Lea Salonga in the Philippines, and King Sunny Ade in Nigeria were perceived as successful. Additional campaigns should be directed toward youth, especially when local groups contribute to their costs.

8.2.6 Improve Reproductive Health Services for Adolescents

In many communities and regions, there is a large latent demand for contraceptives among adolescents. Therefore, when considering the improvement of reproductive health services, it is important to include more than reproductive health clinics; it is also important to include the wide range of providers who can provide adolescents with information, condoms, or other services. These include the peers of adolescents, pharmacists, traditional healers, midwives, other medical personnel, distributors in community based distribution (CBD) programs, and others. Pharmacists have been especially good promoters of contraceptives, especially condoms. They should be encouraged to focus more on adolescents.

Within clinics there are a variety of ways to improve services. These include special clinic hours for adolescents, separate entrances or facilities, and outreach by clinics. Services could also be provided in additional locations frequented by adolescents, e.g., schools, youth centers, and vocational centers. Most or all programs should provide needed services to both married and unmarried females. Some programs could focus on males, a group commonly neglected.

Services should integrate both pregnancy and STD prevention; to the extent possible, STD testing and treatment should be provided at the same clinics. At the very least, clinics should give referrals for testing for STDs and HIV.

Clinics should also expand their postpartum and post-abortion family planning programs to include special counseling for adolescents in order to postpone the second pregnancy.

Perhaps most importantly, clinics should improve the attitudes and abilities of their staffs to work with adolescents. There are many reports of staff turning away adolescents or discouraging them from using clinic services because "adolescents should not be having sex." Staff members need to be carefully selected and/or trained to ensure that they encourage sexually active youth to use clinic services.

8.2.7 Adapt CBD Programs to Better Serve Youth

For a variety of reasons, not all adolescents can or will use clinics. Therefore, groups must reach out to them in other ways. Both the private and public sectors should be considered in the distribution of contraceptives to adolescents.

In some countries CBD programs have been particularly successful with adults. However, according to people interviewed for this paper, many CBD programs appear to deny the sexual activity of adolescents and could do more to reach youth. They could even use youth in the programs.

8.2.8 Develop Curricula and Materials

Many developing countries need a wide variety of materials. They need pamphlets on many of the different topics in reproductive health, curricula for educational sessions, and advocacy kits. They need materials in local languages and for different age groups and target groups.

These materials should be developed, pilot-tested, and distributed.

8.2.9 Provide Training to Different Providers

According to many reports, training is greatly underfunded in developing countries and desperately needed. Thus, a significant effort should be devoted to training.

Very different training programs should be developed for the very different groups that need to be reached. For example, school teachers, as well as other teachers in other settings, need to be taught how to teach in non-didactic interactive modes and how to be comfortable dealing with the sexual content of the topics. The training needs to convince them that they can and should teach the curriculum; otherwise they may never implement the curriculum. Many clinic staff members need to be trained how to

work with adolescents in a non-judgmental manner, how to include reproductive health in more comprehensive health care, how to teach adolescent females to broach the topic of condoms when their partners are opposed to using condoms, how to probe for possible sexual abuse, and how to encourage proper nutrition, prenatal care, and breastfeeding when their patients are pregnant. Clinic administrators need to be trained how to hire staff persons who can relate well with adolescents and are knowledgeable about adolescent sexual issues. Birth attendants need to be trained how and when to raise the topic of family planning after the first birth and how to encourage breastfeeding and proper nutrition. In regions where female genital mutilation is common, all of these groups need to be taught to present accurate information about FGM and how to discourage it. CBD providers need to be trained on how to make adolescents comfortable with asking questions and getting condoms or other forms of contraception from the providers. The training for some groups should include sessions on both formative evaluation methods and impact evaluation methods so that participants can improve their programs as well as measure impact. Thus, a single training program will definitely not meet the needs of the diverse groups of people who should receive training. Various training programs will need to be developed.

8.2.10 Hold Regional Conferences

Most people in the field do not have access to the many publications available on the topic or they have too little time to read them. Moreover, these publications often do not deal with many of the practical issues that professionals face in the field. And, of course, publications do not provide the opportunity to ask questions. Thus, there is too little cross fertilization, and innovative and potentially effective projects are not discussed or findings disseminated. Conferences within countries and among nearby countries are needed.

The conferences should include people both at higher levels to gain support and at lower levels to share ideas about what has worked and what has not. They should be very practical and include interactive sessions on program development and implementation. The First Inter-African Conference on Adolescent Health in Kenya in 1992 is a good example of this type of regional conference.

8.3 Costs and Funding of This Group of Activities

This group of activities, like the preceding one, is not inexpensive, especially if many communities or regions are selected in many countries. However, costs can be reduced if these activities utilize training centers that already exist and if host countries and/or organizations can contribute to the costs of the activities. In addition, because

some Cooperating Agencies already have funding to implement some of these activities for adults, it may be possible to apply some of those efforts to adolescents as well.

Because national policies and programs are effective only if they are implemented at the local level, this group of activities is very important.

9. ACTIVITY GROUP #5: IMPLEMENT AND RIGOROUSLY EVALUATE DEMONSTRATION PROJECTS

9.1 Overview

One of the three most important limitations of current adolescent reproductive health programs in developing countries is that there is precious little evidence to demonstrate that they actually have an impact on sexual and contraceptive behavior. As observed above, the evidence from research on adolescent programs in the United States indicates that some programs which people believed would reduce adolescent sexual risk-taking behavior did not do so but that other, more sophisticated and more recent programs do have positive impact on sexual and contraceptive behavior. Thus, it is critically important to determine whether or not promising approaches implemented in the developing world produce desired behavioral change.

If any of the results from this research on adolescent programs are positive, they can increase confidence in that program, provide a guide to disseminate and replicate particular programs, and strengthen the case for greater financial support and institutionalization.

Activity Group #1 addresses to only a small extent the need to evaluate programs. Because there is relatively little research that has been completed in developing countries or that is currently in progress, the activities in Activity Group #1 cannot answer many of the important questions about the efficacy of programs, although these activities can provide some guidelines for designing potentially effective programs.

Thus, the objectives of the activities in Activity Group #5 are to identify promising programs, implement them with fidelity, and rigorously measure their impact on sexual and contraceptive behavior. To the extent feasible, the individual evaluations should use similar designs and outcome measures in order to compare the effectiveness and relative cost-effectiveness of different programs. Process and formative evaluations should also be included to clarify which activities had an impact on adolescent behavior, why they had an impact, and why some activities were ineffective.

This group of activities differs from Activity Group #4 because this group of activities involves the development and careful evaluation of a small number of programs in a small number of places, whereas Activity Group #4 involves increasing local capability more broadly and implementing many programs but not evaluating their impact. Because both groups of activities involve some of the same components (e.g., some training and some program implementation), they could profitably be coordinated.

On the other hand, it should be fully recognized that the needs of program implementation and rigorous research sometimes conflict. For example, using rigorous experimental designs may conflict with the goal of serving all youth. In Activity Group #4, program goals have priority; in Activity Group #5, research needs have priority.

9.2 Specific Activities

Some of the specific activities in this group of activities undoubtedly need to be completed by USAID prior to developing any contracts with Cooperating Agencies. They are discussed below in sequence.

9.2.1 Develop an Overall Evaluation Strategy and Paradigm

It is important to have an overall strategy or paradigm for the evaluation of programs and the subsequent diffusion of effective ones. Without such a paradigm, individual evaluations are likely to lose some of their significance and some of their impact on program dissemination.

One part of a possible paradigm is summarized in Table 3. It shows the steps that should be completed given varying levels of evidence.

There are alternatives to the paradigm in Table 3. Some people may wish to begin broad replication of a program if it is found effective in a single location. The advantage of doing so is the savings in time—possibly the savings of several years. The disadvantage is that replicating a program based on one evaluation may lead to the replication of a program that does not work in other areas and that worked in the original demonstration project only because of a unique combination of features that are not replicable. Thus, replication without evaluation in other areas is not recommended.

One implication of the evaluation paradigm is the necessary number of years needed to replicate effective models. Because all programs most likely fall under level of evidence I in Table 3, this means that activities in all three rows must be completed. This will take at least 10 years and will probably require that this initiative have two or three phases.

A second part of the evaluation strategy or paradigm involves the number of different programs to be selected for evaluation. Clearly, the larger the number of models that are implemented and evaluated, the more that is learned about the impact of different models. However, given that each program should be evaluated in more than one location, and given the cost of each demonstration, this paper recommends that not more than five or six different models should be implemented and evaluated.

TABLE 3

APPROPRIATE PROGRAM IMPLEMENTATION AND EVALUATION STEPS ASSOCIATED WITH DIFFERENT LEVELS OF EVIDENCE	
LEVEL OF EVIDENCE	NEXT STEPS
I. The program appears promising for one or more reasons, but there is no good evidence ¹ that the intervention/program actually has a programmatically significant ² impact on behavior.	The intervention/program should be refined, adapted as appropriate, implemented in one or a small number of communities, and carefully evaluated to determine whether it has a programmatically significant impact on behavior.
II. There is good evidence that the intervention/program actually has a programmatically significant impact on behavior in one or a small number of settings.	The intervention/program should be further refined, implemented in a wide variety of settings, and carefully evaluated in each of these settings to determine whether it is effective in all of these settings.
III. There is good evidence that the intervention/program has a programmatically significant impact on behavior in a wide variety of settings.	The intervention/program should be widely disseminated and implemented.

¹ "Good evidence" means well-designed evaluations or other kinds of research have been conducted and a broad spectrum of people knowledgeable about research methods would agree that the conclusions are valid.

² "Programmatically significant" means the program has a sufficiently large impact on behavior and it is worth the effort and expense to implement the program.

A third part of the evaluation strategy involves the number of locations in which each program will be implemented and the number of countries and regions in which to implement programs. The more broadly programs are implemented and evaluated, the more this group of activities will cost. On the other hand, this paper recommends these model programs be implemented and evaluated in multiple countries and regions for at least three reasons. First, in order to have confidence that a particular programmatic approach can be effective in different locations, in different cultures, and in different countries, it is very important to implement and evaluate each model in several different locations, cultures, and countries. Second, an important way to increase the impact of this entire initiative is to implement model programs, demonstrate their effectiveness, and then support their diffusion throughout the world. The evidence of the effectiveness of these programs and the speed with which they will subsequently be diffused will be increased by initially implementing and evaluating these programs in

multiple countries. Third, the Center for Population, Health and Nutrition currently has offices and population activities in multiple countries on which it can build.

One possible way of distributing programs to be evaluated across different regions is illustrated in Table 4.

TABLE 4

A POSSIBLE DISTRIBUTION OF MODEL PROGRAMS ACROSS REGIONS				
	Region 1	Region 2	Region 3	Region 4
Model 1	2 countries	2 countries	2 countries	
Model 2		2 countries	2 countries	2 countries
Model 3			2 countries	2 countries
Model 4	2 countries	2 countries		
Model 5	2 countries			2 countries

All regions would have at least two and possibly three models implemented within the region. At this time, specific programs are not being recommended for specific regions; the particular models to be implemented in each region should be selected later to match the cultural values and needs of the region.

9.2.2 Develop Criteria for Selecting Programs

Deciding which programs should be implemented and evaluated is difficult for several reasons: (1) currently, there is relatively little evidence indicating which programs are most likely to be effective; (2) there are many possible approaches; (3) there is relatively little consensus about which approaches are the most effective; and (4) many people have commitments to different programs based on their own personal experience. Thus, it is important to (1) develop criteria for selecting programs and (2) avoid the temptation of implementing too many approaches. After all, if too many approaches are implemented, then few of them can be implemented and evaluated well.

Criteria can be based in part on the behavioral goals of the programs and their target populations. These criteria are discussed below.

Choice #1: Focus on reducing pregnancy rates only, STD rates only, or both. As discussed above, there is compelling evidence that adolescent pregnancy rates are too

high in many countries and have many negative consequences for the individuals involved and society at large. There is less evidence from far fewer countries about STD rates, but nevertheless that evidence strongly indicates that STD rates need to be reduced in some countries. The increasing prevalence and the extremely negative consequences of HIV make it a particularly important STD to reduce.

RECOMMENDATION: Given the historical emphasis of The Office of Population and the existence of other international organizations that are focusing on the transmission of HIV, the primary emphasis of these evaluations should be on reducing unintended pregnancy rates. However, to the extent feasible, these evaluations should also study programs designed to reduce STDs, including HIV.

In practice, this means that some of the programs should focus on abstinence and use of condoms, both of which prevent both pregnancy and STDs, including HIV. However, given the need to reduce unintended pregnancy rates, and also given the availability of other forms of contraception that have lower failure rates than condoms, the programs should not be limited to condoms as the only form of contraception. The programs should also promote other forms of contraception.

Choice #2: For unmarried adolescents, focus on delaying the onset of intercourse, reducing the frequency of intercourse, or increasing the use of contraception, or all three. Abstinence is clearly the most effective form of protection against both pregnancy and STDs. However, an increasing proportion of youth worldwide are engaging in intercourse, and they need to increase their use of condoms and other forms of contraception.

RECOMMENDATION: All of these changes in behavior reduce exposure to both pregnancy and STDs. Furthermore, research has demonstrated that all three changes in behavior can be produced, at least modestly, by one or more programs. Thus, the mix of programs should strive to do all three.

Choice #3: Focus on younger adolescents or older adolescents. The word "adolescents" sometimes refers to youth ages 10–24. The younger the adolescent, the lower the birth rate, but the greater the negative consequences of births.

RECOMMENDATION: Most efforts should be directed toward adolescents 19 years of age and younger. In most countries, the sexual and contraceptive practices of young adults ages 20–24 resemble their older counterparts (after adjusting for their marital status). Furthermore, the negative impact of childbearing is much less for young adults ages 20–24 than for younger adolescents.

More important than the actual age of the adolescent to be reached by the initiative is the sexual experience of the adolescent. Because some programs are most effective before adolescents initiate intercourse, these programs should reach youth before they initiate intercourse, whatever that age may be. On the other hand, some programs, such as improving access to contraceptive services, should be directed primarily toward sexually active adolescents.

Choice #4: Focus on single adolescents only, married adolescents only, or both.

In the developing world, about 23 percent of all 15–19 year olds are married (about 100 million) and only 15 percent of these married women use contraception. Because they have sex frequently, married adolescents are at particularly high risk of pregnancy. Furthermore, programs for these adolescents may encounter fewer political and social barriers than reproductive health programs for unmarried adolescents. However, the negative consequences of births to married adolescents are probably somewhat less severe than for unmarried adolescents because births to married adolescents are more likely to be intended and are more socially sanctioned. Although the majority of births take place within marriage, an increasing proportion of adolescents worldwide are initiating intercourse prior to marriage. This trend is likely to continue in the future.

RECOMMENDATION: Implement programs which improve services for both single and married adolescents. If single adolescents encounter barriers to reproductive health services, try to reduce those barriers.

Choice #5: Focus on adolescents in general or on particularly high-risk groups, such as prostitutes, drug users, and homeless street youth. By definition, high-risk groups are particularly likely either to become pregnant or infected with an STD. On the other hand, the large majority of adolescents worldwide do not fall into these high-risk groups.

RECOMMENDATION: Some programs in this activity group should definitely include youth who have dropped out of school, because more than half of them have done so worldwide. Furthermore, programs should certainly not exclude high-risk youth. However, all programs should not restrict themselves to particularly high-risk groups of youth at the exclusion of the majority of youth. Other international organizations focusing on HIV should and do target these high-risk groups.

Given these recommendations, as well as other criteria, it may be important to select:

- At least one program that focuses on delaying intercourse and several that focus on increasing use of condoms and other forms of contraception.
- At least one program which is school-based and several which are not.
- At least one program that is implemented by youth-serving agencies.
- Several programs which can reach broad ranges of youth and only one or two that focus on particularly high-risk groups.
- At least one program primarily for females and at least one that includes males.

9.2.3 Select Specific Program Models for Evaluation

Considering the criteria specified above, there are innumerable possible model programs that have attributes which support their selection. Thus, it is very difficult to select only five or six model programs. Following are especially promising programs

from which to choose. For each of them, reasons are given for their selection or exclusion.

Model #1: School-based sex education programs for younger sexually inexperienced youth that are designed to delay the onset of intercourse.

Reasons to include:

- A substantial proportion of youth are enrolled in school when they initiate intercourse. In 1985 in the developing world, 46 percent of young people ages 12–17 were in school (WHO, 1989). The proportion of youth enrolled in school when they initiate intercourse continues to increase as larger proportions of youth remain in school and the average age of first intercourse decreases.
- Schools are designed to educate the youth enrolled in them. Although schools can clearly be improved, they do provide a good setting in which to provide information and teach skills to large numbers of youth.
- Sex education curricula designed to delay the onset of intercourse are very acceptable politically. Nearly all youth need the skills to resist unwanted or unplanned intercourse.
- Specific curricula designed to delay the onset of intercourse have been reasonably well evaluated in the United States and have been demonstrated to delay somewhat the onset of intercourse.
- Educational programs implemented in schools are one of the most cost-effective approaches to reach a large number of youth. In addition, schools may potentially incorporate such instruction into their school program and thereby sustain it.

Reasons to exclude:

- School-based programs do not reach youth who have dropped out of school.

Model #2: School-based sex education programs designed to reduce unwanted and unintended sexual intercourse and increase the use of condoms and other forms of contraception.

Reasons to include:

- A substantial proportion of youth are enrolled in school when they initiate intercourse. This proportion continues to increase as larger proportions of youth remain in school and the average age of first intercourse decreases.
- Some youth are not sufficiently informed about different forms of contraception, how to use them, and where to get them; nor do they have the skills or comfort level to actually obtain and use them.

- Schools are designed to educate the youth enrolled in them. Although schools can clearly be improved, they do provide a good setting in which to provide information and teach skills to large numbers of youth. It is possible in some countries to provide information in schools about contraception and how to obtain and use it.
- Some specific sex education curricula designed to increase the use of contraception have been demonstrated in the United States to increase the use of contraception or decrease the frequency of intercourse without contraception.
- Educational programs implemented in schools are one of the most cost-effective approaches to reach a large number of youth. In addition, schools may potentially incorporate such instruction into their school programs and thereby sustain it.

Reasons to exclude:

- School-based programs do not reach youth who have dropped out of school.

Model #3: Community-based programs that are taught or implemented by older peers, integrate outreach efforts to out-of-school youth, and combine education, provision of condoms, and referrals to health centers for prescribed forms of contraception and reproductive health care. This program should include components for males as well as females.

Reasons to include:

- The majority of sexually active adolescents throughout the world are no longer in school. This is especially true of those who are at highest risk.
- Although there have not been any rigorous evaluations which measured these programs' impact on behavior, programs such as the Center of Orientation for Adolescents (CORA) program in Mexico appear to have reached large numbers of youth.
- Community-based programs make use of slightly older peers who are selected because of their ability to relate to the targeted youth.
- These programs can actually provide condoms, often free of charge, to youth. This helps prevent STDs, including HIV transmission.
- These programs can address males.
- If these programs are demonstrated to change behavior, some health departments may be willing to provide ongoing funding for these programs.

Model #4: A sex education program that can be incorporated into other activities offered by youth-serving agencies (e.g., that could be offered by Girl Guides, implemented at multi-purpose youth centers, or taught at youth camps).

Reasons to include:

- The majority of sexually active adolescents throughout the world are no longer in school. This is especially true of those who are at highest risk. These programs can reach large numbers of out-of-school youth, as well as in-school youth.
- Some youth-serving agencies can take greater risks and can be more flexible than schools.
- Programs can be more easily adapted to the special needs of each group.
- Youth can more easily participate in the development and adaptation of the programs.
- Programs can more easily address and answer the particular needs and questions of smaller groups of youth. In small groups, youth may more easily express themselves and interact with the educators.
- Once staff are trained, youth-serving agencies may be willing to continue implementing these programs without outside funds.

Reasons to exclude:

- Many youth-serving agencies have found it difficult to reach large numbers of youth in any reasonably cost-effective manner.
- The environment of some youth-serving agencies is not always conducive to instruction or group interaction.

Model #5: Health clinics (or family planning clinics) that improve their services to youth by changing policies, improving their physical location so that youth can more easily visit the clinic, selecting and training staff to work with adolescents, improving hours, setting aside special hours for adolescents, improving outreach efforts to youth to inform them about the clinic programs, improving confidentiality, and improving their counseling programs. (Note: Because this model includes so many possible improvements, it may need to be divided into two or more models.)

Reasons to include:

- Improving access to reproductive health care through family planning clinics has been a primary focus of The USAID Office of Population.
- Some evidence exists that some adolescents are motivated to use contraceptives but do not have access to contraceptives.
- Although there is little direct evidence demonstrating that improving access to family planning services reduces pregnancy rates among adolescents, there does exist considerable evidence that improving access to family planning services has decreased pregnancy rates among adult women. Furthermore, it is certainly plausible that making contraceptives available to

sexually active adolescents who want contraceptives will lead to greater use of contraceptives.

- In many countries a network of family planning clinics that serves adult women already exists.

Model #6: A CBD program that uses health care resources and a variety of people both inside and outside the formal health care system (e.g., NGOs, maternal and child health [MCH] clinics, and traditional healers) to give adolescents information and condoms. This program should include components that will address males.

Reasons to include:

- Such programs could potentially reach a large number of youth at relatively low cost.
- These programs may be able to serve high-risk youth.
- Because CBD programs already exist, their outreach workers simply need to be trained to focus more on adolescents.
- Programs could provide both information and condoms, as well as pills and foaming tablets.

Reasons to exclude:

- Some programs are initially expensive.

Model #7: A program that is designed primarily for young women and focuses on delaying the second birth but also includes information on nutrition and breastfeeding.

Reasons to include:

- Millions of adolescent mothers have a second birth shortly after their first.
- Adolescent mothers can be reached by their midwives or other medical practitioners who helped them give birth.
- After mothers have proven their fertility, there is less pressure to have another child.
- Because they are married and have had one child, adolescent mothers are a less controversial group with which to work.
- Because they are married, adolescent mothers will undoubtedly recognize that they will have intercourse and may be willing to plan the next pregnancy.
- Men will respond positively to programs that help keep their children and partners healthy.

Reasons to exclude:

- Adolescent mothers can be reached with traditional family planning programs that do not focus only on adolescents.

Model #8: Local media efforts to change norms about early marriage, early childbearing, and use of contraception, e.g., posters can be hung, radio and television stations can air public service announcements, community activities can be organized, and films can be shown in community settings.

Reasons to include:

- Large numbers of people can be reached.
- Local campaigns can be relatively inexpensive.

Reasons to exclude:

- Local media efforts are probably not a very strong intervention.
- Because local media efforts typically have a very small impact on each person, measuring their impact on behavior is especially difficult. (Note: This does not mean that local media efforts should not be implemented in communities, but it does mean that they may be less appropriate in this demonstration and evaluation activity group).
- If local media efforts are kept small, they can be included as a component in Models #3 or #5 above.

Model #9: Mass media campaigns designed to reach hundreds of thousands of people in many communities, e.g., use of popular singers to produce songs that provide the desired message and appeal to youth and television shows—either individual films or soap operas—that provide the desired message.

Reasons to include:

- The mass media may donate air time and other support, thereby reducing the cost of the program.
- Very large numbers of people can be reached.
- Carefully selected singers or personalities can have great appeal to youth.

Reasons to exclude:

- Mass media efforts are probably not a very strong intervention.
- Because mass media efforts typically have a very small impact on each person, measuring their impact on behavior is nearly impossible. (Note: Again, this does not mean that local media efforts should not be implemented, but it does mean that they may be less appropriate in this demonstration and evaluation activity group).
- Mass media efforts can be very expensive.
- There is no clear method of institutionalizing and sustaining mass media programs.

Model #10: Integrated multi-service programs or centers for youth.

Reasons to include:

- Multi-service programs and centers attract youth, including high-risk youth.
- They can provide youth with a variety of needed services.

Reasons to exclude:

- Multi-service programs or centers are excessively expensive if this initiative must fund services other than reproductive health services. If this initiative is funding only reproductive health services and is adding this outreach component to an existing program or center, then this model can be covered in Models #3 or #4 above (outreach programs).

Model #11: A program that focuses on and addresses the special needs of street youth.

Reasons to include:

- There are many street youth in some countries.
- Street youth are at especially high risk of pregnancy and STDs, including AIDS.
- Street youth may be less informed than other youth.

Reasons to exclude:

- Programs for high-risk youth have already been developed by international agencies concerned about HIV.
- It is often difficult to reach many street youth in a cost-effective manner.
- Some outreach efforts discussed above will reach street youth.

Model #12: Community educational programs designed to empower girls and teach them negotiation skills so that they can resist unwanted sexual advances and can insist on using condoms. Components could also be directed toward the community and families to increase social pressure against sexual abuse and sexual violence against adolescents.

Reasons to include:

- As noted above, there is a great deal of sexual abuse and sexual violence against adolescents in many countries.
- Unprotected intercourse experienced during unwanted sexual contact greatly increases adolescents' exposure to unintended pregnancy, STDs, and HIV.
- In some communities, there may be broad support for such a program.

Reasons to exclude:

- There are few promising models.
- In some communities, sexual abuse and violence are very controversial topics.
- Community educational programs would be extremely difficult to evaluate. (This does not mean they should not be developed, but it does mean that they are less suitable as part of the demonstration and evaluation activities.)

9.2.4 Develop and Implement Programs

Programs must be developed thoughtfully. They should reflect what is known about effective programs in general, and about the particular cultures in which they will be implemented. They should recognize the realities of youths' lives. To enhance the potential efficacy of programs, program developers should conduct formative research to determine what youth know and what their questions, concerns, and needs are. To the extent feasible, they should involve youth in the development of the program at every phase.

For this demonstration project, when a given model is replicated and evaluated in multiple sites, the model can be adapted somewhat to meet the special characteristics of particular communities. However, the important characteristics of the model must be maintained so that the different replications do not constitute different models.

Clearly, all the other steps involved in developing and implementing programs need to be implemented adequately, e.g., pilot-testing the program and providing sufficient training, materials, and funding for implementation.

9.2.5 Evaluate Programs

This is a demonstration and evaluation activity group. Thus, in this group of activities, evaluation must be given high priority.

The evaluation of this activity group should include both a rigorous impact evaluation and a strong formative and process evaluation. The former will provide data on the impact of the program, while the latter will help improve the program and perhaps provide insight into the relative importance of different components.

The ability to reach definitive conclusions about the impact of programs has been greatly limited by the small number of studies of individual programs and methodological limitations of individual studies. These demonstration and evaluation projects need to employ more valid and statistically powerful methods than previous studies. Recent studies in the United States and studies in progress have demonstrated both the importance and the feasibility of (1) randomly assigning individual youth, classrooms of students, entire schools, and entire communities to program and control conditions, (2) including sufficiently large samples to assure adequate statistical power, (3) tracking youths over sufficient time to measure longer-term impact on initiation of intercourse and contraceptive use, and (4) measuring sexual and contraceptive behaviors. In some studies it has also been possible to use public records to measure the impact of programs on the birth rates of the participants in the study. In this evaluation project, it is critically important to use experimental designs with high validity and statistically accurate and powerful methods. Otherwise, important questions about the impact of these programs may not be answered.

An important lesson learned from past research is that poor research is not necessarily better than no research. There are too many examples of studies that had insufficient statistical power or poor designs and then incorrectly concluded that particular programs had no effect (sample size was too small) or that particular programs did have an effect (sample self-selection occurred). Thus, good designs are critical to advance knowledge of what works and what does not.

To the extent feasible and appropriate, each demonstration project should use the same outcome measures so that the relative effectiveness and cost-effectiveness of different models can be compared.

The formative evaluation should address questions such as: What program components were effective? How did the program reach adolescents? How did it engage them? How did youth respond to different components? How would youth make it better?

Knowledgeable researchers, program staff, and adolescents should all be involved in the design and implementation of the evaluation. The researchers need to make sure that important research principles are followed, while program staff and adolescents can suggest questions to ask, suggest specific wording for questions, and encourage other youth to participate in the evaluation and treat it seriously. Staff should feel some ownership of the evaluation, help facilitate it, and help explain some of the findings. And, of course, staff should have the opportunity to share the results at professional meetings.

Because rigorous evaluation designs have rarely been used in developing countries to assess the impact of programs on sexual and contraceptive behavior and pregnancy and STD rates, there does not exist a consensus on what evaluation designs can actually be used in developing countries to measure behavior change. Thus, this group of activities should include an effort to reach consensus on methods that can be used and to try different methods. This activity might be conducted as part of the current Office of Population's Evaluation of Family Planning Program Impact (EVALUATION) Project.

9.2.6 Disseminate Results

Obviously, it is important to properly summarize the evaluation results and disseminate them both at professional meetings and in professional journals. This must be done even if results are not as positive as desired. After all, negative results inform just as much as positive results.

9.3 Costs and Funding of This Group of Activities

This group of activities is not an inexpensive one. On the other hand, because there do not currently exist any models (aside from some educational approaches) which have clearly demonstrated an impact on behavior, it is critically important to determine

whether or not programs have a desirable impact on behavior and which programs are most effective and most cost-effective. Furthermore, as models are implemented and proven to change adolescent behaviors in desirable directions, it will be easier to garner institutional support and calm possible opposition. Thus, a substantial portion of the funds specifically allocated to this adolescent reproductive health project should be devoted to Activity Group #5.

10. OTHER ADDITIONAL ACTIVITIES

In addition to the activities described in the five activity groups above, there are additional possible activities that do not clearly fit into any of the five. Moreover, these additional activities are typically smaller and/or involve requesting particular tasks of other agencies.

10.1 Encourage Research on Adolescent Sexuality and Contraceptive Behavior

There remain numerous unanswered or partially answered questions about adolescent sexuality. More than a decade ago, WHO laid out an entire research agenda for adolescent reproductive health. It included numerous research questions for each of the events in an adolescent's life (Friedman and Edstrom, 1983). Some of those questions have been addressed during the last decade; others have not. Answering these questions and creating a stronger and richer research base would give greater guidance to program development.

Identifying all the remaining important research questions and establishing a research agenda is beyond the scope of this concept paper. However, Table 5 provides possible research questions relevant to different adolescent stages. They include a few examples from the WHO report and more recent examples.

Although survey research has provided a considerable amount of data on adolescent knowledge and sexual and contraceptive practices, this research needs to be supplemented with qualitative research to better understand adolescent beliefs about unprotected intercourse, their needs, and their issues.

Messages and message carriers that are credible to and have an impact on particular groups of adolescents need to be identified. For some adolescents, parents and/or teachers may be credible, while for others, only peers may be credible.

Other important research topics include the following: Which national policies have the greatest impact on adolescent pregnancy and STDs? What are effective national approaches for reducing the prevalence of female genital mutilation? Under what conditions do changes in national policies actually affect programs in local communities and ultimately adolescent sexual and contraceptive behavior? What are the most effective mechanisms for replicating effective programs? How can fidelity be maintained when programs are replicated?

This reproductive health initiative could bring together a group of experts in the field and update this research agenda. This initiative cannot fund a significant portion of the research that needs to be completed, but it could help establish a research agenda for adolescent reproductive health for the next decade. Social scientists in universities might use such an agenda to guide their research.

TABLE 5

EXAMPLES OF IMPORTANT RESEARCH QUESTIONS FOR DIFFERENT STAGES OF ADOLESCENT DEVELOPMENT	
Sexual Maturation	When does menarche occur among adolescent females in particular countries? What are the special needs of adolescents in particular countries at that age? What is the prevalence and impact of sexual abuse in different countries?
Female Genital Mutilation	What are the psychological effects of FGM, especially on adolescents' self-image, health, and overall sexual well-being?
Marriage	Are there effective strategies for changing cultural norms and preventing very early marriage? How can practices be changed so that newly married adolescents automatically obtain family planning counseling and services, if desired? What counseling and services other than family planning do couples need as they plan for marriage and sexual intimacy?
Intercourse	Within given countries, how are rates of adolescent premarital intercourse changing over time? How do adolescents perceive their needs—what do they want to know and what services do they want to receive?
Contraception	What do adolescents perceive as the most important barriers to obtaining and using contraception? How can adolescents become more motivated to use contraception? How accessible are services to particular groups of adolescents? How can contraceptives be developed that are more ideally suited to adolescents' needs and their sporadic sexual activity?
Pregnancy	To what extent are unintended pregnancies truly undesired? What are the most important barriers to obtaining prenatal care in different communities? How should prenatal programs be tailored to adolescents?
Abortion	How do adolescents view abortion? How many adolescents obtain abortions both in countries where it is legal and in countries where it is illegal? What are the main barriers to abortion? What problems do policy-makers in specific countries see regarding the status of abortion services in these countries?
Childbirth	How can the health risks associated with childbirth among adolescents be most quickly reduced? How can prenatal care and nutrition be improved?

10.2 Increase Support for Research on the Development of Contraceptives More Suitable for Adolescents, Especially Microbicides

For several reasons, adolescent contraceptive needs differ from those of adults: adolescents have sex less frequently; they often do not plan to have sex; they may have more sexual partners than married adults; they may be more concerned with the side effects of contraceptives; they may be more uncomfortable about touching their genitals. Thus, as USAID funds the development of new contraceptives, it should keep in mind these special considerations of adolescents.

Because it is highly unlikely that a safe, inexpensive, and effective vaccine against HIV will be developed soon, it is important to develop a microbicide that provides protection against pregnancy and STDs, including HIV. Currently, when women have sexual intercourse and want protection, they must rely on men to use condoms. This prevents many women and men from being protected. Microbicides would give them another very important option.

Microbicides may be particularly appropriate for some adolescents who have sex very infrequently (and thus do not use oral contraceptives).

Because many adolescent females are uncomfortable about touching their genitals, USAID might focus on the development of an insertion method that is less objectionable to young women.

If effective microbicides are developed and distributed as part of this initiative, the initiative should carefully assess placing greater emphasis on the social marketing of microbicides to adolescents.

10.3 Support the Development of Less Expensive and More Reliable Methods of Screening for and Treating STDs and Make Sure Adolescents Have Access to These Improvements

Existing methods of screening for STDs are too expensive to be used widely in some countries and are not reliable when used in the field. Therefore, efforts are being made to develop better and more effective methods. During this development, the special needs of adolescents should be kept in mind. In addition, as new tests are developed, countries should be encouraged to make them available to adolescents as well as adults.

10.4 Decrease the Cost of Condoms to Adolescents and Increase Their Availability

Because the cost of condoms may be prohibitive to adolescents in some countries, reducing that cost and increasing their availability may enable more adolescents to use

them. There are at least two ways to accomplish this: First, efforts could be made to reduce the cost of condoms to everyone. This is already being implemented throughout the world, but USAID could review the efforts and assess whether any shifts should be made to ensure that adolescent needs are more fully addressed.

Second, programs to make condoms available free of charge to youth in many institutions could be pilot-tested. For example, condoms could be made available free-of-charge or at very low cost in trade schools, technical schools, and teacher colleges. Teacher colleges may be especially important, because teachers can provide entrée into schools.

10.5 Create an International Group of Teen Panels

Teen panels have proven to be very popular and useful. USAID could create teen panels in different regions, roughly representative of the developing countries in those regions. These panels could provide overall guidance, review materials, generate ideas in general, and participate in media workshops.

10.6 Pilot Test a Program to Delay the Age at Which a Girl Marries or Joins Her Husband

On the one hand, the age at which young women marry is determined by a great many social and cultural factors and thus may be difficult to delay. On the other hand, young women are marrying at later ages for a variety of reasons discussed earlier in this concept paper, and it may be possible to encourage that trend.

One reason that parents marry off their daughters shortly after menarche is their concern that the girl is no longer safe at home alone. If she is married, then she is safe. One potentially effective approach may be to provide a workplace where the girl is safe and where she earns a small income so that it is to the parents' advantage not to have her married.

In addition, with improved diets, the average age of menarche is decreasing, and thus there is a gradual decoupling of menarche and marriage. This issue could be studied and the trend encouraged. For example, it may be possible to marry a girl at an early age, but delay the time when she and her husband actually join each other.

Programs for delaying the onset of marriage (e.g., those by UNFPA, WHO, and UNESCO) already exist. USAID could examine these programs and assess whether it could contribute in any additional way.

10.7 Develop a Program That Focuses on Male Responsibility

Too commonly, reproductive health programs are designed by women and focus on women; males are often perceived as aggressors or perpetrators. Although males

undoubtedly do initiate sexual activity most of the time, it may be possible to encourage more responsible behavior on their part. Indeed, many males are responsible.

Programs focusing on male responsibility may have a variety of behavioral goals, e.g., less sexual abuse, reduced pressure on females to have sex, greater use of condoms, greater acceptance of their partners' use of contraception, greater concern about transmitting STDs—especially HIV—to their partners, and greater willingness to have their wives delay childbearing.

Formative research should be conducted on the positive messages and values that appeal to males, as well as ways to deliver these messages and use them to encourage more responsible behavior. For example, some high-risk males in the United States have expressed the belief that their girlfriend's baby was not their responsibility because she had the chance to have an abortion, but they responded more responsibly when asked if they wanted their son to have a father.

SUMMARY AND RECOMMENDATIONS

This concept paper has provided considerable evidence demonstrating a wide variety of important adolescent reproductive health concerns. It has reviewed available research on existing programs and concluded that current programs have three particularly important limitations: their impact on actual sexual and contraceptive behavior and pregnancy, birth, and STD rates is not known; they are not institutionalized; and they serve only a small proportion of adolescents in need. This paper then described five large groups of activities to address the limitations. The five activity groups include: (1) review all that is known about adolescent programs to date; (2) expand international interest and support for adolescent reproductive health programs and increase coordination among these international efforts; (3) build national support for adolescent reproductive health programs in selected countries and make policies and laws more supportive of adolescent reproductive health through funding, training, and materials; (4) improve the capability at the local level to implement effective programs; and (5) implement and carefully evaluate the impact of promising approaches.

This concept paper has claimed that the primary focus of efforts should be devoted to reducing adolescent sexual risk-taking behavior that places adolescents at risk of unintended pregnancy and STDs, including HIV. However, this focus should be balanced by an effort to address, whenever possible, other important reproductive health needs of adolescents, e.g., freedom from child abuse, sexual violence, and female genital mutilation and proper care and nutrition before, during, and after pregnancy.

This is a very challenging agenda, especially given modest funds. Recognizing this, the concept paper has also discussed a few possible ways to increase or leverage these funds. Nevertheless, USAID will undoubtedly have to choose among the proposed activities. Rather than including or excluding entire groups of activities as they are defined here, it is probably most efficacious to select activities from within each of these five groups.

In order for this initiative to have a significant impact on adolescent sexual behavior in the developing world, it must last at least 10 years. During this period, the optimal mix of activities should change; thus, the project period can be divided into two or more phases. Although it is conceptually useful to think of two phases, the two phases should not be distinct and their activities should overlap. Following are recommended activities for each of the two phases:

Phase I:

- Identify research being conducted throughout the world and convene a consensus panel to summarize the effectiveness of different programs and identify the most promising approaches to reducing unprotected intercourse, pregnancy, and STDs.

- Identify what other international agencies are doing in adolescent reproductive health and put a modest amount of effort into encouraging them to expand their funding for this effort and coordinate efforts.
- Add sessions on adolescent reproductive health to existing international health meetings.
- Select a small number of countries, about one per region, and devote modest resources to increasing national support for programs and changing their national policies.
- Put significant effort into increasing the training capacity of regional training centers which in turn will improve local capability.
- Put significant effort into expanding the wide range of clinical and non-clinical programs that can serve adolescents.
- Carefully select about five or six of the most promising approaches to reducing unprotected sexual intercourse and carefully evaluate the impact of these approaches. To reduce costs, this activity could be integrated with the activity above.

Phase II:

- Continue to identify and review research being conducted throughout the world.
- Continue to encourage international agencies to address adolescent issues in reproductive health and fund programs; continue to coordinate their efforts in a modest way.
- Continue to include sessions on adolescent reproductive health at existing international health meetings.
- If the effort to increase social and political support for adolescent reproductive health is successful at the national level and leads to significant changes in policies and funding, expand these efforts to other countries. If these efforts do not yield much return, then diminish that effort or explore alternative strategies for gaining support.
- Continue to fund training centers to help increase capacity at the local level. If the demonstration projects yield positive results, the activities of the training centers should reflect these results.
- If research data demonstrate that one or more of the programs in the demonstration projects is particularly effective, implement and evaluate the impact of these programs in additional settings and cultures. Also, begin to provide the materials, training, and funding necessary to implement these programs more widely in additional countries.
- Continue to fund evaluations of promising new approaches.

On a final note, when selecting groups of activities as well as individual activities, several observations should be kept in balance. On the one hand, it is difficult to change adolescent sexual behavior. Change comes slowly, and a commitment is needed for the long term. There are few quick and easy solutions. These observations are realistic. On the other hand, millions of adolescents in developing countries have

reproductive health needs that dramatically affect their lives. Efforts to address family planning, population growth, and the spread of HIV among adults have had some dramatic successes in some countries. Recognizing these observations should maintain our commitment and our optimism.

APPENDICES

APPENDIX A

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APPENDIX B

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