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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
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OFFICE OF  
THE ADMINISTRATOR

**THE A.I.D. CHILD SPACING FOR CHILD SURVIVAL STRATEGY**

TO THE STAFF OF THE AGENCY FOR INTERNATIONAL DEVELOPMENT

Today, I authorize the Child Spacing for Child Survival Strategy which provides guidance for A.I.D. programs and activities to improve the child spacing component of child survival. I urge field missions to give serious consideration to implementing child spacing programs and integrating the suggested child spacing activities with other child survival, health and population activities. Improved child spacing is a powerful child survival intervention. National leaders and program managers need to know that child spacing through breastfeeding and family planning is an important, safe, effective and relatively inexpensive way to save lives. The attached document should be used in discussions with host governments and other donors and for program design, implementation and evaluation. It complements the Child Survival Strategy approved April 1986 and three parallel substrategies for immunization, diarrheal disease control and nutrition approved subsequently.



Jay F. Morris  
Acting Administrator  
Agency for International Development

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CHILD SPACING FOR CHILD SURVIVAL STRATEGY  
AGENCY FOR INTERNATIONAL DEVELOPMENT

**A.I.D. CHILD SPACING FOR CHILD SURVIVAL STRATEGY  
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## I. SUMMARY

Recently, increased attention has been given to the health of children, especially those in the developing world, where each year at least 14 million children under age five die. By comparison, only about 300,000 children under the age of five die in all industrialized countries per year. In addition, an estimated 500,000 women a year die in the developing world of causes related to pregnancy and childbearing. These deaths and the parallel high rates of severe illness are particularly tragic since technology exists that could greatly decrease both.

In 1984, the United States Congress established the Child Survival Fund. These increased resources have enabled A.I.D. to join with other donors and host country governments in an expanded effort to improve child and maternal health.

A.I.D.'s Child Survival Strategy seeks to develop a sustained capacity in each country to provide effectively four lifesaving interventions: diarrheal disease control, immunization, selected nutrition interventions, and child spacing. Other A.I.D. child survival strategy papers deal with the overall strategy and the other components of that strategy: diarrheal disease control, immunization, and selected nutrition interventions. This paper presents the Agency strategy to promote child survival through child spacing, a Congressionally-mandated child survival activity.

In recent years, evidence has mounted that child spacing can play a critical role in saving the lives of infants, children, and mothers. The positive impact of family planning and traditional methods of birth spacing such as breastfeeding and abstinence results from influence on the three factors which are associated with increased risks for mothers and their offspring:

birth spacing which is too close (less than two years between births);

maternal age which is too young (under 18) or too old (35 or over); and

birth order which is too high (parity four or more).

Of these three relationships, the length of the birth interval has the most impact on child survival. Maternal age and parity have particular impact on maternal health and survival (Rosenfield: 1986).

In most societies, there is recognition of the need to allow appropriate intervals between births. Traditional patterns of

abstinence and breastfeeding contribute to significant birthspacing. With modernization and urbanization these practices have been altered and resulted in shorter birth intervals. An estimated one out of every three children in developing countries is born than two years after the previous birth.

A.I.D.'s strategy in promoting child spacing as part of the Child Survival Action Program has five key elements. These are:

1. Including child spacing as an integral part of child survival programs (and donor assistance activities);
2. Integrating child spacing concepts (and services as appropriate) into health, nutrition, education, population and women in development programs;
3. Targeting program efforts and resources to those women who themselves are most at risk and whose children are most at risk;
4. Providing information and services for service providers and their clients; and
5. Supporting research to identify, reach, and protect those most at risk.

Policy and program actions support this strategy by strengthening the child survival components of family planning programs and the impact of other child survival, health, and nutrition activities on child spacing. These include:

1. Policy dialogue to make host country policy makers and service providers, as well as other donors, aware of the importance of family planning and other practices which support child spacing (such as breastfeeding) to maternal and child survival and health;
2. Training and supervision for health, nutrition and family planning service providers to enable them to identify and assist those most at risk;
3. Information and services for those most at risk;
4. Program monitoring and evaluation; and
5. Applied research to improve health and family planning programming, service delivery, and targeting.

In addition to programs funded directly by A.I.D.'s country missions, centrally-funded and regional resources exist to help missions and host countries explore options, develop programs, deliver, monitor, and evaluate programs. The annexes to this paper review some of these resources and include a checklist of services and activities for those reviewing country child survival strategies and programs .

## II. BACKGROUND AND RATIONALE

### A. Congressional Mandate

In September 1984, the Congress amended the Foreign Assistance Act of 1961 to establish the Child Survival Fund "to deal directly with the special health needs of children and mothers". Education programs aimed at "promoting child spacing" were identified as key activities. A.I.D. has included child spacing as an important element of its Child Survival Strategy from the beginning.

### B. A.I.D. Policies and Strategies

The promotion of child spacing in order to improve the health and survival of young children and their mothers is recognized as part of A.I.D.'s overall mission. "Blueprint for Development:" The Strategic Plan of the Agency for International Development states that "AID's objective is to respond to the desires of couples to have the knowledge and ability to make informed decisions about the timing and spacing of their children. Not only do these decisions affect many aspects of family welfare, not the least of which is the health of mother and children. . . ." (p. 49).

The A.I.D. Policy Paper, "Population Assistance," states that "Family planning assistance . . . provides critically important health benefits for mothers and young children." (p. 1). The policy focuses on the delivery of information, voluntary family planning services, and contraceptives to those who choose to practice family planning on a voluntary basis supported by informed choice.

The A.I.D. Sector Strategy for Population provides similar support for the strategy proposed in this paper. It recommends that policy dialogue with host country governments include the concept that family planning programs can help to reduce infant mortality. This strategy also recommends integrated family planning and maternal-child health services which promote child spacing as one strategy to reduce the problem of high infant mortality rates (p. 2).

The Agency support for child spacing has been clearly demonstrated in statements made by the Administrator. Regarding the child survival, he has cited two important child spacing interventions: the promotion of appropriate breastfeeding and the provision of a full range of voluntary family planning services. Similarly, in a 1985 statement on population and family planning, the Administrator stated:

"the health and survival of mother and children provides a second important reason for family planning. We know that one of the most serious consequences of women having many children in quick succession is that more children and mothers die. There are dramatic statistics that family planning saves lives: it is a critical component of mother and child survival"\*.

### C. High Risk Births

In developing countries, about half of pregnancies occur to women in the high-risk categories. Improved childspacing has great potential for reducing child and maternal mortality and morbidity. Data from the new Demographic and Health Surveys will provide more precise estimates of the proportion of high risk births in specific countries.

#### 1. Maternal Risks

Pregnancy and childbearing have much higher risks in developing countries than in developed countries. In the developed countries, less than 2 percent of all deaths among women 15 to 44 are pregnancy-related; maternal mortality rates range from 1 to 15 per 100,000 live births (Sai: 1986). By contrast, in developing countries, one-fourth to one-half of all deaths to women of childbearing age result from pregnancy. Maternal mortality rates above 1000 per 100,000 live births have been reported in several developing countries. Maternal mortality rates are highest in rural areas where there is little health care and most women give birth at home (Rinehart et al: 1984). For example, in Bangladesh, with its large rural population, maternal mortality rates are 600/100,000 live births. It has been estimated that maternal deaths could be halved if women had their children in the safest years, births were adequately spaced, and family size was moderate.

In addition to those who die, many women become seriously ill, and permanently disabled, as a consequence of pregnancy, abortion, or childbirth. An Indian study found that for every maternal death, there were an additional 16.5 severe illnesses attributable to pregnancy or childbirth (Datta et. al.: 1980). The serious illness or death of a mother has multiple consequences. Motherless children often do not survive. A study in Bangladesh found that 60 percent of the infants whose mothers died postpartum, died during the neonatal period (Rochat: 1984).

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\*Speech on Population presented to the American Enterprise Institute, November 25, 1985

## 2. Infant and Child Risks

In the developing world, infant mortality rates, i.e. number of deaths of children under one per 1000 live births, average 81. This contrasts sharply with an average infant mortality rate of 14 in developed countries. For children aged 1-4: in developing countries, under 5 mortality rates are 124 per 1000, while in developed countries, the rate is 18 per 1000.

Three aspects of childbearing influence child survival: birth spacing, maternal age, and birth order. Both biological and social factors contribute to the added risk associated with these conditions. These affect a woman's ability to deliver a healthy baby and the family's ability to feed and care for the new child and the older siblings.

One analysis (Trussell and Pebley: 1984) which took into account other socio-economic variables related to child survival estimated the impact on infant and child mortality of changes in conditions of childbearing as follows:

If all births were spaced two years apart, infant mortality would decrease by 10% and child mortality by 21%.

If childbearing were confined to prime reproductive ages (20-34), infant and child mortality rates would fall by 5%.

If fourth and higher order births were eliminated, infant and child mortality would fall by 4%.

Recent analyses confirm this and other early studies, which found that increased birth intervals alone can contribute to a 10-20 percent decline in infant mortality (Rosenfield: 1986).

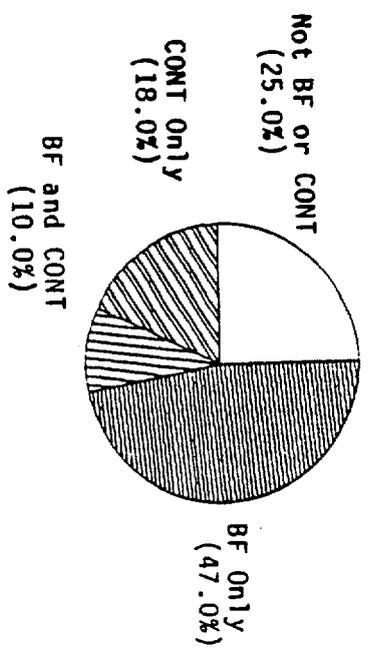
### a. Birth Interval

Clearly, of the three child spacing factors influencing child survival, the strongest is birth spacing. Lengthening the birth interval can have a profound affect on child survival. Analyses which control for other factors associated with short birth intervals such as length of breastfeeding, survival of the previous child, and maternal health confirm a strong correlation between the birth interval and child survival.

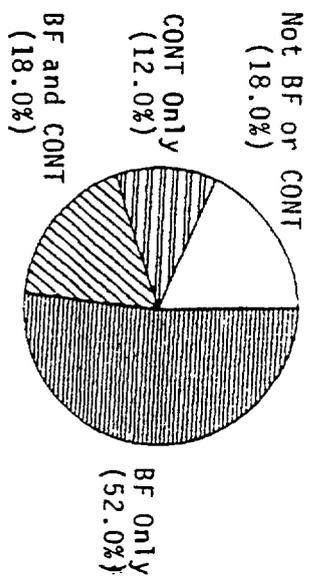
Although most cultures recognize the importance of long intervals between births, short interval births are quite common. Significant numbers of developing world women neither breastfeed nor contracept in the first year after a birth, particularly in urban areas. Figure 1, on the next page, shows

Use of Contraception and Breastfeeding at 6 Months and 18 Months Post-partum

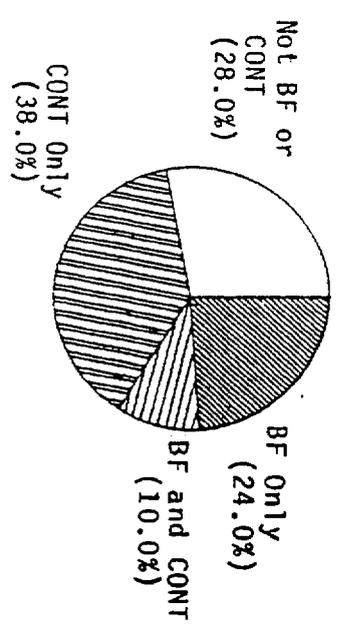
**COLOMBIA**  
6 Months



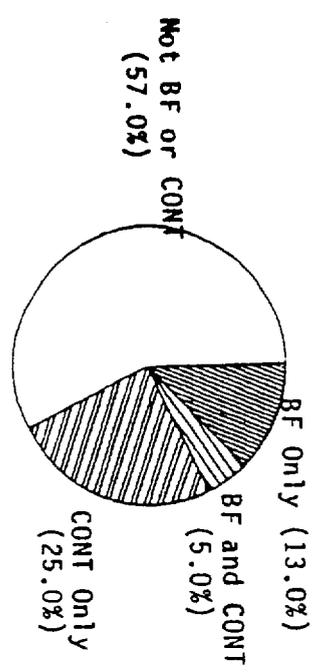
**PHILIPPINES**  
6 Months



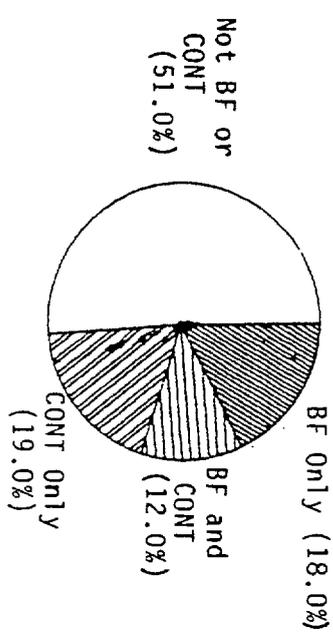
**COSTA RICA**  
6 Months



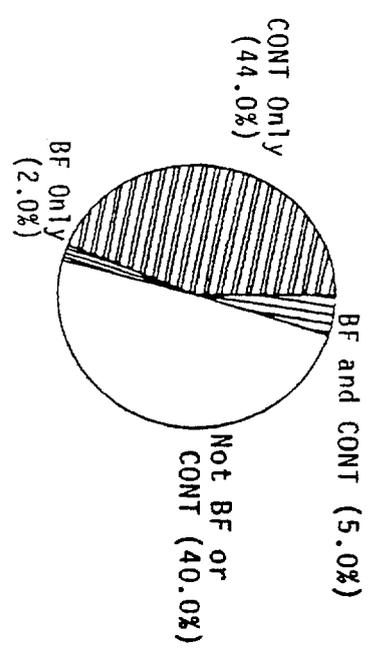
18 Months



18 Months



18 Months



BF - Breastfeeding

CONT - Contracepting

the use of contraceptives and breastfeeding at 6 months and 18 months postpartum in Colombia, the Philippines, and Costa Rica (Huffman: 1986 Smith: 1985). A survey of 25 developing countries showed that one in three children is born at the end of a short interval; the proportions of children born at the end of a short interval range from 16% in Lesotho to more than 45% in Jordan, Colombia, and Costa Rica (Maine and McNamara: 1985). Table 1, which follows, shows by region the percent of births that are close to another birth.

When there is a birth interval of less than two years, both children (the child born at the beginning and the child born at the end of the interval) have a much greater chance of dying than do children whose births are separated by a longer interval. Children born after a birth interval of less than two years are on average twice as likely to die in infancy as children born after a longer interval. The older brother or sister is also more likely to die--one and one half times more likely on average--if another child is born within two years of his/her birth (Maine and McNamara: 1985). Although the risk associated with the short interval lessens as the child grows older, it lasts until the child is at least five years old.

The precise nature of the relationship between short birth intervals and increased child morbidity and mortality is not fully understood. Factors contributing to negative outcomes are believed to be:

- shorter period of breastfeeding;
- depletion of the woman's reproductive and nutritional resources resulting in the birth of an infant of low birth weight;
- competition for scarce family resources among the children in the family, resulting in reduced care to individual children; and
- greater risk of infectious disease because of the number of children of similar age (Pebley and Millman: 1986).

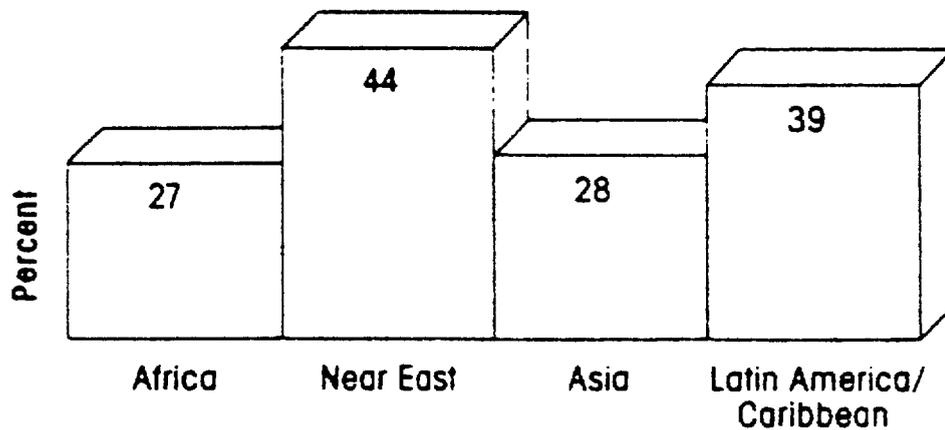
#### b. Maternal Age

The most favorable maternal childbearing ages for infant health and survival are in the twenties. Fetal deaths are less common among women who are aged 20-34 than among younger or older women. The risk of death for an infant, i.e., a child under one year of age, is also lower for children born to women 20-34. This effect remains, even when the infant mortality rate declines. The proportion of births to women less than 18 years old ranges from less than 5% (northern Sudan, 1978-79) to 20% (Bangladesh, 1975). The very high rates of infant death

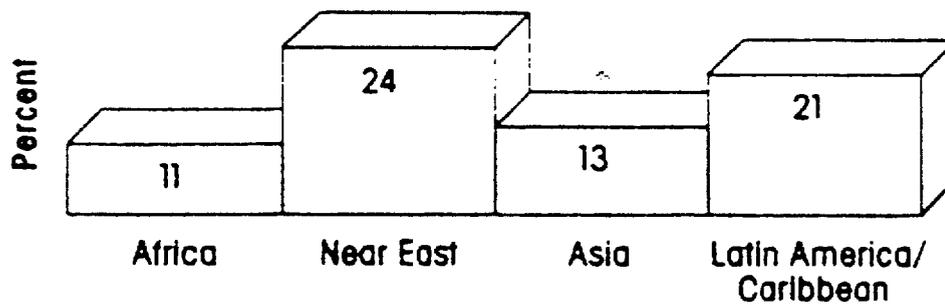
Table 1.

### Percent of Births Close to Another Birth

Percent of Births that Occur Less than 2 Years After Another Birth



Percent of Births that are Followed in Less than 18 Months by Another Birth



Note Values are the unweighted average percent of surveyed countries in a given region

Source Hobcraft, John John W McDonald and Shea O Rutstein, "Child-Spacing Effects on Infant and Early Child Mortality. Population Index, 49(4) 585-618, table 2. Princeton University, N.J., 1983

Demographic Data for Development Project

among children born to women younger than 20 may in part be due to their inexperience and inability to care for their children as well as older mothers.

Children born to women 35 or older have other risks. Many more of these children have birth defects. The proportion of infants born with Down's Syndrome rises geometrically with increasing age for women older than 30. The proportion of births to women over 35 or who have four or more living children ranges from less than 10% (Venezuela, 1977) to almost 20% (northern Sudan, 1978-79).

Table 2, on the next page, shows the relative mortality of children born to mothers of different age.

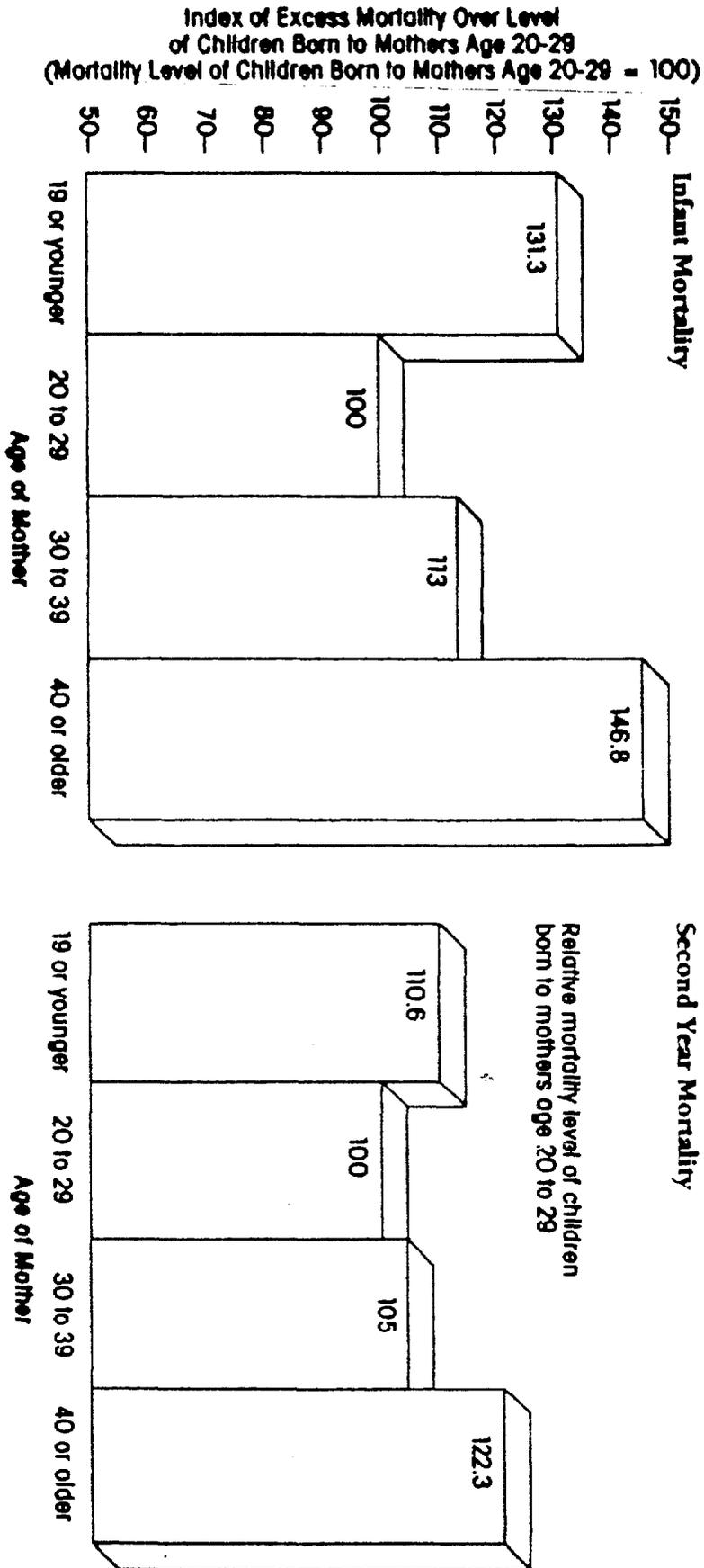
### c. Parity

Risks to maternal and child health and survival increase sharply after parity three. Both the chances of having a successful pregnancy and of having a child who survives are better for pregnancies below parity four. Fetal death rates increase with birth order. Even infants who survive the first few days appear to be at a disadvantage if their mothers have had many births. The higher risk of infant death for fourth and higher births as compared to births of lower parity remains, even as infant death rates decline over time. Table 3, which follows, shows relative mortality by birth order.

While all the reasons for the strong and consistent relationship between birth order and child health, are not known, part of the explanation may be in birth-weights. Beginning with the fourth child, the proportion of infants with low birth-weight increases steadily as parity rises. Low birth-weight infants have more health problems and are less likely to survive their first year of life. In addition, nutrition during childhood probably is an important factor in the effect of birth order on child health and survival. A study in Colombia showed that while the proportion of total income spent for food increased with family size, the amount spent per person declined. The investigator noted that among poor families (who all had similar incomes) the difference between those with three children and those with four was large enough to be the difference between an adequate and an inadequate diet (Maine, 1981).

The development of high parity children seems to suffer along with their survival, health, and nutritional status. Children in large families grow less well, intellectually and physically, than children in smaller families. Studies in a number of countries, including a study of 400,000 men entering

### Relative Mortality Levels of Children Born to Mothers of Different Ages

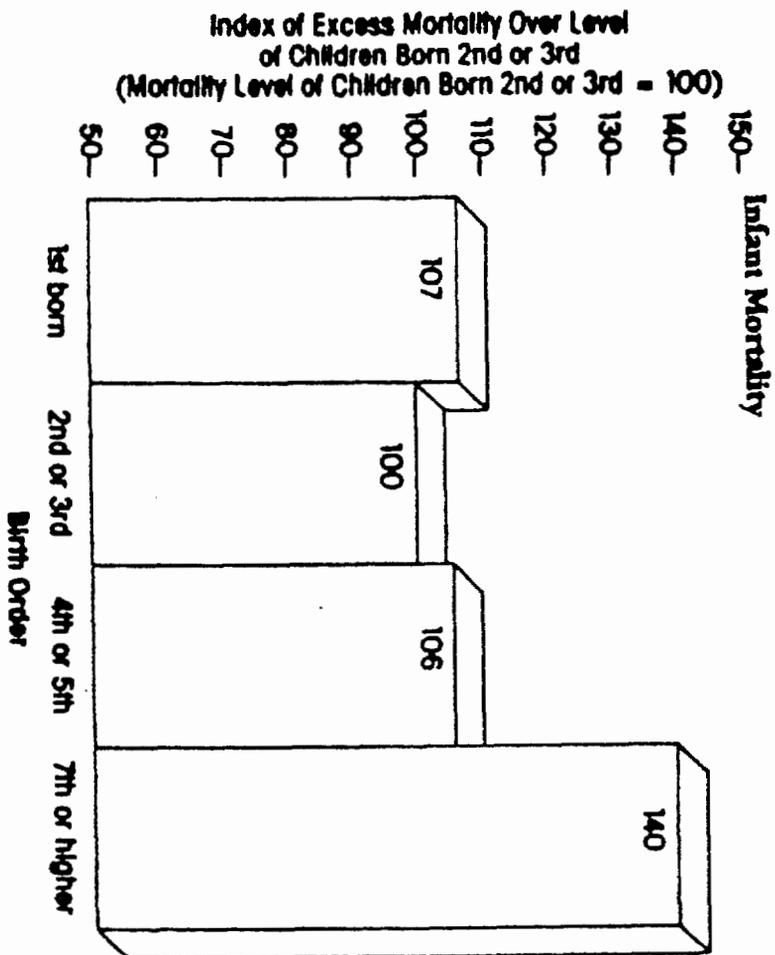


Note: Values are unweighted averages of 41 countries.  
 Source: Rutstein, Shad O., "Infant and Child Mortality: Levels, Trends and Demographic Differentials," Revised Edition, World Fertility Survey Comparative Studies No 43, Table 12, International Statistical Institute, Voorburg, Netherlands, 1984.

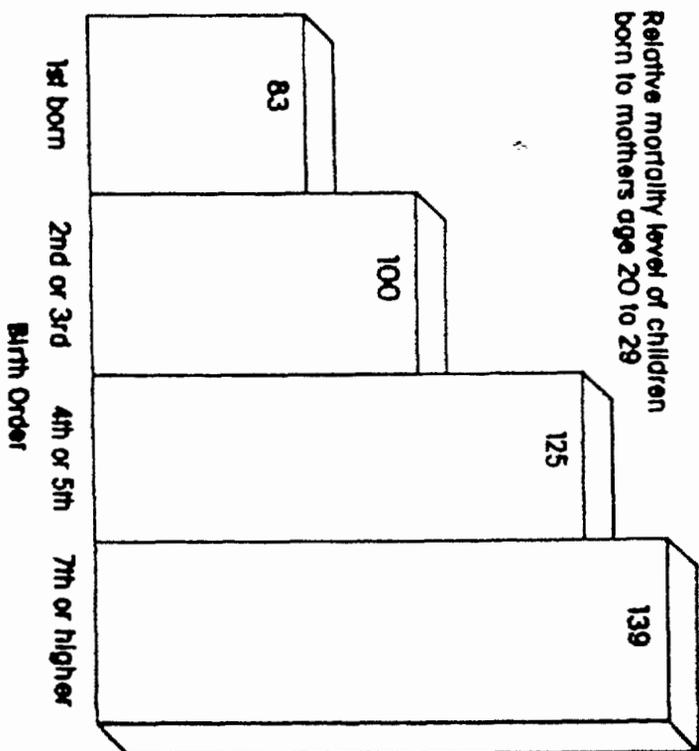
Demographic Data for Development Project

Table 3

### Relative Mortality Levels of Children by Birth Order



### Second Year Mortality



Note: Values are unweighted averages of 41 countries.  
 Source: Rutstein, Shao O., "Infant and Child Mortality: Levels, Trends and Demographic Differentials," Revised Edition, World Family Survey Comparative Studies No. 43, Table 12, International Statistical Institute, Voorburg, Netherlands, 1984.

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military service in the Netherlands, show clear correlation between increasing parity and decreasing intelligence test scores. This decline is consistent even with controls for socioeconomic group (Maine, 1981).

#### D. Role of Breastfeeding

In addition to its importance for health and nutrition, breastfeeding plays an important role in extending the period of postpartum infertility. One study drawing on World Fertility Survey data found that for each additional month in average duration of breastfeeding, there was an increase in the average birth interval of 0.25 to 0.5 months (Jain and Bongaarts: 1982).

Without breastfeeding, ovulation resumes on average at about two months postpartum (Lesthaeghe: 1981:7). Prolonged and intensive breastfeeding has been shown to delay ovulation as long as 20 months (Leridon 1977:81). Breastfeeding remains the main mode of contraception in most rural areas of developing countries. It has been estimated that lactation delays more births in the developing world than all modern contraceptives combined. Program interventions, such as those outlined in the Diarrheal Disease Control and Nutrition Strategies for Child Survival, can influence breastfeeding practice and strengthen its health, nutritional, and birthspacing effects.

### III. STRATEGY

#### A. Goal and Purpose

A.I.D.'s Child Spacing Strategy responds to the goal of the Child Survival Action Program to reduce child and maternal morbidity and mortality. Program and policy actions are directed at preventing pregnancies which would expose mothers and children to high risks of mortality or morbidity. These pregnancies jeopardize the lives not only of a future child but also the child most recently born and the mother. Increased contraception and appropriate breastfeeding, can be an important life saving intervention.

A.I.D.'s child spacing strategy seeks to increase public knowledge of risk and to make contraceptive and breastfeeding support services and supplies more available to those most at risk.

## B. Key Elements

### 1. Include Child Spacing in Child Survival Programs

Child spacing is one of the four most important interventions for saving mothers' and children's lives and reducing illness. A.I.D. has historically been a leader in providing assistance in family planning and population, by working with both the private and public sectors to deliver information and services. Child spacing has not been emphasized in all other donor child survival programs. Therefore, it is especially important that A.I.D. provide leadership in promoting child spacing as a priority child survival intervention in the developing world and with other donors.

An example of such leadership is the recent A.I.D. Bangladesh Child Survival Strategy which emphasizes child spacing and referral and special services to mothers at high risk. There, where infant and child mortality rates are among the highest in the world, the A.I.D. mission identified short birth intervals and pregnancies to high risk mothers as the most important risk factors in under-five mortality. Prior A.I.D.-supported research in Bangladesh (Phillips et al: 1985) found that a 25 percent reduction in fertility was followed by a 15 percent decline in the mortality rate for children aged one to four. A.I.D. estimates that 220,000 infant deaths could be averted annually in Bangladesh with an effective child spacing program. The Africa Bureau Child Survival Action Plan 1987-1990 emphasizes the importance of child spacing as "being critical to child survival". The A.I.D. child survival program in Haiti targets family planning education and services to women with increased risk of infant death\*.

### 2. Integrate Child Spacing into Related Programs

Child spacing should be included in all child survival programs and integrated into the full range of human service programs. Where appropriate, child spacing services should be part of health, nutrition, education, population, and women in development programs. It is particularly important that everyone who comes in contact with mothers be aware of which women and children are at high risk and know where to refer mothers for family planning information, services, and supplies. Training for such family workers must include the basic message that pregnancies that are "too close (closer than two years apart), too early (before age 18), too late (after

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\*Data from Haiti suggest that those most at risk are women who have experienced a recent still birth or infant death.

age 34), or too many (more than three per woman)" create high risks for child and maternal health and survival.

Breastfeeding often does not get the attention and support it merits, wherever possible, health, nutrition, and family planning workers should encourage complete and extended breastfeeding.

### 3. Target High Risk Women

A.I.D.-assisted family planning programs provide services and supplies for those who voluntarily choose to space births or limit the size of their family. These programs have emphasized informed choice, by providing clients with the information and the means necessary to select the method most appropriate to their own situation. Services are not usually targetted to specific segments of the public, but are generally made as widely available as possible.

However, targetting family planning services to women at particular risk can maximize improvements in maternal and child health. At high risk are women who have a child under 15 months old, women under 18 years old of age, women 35 years or older, and/or women who already have three or more children. All service providers must be aware of the high risks of pregnancy for such women, communicate this to the women, and assist them to prevent high risk pregnancies by contracepting and/or breastfeeding as appropriate.

Of particular concern are those women with children under 15 months. Enabling these women to delay a next pregnancy and lengthen the birth interval to a minimum of 24 months has an impact on three lives: the life of the mother, of the child already born, and of the next child.

There are also programmatic reasons for focusing on this population. These may be women who wish to delay rather than prevent the next birth, and who are underserved by existing family planning programs. These women may be particularly likely to come into contact with health and nutritional services and other child survival services such as ORT and immunization programs.

However, focusing on mothers of young children does not negate the necessity for all service providers (educators, health workers, and family planners) to inform other women of the relative risks of pregnancy for them.

#### 4. Information and Services for Providers and Users

A wide variety of service providers have contact with those most at risk from pregnancy through on-going child survival, health, family planning, nutrition, women in development, and education programs. These providers have a common concern for the well-being of women and their children. They should know the high risk associated with certain pregnancies for certain women, and where breastfeeding and contraceptive information, services, and supplies are available.

An important and safe method of extending the birth interval, breastfeeding, often does not get the attention and support it merits. Two other child survival strategies, those for Nutrition and Diarrheal Disease Control, include breastfeeding as an important lifesaving practice.

Information must also be provided to the general public on the safest patterns of childbearing. Mass media campaigns, community meetings, group health education sessions at clinics, radio (and where applicable, television) programs, and printed materials are all appropriate for spreading this message. Services need to be made available at locations and times convenient to clients; special attention is often necessary to assure that mothers are not inconvenienced (and therefore discouraged from using services) by clinic schedules that mandate separate visits for different services, such as immunization and family planning.

#### 5. Research

Past and on-going research has contributed significantly to knowledge of those most at risk, contraceptive and breastfeeding options, and identification of alternative policy and programs to save lives through child spacing. Additional research is needed :

to improve the identification of those most at risk;  
to provide information on breastfeeding practice and prevalence;  
to develop appropriate contraceptives for special populations and information on the interaction between contraceptives and the health of breastfed infants; and  
to develop program and policy options for the delivery of information and services.

#### IV. PROGRAM OPTIONS

Developing a sustained capacity in each country to provide child spacing services requires a multisector, multidonor effort. Child spacing must accompany and be coordinated with other important child survival interventions such as immunization, ORT, and targeted nutrition services. Helping women prevent high risk pregnancies involves a number of policy and program actions to strengthen the child survival impacts of family planning and of other child survival, health, and nutrition activities to support child spacing. The five principal program options are discussed below.

##### A. Policy Dialogue

Sustained host country commitment is, perhaps, the most important element in a program's success. A.I.D. must take every opportunity, such as RAPID presentations, seminars, and meetings to make other donors and national leaders aware of the importance of child spacing and aware that family planning and breastfeeding programs are important safe, inexpensive lifesaving interventions. Experience has shown that when leaders and the public understand the health impact of child spacing, family planning is accepted. Priority must be given to those countries among child survival emphasis countries (see section IV. D.) without national family planning programs.

Child spacing, like other important child survival services, needs to be part of on-going national human service programs. A local capacity to sustain child survival services, through private and public sector efforts, is an important part of A.I.D.'s overall strategy for Child Survival. Close coordination with other donors is necessary to ensure that all necessary elements for sustainability are provided in each country program.

In discussions with national leaders, other donors, and service providers, A.I.D. officials should emphasize the following points:

Child spacing effectively saves lives. In 1986 an estimated 14.7 million children under the age of five will die and an estimated 500,000 women will die of pregnancy-related causes. Extending the birth interval to a minimum of 24 months could prevent 10 to 20 percent of infant deaths. Avoiding high risk pregnancies through sustained breastfeeding and appropriate family planning can reduce maternal deaths by an estimated 25 to 50 percent.

Child spacing through family planning and breastfeeding is an inexpensive way to save lives. (IMPACT, 1986), especially when compared to other health programs. For example, in the Danfa Comprehensive Rural Health and Family Planning Project in Ghana, the annual costs of family planning in the project were about half the costs of health education, equal to the cost of the immunization program, and twice the costs of the anti-malaria program (Grosse et. al.: 1979). Family planning also saves future government expenses by reducing the number of people who will need services. Studies in Mexico showed savings of 4-5 pesos for every peso spent on family planning. In Thailand, seven baht were saved for every one spent during the first year alone. Breastfeeding programs which include changes in hospital practices, training of health workers, and mass media campaigns have been shown to be effective in promoting breastfeeding at a reasonable cost and in bringing about, important nutritional and health benefits.

Safe methods exist for child spacing among all populations. Compared with other drugs and surgical procedures, and especially when compared with childbearing, contraceptive methods and breastfeeding are safe and free from major complications. By comparison with common medicines such as aspirin or chloroquine, contraceptives are either not toxic or have a wide margin of safety in case of overdose, even for children.

Some family planning methods such as condoms, spermicides, and diaphragms are virtually without risk to the user. In addition these methods in protect against sexually-transmitted diseases and pelvic inflammatory disease. Diaphragms and condoms may also have a protective effect against cervical cancer. The importance of condoms in preventing the spread of AIDS is well recognized. As more is learned about the prevalence of heterosexually-transmitted AIDS, it is increasingly evident that AIDS poses a major threat to maternal and child survival.

#### B. Training and Supervision for Service Providers

Many programs have workers in regular contact with those who need child spacing information and services. To integrate child spacing into these services, personnel must be trained to provide information, referral, and where appropriate, services or supplies for breastfeeding and contraception.

The training needs to convey:

- o that women who have a child under 15 months old, are under 18 or over 35 years of age; or have had three or more births are at high risk if they became pregnant;
- o that contraception and/or breastfeeding can significantly reduce this risk;
- o that high risk women need to know where to go for family planning and breastfeeding advice, services, and supplies; and
- o in the case of health and family planning providers, which breastfeeding and contraceptive practices are most appropriate for women at different stages in their reproductive lives with different family planning intentions.

Such training can frequently be useful, even for high-level health professionals. A recent survey of developing country physicians found that a significant number overestimated the dangers of modern contraceptives and underestimated the risks of pregnancy. Many erroneously believed that the risk of oral contraceptives was comparable to or greater than that of pregnancy. Similarly, the health, nutritional, and family planning benefits of breastfeeding (and the way to breastfeed to strengthen these impacts) are often not understood by health and family planning professionals. Fortunately, breastfeeding declines most often occur in urban areas, where mothers are most likely to receive prenatal or postpartum care by birth attendants in or out of a hospital. Therefore, training for these providers can have a strong positive health and survival benefit by slowing or reversing breastfeeding declines and encouraging contraceptive use among mothers.

#### C. Information and Services for Clients

The general public, and especially those persons of childbearing age, needs to know how reproductive behaviors contribute to maternal and child health and survival. Using modern mass communication methodologies, child survival programs can support the development, testing, promulgation, and evaluation of impact of messages which convey this basic information.

Different approaches for service delivery are required to reach the various groups of women for whom pregnancy poses increased risk. The most important group to reach is mothers of

children aged 15 months or younger. If these women become pregnant, the resulting birth interval will be less than 24 months. Such a pregnancy risks not only the woman's own life and the life of a future child but also the life of the child most recently born. Fortunately, these are women who may be among those most likely to come in contact with existing health or nutritional services. When these women come to the clinics to have their children immunized or treated for diarrhea, health workers have an opportunity to promote appropriate breastfeeding and contraception and thereby contribute to mother and child survival and health. Conversely, family planning workers need to assist or refer mothers of young children to other child survival services such as ORT, immunization or supplemental feeding. In all of their contacts with pregnant women and the mothers of young children, health and nutrition workers need to emphasize the importance of appropriate breastfeeding and of family planning along with breastfeeding once fertility returns.

Family planning services for women in the postpartum period require a slightly different emphasis than those provided to other women. As part of prenatal care, mothers need to be advised of the importance of breastfeeding and that all women can and should breastfeed. Many women need to receive support for exclusive breastfeeding early in the postpartum period. Mothers need to know to breastfeed frequently, consistently and exclusively (without additional fluids, semi-solids or solids) for the first 4-6 months. Supportive birthing and hospital practices such as continuous contact between mothers and infants following birth (such as rooming in), immediate initiation of breastfeeding, and breastfeeding education are associated with better and longer breastfeeding practice.

Frequent and total breastfeeding provides important nourishment and protection against infection for the infant and contributes to favorable birthspacing. Because of differences in patterns of breastfeeding, postpartum abstinence and the return of fertility, the precise time at which a breastfeeding woman needs to begin to contracept is not known. A common rule is that women need to consider using some method of family planning by three to six months postpartum. Other health advisors recommend the routine use of contraceptives (except combined hormonals) during the early postpartum period to take advantage of women's contact with health services at this

time. Still others focus on the return of menstruation or the resumption of sexual relations (Cleland, Rutstein: 1986). For those women who are not contracepting, the continuation of breastfeeding on demand, night breastfeeding and supplementation with a cup or spoon rather than bottle can contribute to (but not guarantee) further delay in the return of fertility. The only methods of family planning that are contra-indicated for breastfeeding women are hormonal therapies which include estrogens. Safe methods for a breastfeeding woman include the progestin-only hormonal contraceptives, barrier methods, and natural family planning when signs of fertility can be observed.

Non-breastfeeding women must be alerted by information campaigns and by health and other human service workers with whom they come in contact to the early and high risks of pregnancy. Such women should begin using some method of family planning by about the sixth week postpartum.

With the increased prevalence of AIDS, questions have been raised about the benefits and consequences of breastfeeding by mothers infected with human immunodeficiency virus (HIV). Based on information available at this time, the World Health Organization (WHO) recommends that breastfeeding continue to be promoted, supported and protected in both developing and developed countries because of its important contributions to overall health of mother and child. In situations like those in many developing countries, where safe and effective alternatives to breastfeeding do not exist, breastfeeding should be the feeding method of choice irrespective of the mother's HIV infection status.

A group at particular risk is 15 women under 18. These women pose a particular challenge to service providers because they are difficult to reach and to serve. More general policy and program interventions in law and in education to encourage delays in marriage and the first birth are important. For women at risk at these ages either low dosage oral contraceptives or barrier methods are appropriate. The IUD is contra-indicated except for those who have already been pregnant. It is particularly important that young women receive prenatal care and support. Some believe that very young mothers experience more problems with pregnancy and subsequent child health in part because they are less likely to receive prenatal care and to know how to care for themselves and their children (Pebley: 1986).

Two additional and often overlapping groups, women over 35 and those who have had three or more births need to avoid further pregnancies for their own health. For these women a more permanent or long acting method of family planning such as sterilization, the IUD, or Norplant<sup>R</sup> may be the best choice. These women are natural clients for family planning and are best served by strategies which both inform policy makers, service providers, communities, and couples of the high risks of childbearing to women with these characteristics and make family planning services broadly available. When such women become pregnant, there is a need to monitor their pregnancies more closely because of the greater risk of complications.

#### D. Program Monitoring and Evaluation

Monitoring and evaluation of child spacing programs as part of A.I.D.'s Child Survival program follows the general patterns already developed.

The A.I.D. Child Survival Strategy focuses efforts on a limited number of countries, in order to achieve the maximum impact from available resources. The twenty-two "emphasis countries" have been chosen on the basis of the total number of infant and child deaths, the infant mortality rate, current coverage with child survival technologies, absorptive capacity, government commitment, availability of A.I.D. funds, opportunities for donor coordination, and expectations for continued A.I.D. programming. They are:

Bangladesh	Bolivia	Ecuador
Egypt	Guatemala	Haiti
Honduras	India	Indonesia
Kenya	Malawi	Mali
Morocco	Nepal	Niger
Nigeria	Pakistan	Peru
Senegal	Sudan	Yemen
Zaire		

As part of the A.I.D. Child Survival Action Plan, monitoring and evaluation activities collect information on program status and results. Information on A.I.D.-funded child survival activities and status of certain specific indicators for "emphasis countries" is reported annually to A.I.D./W by the responsible USAID mission or A.I.D./W office.

The child survival "emphasis countries" have been designated as tier one, two, or three countries based on the complexity of information which is to be gathered and reported on a routine basis by USAIDs or other project management units. Tier one countries report program indicators of program effort, or inputs in a Logical Framework. These include items such as contraceptives distributed by the project, the number of persons trained in high risk births or family planning. Tier two countries report the tier one data plus indicators relating to program outputs, such as contraceptive prevalence rates. Tier three, or special studies, countries report all tier one and two information, and program impact information the proportion of births in high risk categories and/or the results of studies relating high risk births to infant mortality.

#### 1. Tier One Indicators

Tier one indicators for child spacing include:

Whether the CS project distributed contraceptives;  
Number of units of contraceptives purchased with project funds, or donated by others;  
Price per unit if contraceptives were sold to consumers;  
Whether the project trained health workers in high risk births or family planning;  
Number of workers trained in high risk births or family planning; and  
Whether the project participated in promotion or marketing of contraceptives through private or commercial outlets.

#### 2. Tier Two Indicators

Tier two indicators for child spacing include:

Percent of women 15-49 in union currently using contraception (sterilization, orals, IUDs, condoms, injectables, NPF if promoted by program, and vaginal methods (spermicides, diaphragms, and caps)); and  
Percent of women who gave birth in the previous 15 months using contraception (same definition).

#### 3. Tier Three, or Special Studies Indicators

Tier three indicators for Child Spacing programs measure program achievements in reducing births in high risk categories, or examine the relationships between high risk births and mortality and morbidity.

Tier three indicators include:

- Percent of births occurring within 24 months of the previous birth;
- Average length of last closed birth interval;
- Percent of births to women under 18;
- Percent of births to women 35 or older;
- Percent of births to women of parity 4 or greater;
- Percent of births in any one or more of the previous categories;

In developing countries, statistics on morbidity, and even on mortality, are frequently incomplete and difficult to obtain. Improved measurement of these indices could provide important information on the contribution of child survival technologies to the health of mothers and children. However, such research is of a lower priority than improved delivery of services and adequate monitoring of such services.

#### E. Applied Research

There are a number of areas where applied research on child spacing, could improve health and family planning programming and service delivery. These include:

##### 1. Identification of Those at High Risk

Demographic surveys such as the World Fertility Survey and the Demographic and Health Surveys have contributed greatly to understanding of some of the relationships between child spacing and child mortality. Knowledge is still incomplete on the association between maternal and child morbidity and mortality and patterns of childbearing. Better demographic and biomedical information could make it possible both to identify more precisely those most at risk and to concentrate resources on those health, nutrition, and family planning services with the highest payoff for improving maternal and child health and survival.

##### 2. Breastfeeding

In some developing countries, breastfeeding practice is declining, especially in urban areas. Even where it is not declining, it is appropriate to support and encourage breastfeeding, because of the strong contributions it makes to nutritional status, immunity to infections, and birth spacing.

Policy makers and program managers need better information on breastfeeding prevalence and breastfeeding practices which contribute most to the birth spacing to design appropriate policies and programs. Research is also needed on the appropriate use of contraceptives by breastfeeding women.

### 3. Contraceptive Development and Use

Although modern methods of family planning have high levels of safety and effectiveness, no perfect method exists. In particular, improved temporary methods which meet the special needs of adolescent, nulliparous, and breastfeeding women could contribute to improved maternal and child health. Additional information is also needed on impact of contraceptive use on breastfeeding and infant health.

### 4. Program and Policy Research

There is a continuing need to demonstrate or test new service policies and delivery options for information, motivational messages, and child spacing services. Few major changes in policy or service delivery are made without a trial of some sort. Operations research, which tries out a change and measures the results, can be a powerful tool for policy makers and program designers when deciding how to expand or target the services and information on child survival technologies for maximum impact. In addition, such research, which often begins with qualitative studies such as focus groups and KAP surveys among target populations, can help program planners to know why women at high risk choose to use or not to use contraception, and therefore how to design programs which are likely to appeal to such women.

V. ANNEXES

A. REFERENCE LIST

Agency for International Development, "Blueprint for Development: The Strategic Plan of the Agency for International Development", Washington, D. C., no date given, 77pp..

\_\_\_\_\_, "A.I.D. Policy Paper: Population Assistance", Washington, D. C., September 1982, 14 pp.

\_\_\_\_\_, "A.I.D. Sector Strategy: Population", Washington, D. C., March 1983, 9 pp.

Cleland, John., Rutstein, S., "Contraception and Birthspacing", International Family Planning Perspectives, Vol 12 (3): 83-90, September 1986.

Datta, K.K., Sharma R.S., Razack, P.M.A., Ghosh, T.K., and Arora, R.R., "Morbidity pattern among rural pregnant women in Alwar, Rajasthan - a cohort study", Heath and Population-Perspectives and Issues, 3(4): 282-292. October-December 1980.

Grosse, R.N., DeVries, J.L., Plessas, D., Robertson, R., Anderson, M., Belding, T. and Reed, J., "A study of costs and coverage of low-cost "integrated health services ", American Public Health Association, May 25-June 9, 1979, (A.I.D./ta-C-1320) 180 p.

Huffman, Sandra L., "Promotion of Breastfeeding: Can it Really Decrease Fertility", Clearinghouse on Infant Feeding and Maternal Nutrition, American Public Health Association, February 1, 1986, 29 p.

Jain, A.K. and Bongaarts, J., "Breastfeeding: Patterns, Correlates and Fertility Effects", Studies in Family Planning, 12(3): 79-99, 1981.

Leridon, H., "Intrauterine Mortality", Human Fertility: the Basic Components, University of Chicago Press, 1977, p. 48-81.

Lesthaeghe, R.J., Page, H.J., "The Postpartum Nonsusceptible Period: Development and Application of Model Schedules", Population Studies, 34:143, 1980.

Maine, D. and McNamara, R., "Birth Spacing and Child Survival," Center for Population and Family Health, Columbia University, 1985, 35 p.

Millman, S., "Trends in Breastfeeding in a Dozen Countries", International Family Planning Perspectives, Vol 12 (3): 91-95, September 1986.

Park, C.B., "The Place of Child-spacing as a Factor in Infant Mortality, A Recursive Model", American Journal of Public Health, 76(8): 995-999, August 1986.

Pebley, Anne, "Effects of Reproduction on Infant and Child Health" Committee on Population, National Research Council, August 1986.

Pebley, A. and Millman, S., "Birthspacing and Child Survival", International Family Planning Perspectives, Vol 12 (3), 71-79, September 1986.

Phillips, J., Koenig, M. and Chakraborty, J. "The Matlab Family Planning Service Project Impact on Family Planning, Fertility and Child Survival", December, 1985.

Population Reference Bureau, "Family Planning Saves Lives: A Strategy for Maternal and Child Survival", November 1986.

Rinehart, W., Kols, A. and Moore, S., "Healthier Mothers and Children through Family Planning", Population Reports, J (27) 657-696, May-June 1984.

Rochat, R., "Maternal and Infant Mortality in Bangladesh", U S Centers for Disease Control, March 1984.

Rosenfield, Allan, "Birthspacing and Health: An Overview", International Family Planning Perspectives, Vol 12 (3): 69-70, September, 1986.

Sai, Fred T., "Family planning and maternal health care: a common goal", World Health Forum, Vol. 7, 1986, pp.315-324.

Tietze, C. "Maternal Mortality excluding abortion mortality", World Health Statistics Report, 30(4): 12-339, 1977.

Trussell, J. and Pebley, A.R, "The Potential Impact of Changes in Fertility on Infant, Child and Maternal Mortality", Studies in Family Planning, Volume 15:6/Part 1, Nov/Dec. 1984, pp 267-280.

Trussell, J. and Pebley, A.R., "The Impact of family planning programs on infant, child and maternal mortality", World Bank Staff Working Paper, 1984.

UNICEF News, No. 123/1986, "Towards a Child Survival Revolution", pp. 39-44.

UNICEF, Statistical Review of the Situation of Children in the World, October 1986.

## B. RESOURCES

### 1. Bureau for Science and Technology

Within the Bureau for Science and Technology, there are a number of resources for developing, implementing, and/or evaluating the child spacing components of child survival programs. Many of these projects have been designed to accommodate mission and regional bureau buy-ins.

#### a. Office of Health

The Office of Health has a number of projects which support child spacing and breastfeeding.

The PRITECH component of the Technology for Primary Health Care Project provides technical assistance in support of primary health care, including such aspects as management information systems, training, communications and general institutional development which often complements government and private sector child spacing and breastfeeding programs. The project specifically promotes the continuation of breastfeeding at the onset and through the duration of diarrhea as part of the current recommended approach to home based diarrhea care management.

The newly authorized Technologies for Primary Health Care II Project will continue and expand the activities currently being carried out under PRITECH.

The REACH component of the same project provides assistance to health programs in reducing, recovering and restructuring costs. These efforts are specifically designed to support preventive elements of health care programs of which child spacing and breastfeeding are essential components. It also supports expanded immunization, often in coordination with child spacing services.

The PRICOR project provides operations research assistance to health care organizations and programs.

The new Maternal Health project will be designed to establish and improve care of the maternal-child unit during the mother's reproductive life cycle. Selective interventions will include improvement of perinatal care, delivery of tetanus toxoid immunization, dietary improvement, iron supplementation, management of maternal infection and coordination of natal/perinatal services with child spacing family planning programs.

The Communication for Child Survival (HEALTHCOM) supports long-term health communication/ social marketing efforts in 17 countries worldwide. As part of their child survival mandate, communication programs in child spacing are being developed in several countries including Jordan and Yemen. These programs use multiple channels in both the public and private sectors to increase knowledge, practice, and use of key child spacing technologies. Essential to program development are existing pre-marketing research, behavior analyses, and monitoring and evaluation efforts.

#### b. Office of Nutrition

The Office of Nutrition has three projects which can contribute to the development of country programs in breastfeeding. The Nutrition Education project provides short-term technical assistance to host country governments and USAID missions to carry out needs assessments, develop communications strategies and do program evaluations. The Lactation Management project with Wellstart provides U.S. and in-country training and technical assistance in the development and implementation of breastfeeding programs. The Weaning Practices project provides assistance to governments and missions with needs assessments, strategy development, communication campaigns, and nutrition education evaluation.

#### c. Office of Population

The Office of Population has a number of projects that can provide direct assistance to missions and host country governments in the development of policies and programs to promote child survival through child spacing. These projects and the assistance available are listed in the current "User's Guide to the Office of Population" available from the Office of Population, Bureau for Science and Technology. Listed below by area of assistance are a selection of projects which have particular relevance to child survival.

1) Information for Policy Makers,  
Service Providers and Families

To facilitate discussions with senior officials and policy makers, the Policy Division's IMPACT project has developed a new publication on child spacing and child survival entitled "Family Planning Saves Lives: A Strategy for Maternal and Child Survival." Available in English, French, Spanish, Arabic, Portuguese, and Turkish, this booklet presents recent data on how family planning impacts on maternal and child survival and program and policy options in a format designed for policy makers and program managers. Copies are available from the Policy Division or the Population Reference Bureau. Also available for policy makers and managers of health and family planning services are a series of booklets and pamphlets on the impacts of child spacing on maternal and child survival produced by the Columbia University's Center for Population and Family Health. "Family Planning: Its Impact on the Health of Women and Children" (1982) is available in English, French, Portuguese and Spanish and "Birth Spacing and Child Survival" (1985) in English and French are available from the Research Division or Columbia University, Center for Population and Family Health.

Copies of the Population Reports J-27 issue, "Healthier Mothers and Children through Family Planning" (1984) can be obtained through the Information and Training Division or the Population Information Program (PIP) at Johns Hopkins University. A large portion of the 150,000 citations and abstracts available in the PIP's database, POPLINE, are directly related to child spacing methods and issues. On request, PIP will develop bibliographies and provide copies of articles and publications from its own data system and the National Library of Medicine's information network.

Population Communication Services (PCS), Johns Hopkins University, can assist in the development of client information and education programs for LDC family planning programs. Support ranges from the development of comprehensive mass media programs to the design and testing of specific client materials. PCS is working with national programs in Bangladesh, India, Nigeria, and the Philippines to design projects which put special emphasis on child spacing. Recently, PCS helped develop a weekly television program on child spacing in eastern Nigeria.

2) Curriculum Development and Training for Service Providers

Three Office of Population projects assist with the training of health and population managers and service providers. JHPIEGO (Johns Hopkins Program for International Education in Gynecology and Obstetrics) is A.I.D.'s main resource for training LDC ministry officials, physicians, nurses and other health professionals in reproductive health. In addition to providing training, the project works with LDC medical and nursing schools to develop curricula and strengthen training in reproductive health. Promoting understanding of the relationship between child spacing and child (and maternal) survival and the integration of child survival technologies into primary health care systems are important elements of the project. The Family Planning Training for Paramedical, Auxiliary and Community Personnel (PAC) II project develops and strengthens the capacity of LDC institutions to design, implement and evaluate training for health and family planning workers. Project staff can assist with the development of special training materials on breastfeeding and MCH for these health workers. The Institute for International Studies in Natural Family Planning at Georgetown University focuses on breastfeeding as an important method of natural family planning and will assist with a range of training and information services including conferences, workshops, and curriculum development.

3) Operations, Demographic, and Biomedical Research

A number of Office of Population projects are directed at improving health and family planning service delivery through operations, demographic, and biomedical research.

Agreements with Columbia University, the Population Council, University Research Corporation, Georgetown University, and Family Health International support operations research and other investigations designed to improve the quality, accessibility and cost-effectiveness of family planning and maternal-child health delivery systems in the developing world. Country research ranges from demonstration projects looking at the impact on breastfeeding of changes in hospital practice to national tests of the impact of integrated health and family planning service delivery. Information on these and other research projects is available through the Research Division of the Office of Population.

The Demographic and Health Surveys project, which is supported through A.I.D. child survival, health, and population funds plays a critical role in generating national data on key health and family planning variables. This project and its predecessors, the World Fertility Survey and Contraceptive Prevalence Surveys, contribute to understanding the impact of child survival interventions including breastfeeding and contraception. Currently, sample surveys are on-going or planned in 35 countries. Missions and host country governments can request and support special data collections (such as the supplementary health module) and analyses. Support for research on breastfeeding trends and patterns is also available through the Institute for International Studies in Natural Family Planning.

Important questions on contraceptive needs, appropriateness and safety for women in different reproductive status are being

addressed through biomedical research projects like those with the Population Council and Family Health International (FHI). These institutions can put local researchers in touch with the international research community and in some cases support local research and training for LDC researchers. In addition, the CONRAD project is developing new methods of contraception appropriated for use by women who are spacing and/or lactating.

## 2. Regional Bureaus

### a. Africa Bureau

Four projects have been identified as resources for child spacing for this region. Sahel missions are limited to use of the Sahel Population Initiatives project. Non-Sahel missions may request funds from any of the other AFR regional projects. These projects fund technical assistance, participant training, commodities, and/or local costs. Descriptions follow.

Sahel Population Initiatives Project (625-0969). This project is managed at REDSO/WCA, and Sahel missions should address their requests to that office. Plans are to obligate \$1.177 million in FY 88.

Family Health Initiatives II (698-0462). Funds for mission sub-projects under this project are managed at the REDSOs; mission requests should be routed to the regional population advisor. FY 87 funds available for obligation were to be \$6 million. Plans are for obligation of \$6 million in FY 88.

Africa Development Support (Training) (698-0464). FY 87 population funds available for obligation total \$261,000.

Project Development and Support (698-0510) These funds are managed by AFR/TR/HPN; missions should communicate their requests by cable or letter to that division. Normal Africa Bureau restrictions on uses of PD&S funds apply. Population funds available for FY 87 are \$1.693 million, and \$1 million are planned for FY 88.

### b. Asia/Near East Bureau

Two projects have been identified as resources for this region. Descriptions follow.

Asia/Near East Regional Population Project (398-0048). This project funds activities for individual countries or regional buy-ins to centrally funded activities for the following types of activities:

- family planning services/mch
- information, education, and communication
- demographic data/program evaluation
- population policy
- training
- private sector/institutional development
- promotion of regional cooperation.

Asia/Near East Population Account Program Development and Support (398-xxxx). This fund is available for regional and country efforts which develop, support, or evaluate population/family planning efforts in the Asia/Near East Region.

c. Latin America and the Caribbean Bureau

The Bureau for Latin America and the Caribbean uses bilateral (country-specific) resources in support of child spacing activities.

C. FIELD OFFICER CHECKLIST

The following items should be examined in determining whether a Child Survival program has adequately incorporated child spacing as a technology to improve child and maternal survival and health.

Policy Dialogue

- with Host Country government
- with other Donors.

Training

- for health sector policy makers and managers,
- for health, family planning, and child survival workers, and
- for education, population, and women in development program workers.

Information and Services for Clients

- Mass Media Communications
- Interpersonal Communications
- Integrated Services
  - Facilities
  - Service hours
  - Personnel
  - Logistics/supplies (for reversible contraceptives)
  - Supervision Norms, practices
- Voluntary Surgical Contraception.

Program Monitoring and Evaluation

Service statistics on breastfeeding and contraception  
Statistics on child survival clients by age, parity, and age  
of youngest child  
Birth records include age, parity, date last birth.

Applied Research

Policy and Service delivery research  
Demographic, Social, and Behavioral Research (eg.  
Contraceptive Prevalence)  
Bio-medical research.