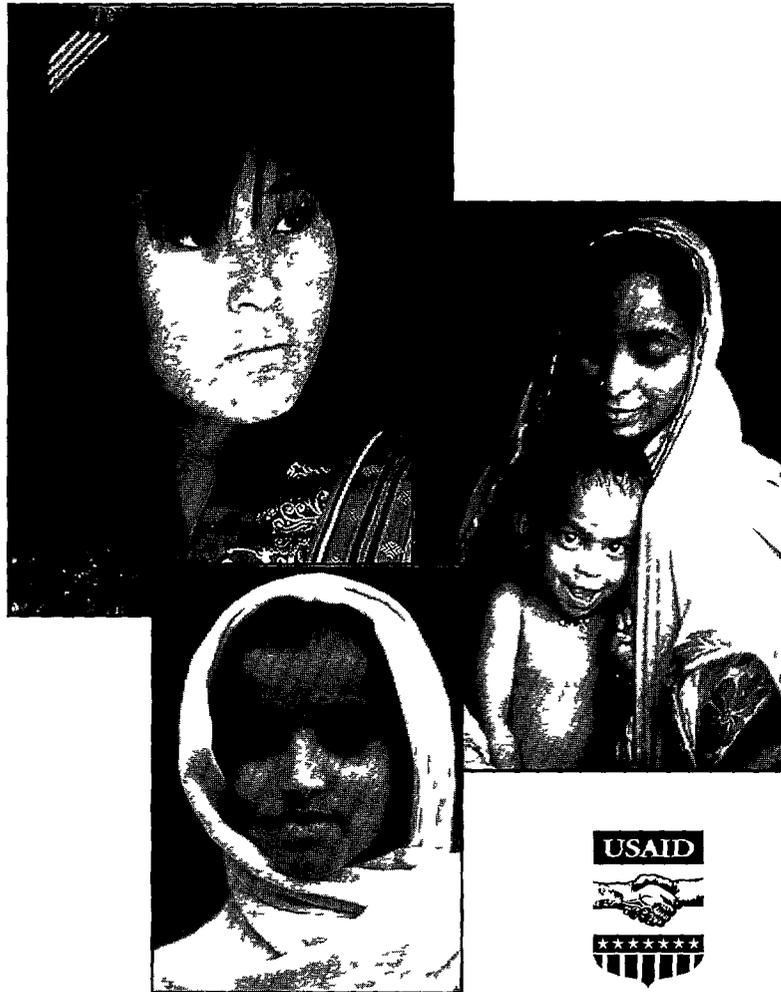


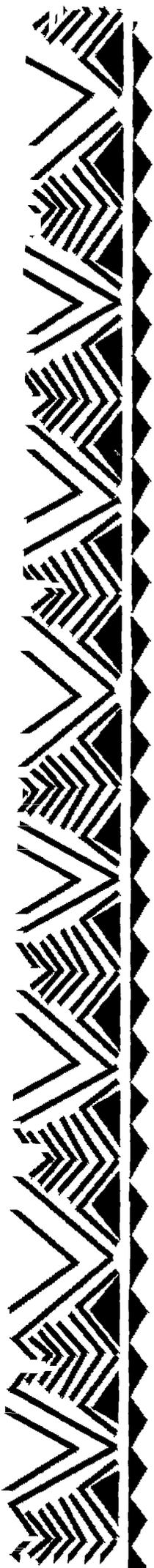
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Maternal Health in Asia and the Near East: An Assessment Report



Claudia Morrissey and Zynia L. Rionda

April 1999



Maternal Health in Asia and the Near East Region: An Assessment Report

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**Bureau for Asia and the Near East
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1601 N Kent Street, Suite 1014
Arlington, VA 22209

Call (703) 524-5225
Email Info@cihi.com
Website www.cihi.com

About the Authors

Claudia Morrissey, M D , MPH

Dr Morrissey is currently Director of John Snow, Inc Center for Women's Health in Boston, MA and is an Assistant Professor at Tufts Medical School in Boston. She has a background as a practicing primary care physician and community organizer.

Zynia L. Rionda, MPA

Ms Rionda is a senior fellow of the Public Health Institute, Berkley and is currently residing at the Asia and Near East Bureau's Strategic and Economic Analysis Division as senior technical adviser in population and health.

DEDICATION

The authors humbly dedicate this report to all mothers and children in the Asia and Near East Region, hoping that in some small measure, it can contribute to their human right to survive when bringing new life into this world, as well as to the enjoyment of lasting good health for themselves, their newborn, and family

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From these invaluable contributions, we believe the report has become both richer and fuller.

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Acronyms

| | | | |
|---------|--|---------|--|
| ACNM | American College of Nurse Midwives | GOI | Government of India/Government of Indonesia |
| ADRA | Adventist Development and Relief Agency | GON | Government of Nepal |
| AIDS | Acquired Immune Deficiency Syndrome | GOP | Government of the Philippines |
| ANE | Asia/Near East | GOV | Government of Vietnam |
| ARI | Acute respiratory infection | GTZ | German Technical Assistance |
| AVSC | Association for Voluntary Surgical Contraception | HDIP | Health Development Information and Policy Institute |
| BHR/PVC | Bureau for Humanitarian Response/ Private Voluntary Cooperation | HEAL | Health Education Adult Literacy |
| BKKBN | National Family Planning Coordinating Board (Indonesia) | HIV | Human immunodeficiency virus |
| CARE | Concerned Americans for Relief Everywhere | HKI | Helen Keller International |
| CDC | Centers for Disease Control and Prevention | HMIS | Health management information system |
| CEDPA | Centre for Development and Population Activities | IBI | National Midwives Association of Indonesia |
| CFR | Case fatality rate | ICPD | International Conference on Population and Development |
| CIDA | Canadian International Development Agency | IDA | Iron deficiency anemia |
| CPR | Contraceptive prevalence rate | IDD | Iodine deficiency |
| CSSM | Child Survival and Safe Motherhood Initiative | IEC | Information, education, and communication |
| DANIDA | Danish International Development Agency | INTRAH | Program for International Training in Health |
| DFID | Department of International Development (United Kingdom) | IPAS | International Projects Assistance Services |
| DHS | Demographic Health Survey | IJ | International units |
| EOC | Essential obstetric care | JIPMER | Jawaharlal Institution of Postgraduate Medical Education Research |
| EU | European Union | JHPIEGO | Johns Hopkins Program for International Education in Gynecology and Obstetrics |
| EFCS | Egyptian Fertility Care Society | JICA | Japanese International Cooperation Agency |
| EPI | Expanded Program on Immunization | JSI | John Snow, Incorporated |
| FHI | Family Health International | KAP | Knowledge, attitude, and practice survey |
| GOB | Government of Bangladesh | LBW | Low birth weight |
| GOE | Government of Egypt | LSS | Life saving skills |

| | | | |
|---------|--|--------|--|
| LTR | Lifetime risk | SIDA | Swedish International Development Agency |
| MCH | Maternal and child health | SMI | Safe Motherhood Initiative |
| MMR | Maternal mortality ratio | STI | Sexually transmitted infection |
| MOH | Ministry of Health | TB | Tuberculosis |
| NGO | Nongovernmental organization | TBA | Traditional birth attendant |
| NNIPS-2 | Nepal Nutrition Intervention Project | TFR | Total fertility rate |
| ODA | Overseas Development Administration | TOT | Training-of-trainers |
| OMNI | Opportunities for Micronutrient Interventions | UHCW | Union of Health Work Committees |
| PATH | Program for Appropriate Technology in Health | UNDP | United Nations Development Programme |
| PERFORM | Program Evaluation Review and Organizational Resource Management | UNFPA | United Nations Fund for Population Activities |
| PFS | Patients Friends Society | UNICEF | United Nations Children's Fund |
| PHN | Population, Health, and Nutrition | UNRWA | United Nations Relief and Work Agency |
| PMM | Prevention of Maternal Mortality | USAID | United States Agency for International Development |
| PPAN | Philippines Plan for Action for Nutrition | WB | World Bank |
| PRIME | Training for Supporting Primary Providers of Reproductive Health Services Around the World | WHO | World Health Organization |
| PVC | Private Voluntary Cooperation | | |
| PVO | Private voluntary organization | | |
| PVOH | Private Voluntary Organization in Health | | |
| RAINBO | Research, Action, & Information Network for Bodily Integrity of Women | | |
| RAMOS | Reproductive Age Mortality Survey | | |
| RE | Retinol equivalent | | |
| RHCA | Reproductive Health Association of Cambodia | | |
| RTI | Reproductive tract infection | | |
| SEATS | Family Planning Service Expansion and Technical Support Project | | |

Executive Summary

The burden of maternal mortality and morbidity in Asia and Near East (ANE) countries is among the highest in the world, accounting for about 56 percent of the 585,000 yearly maternal deaths worldwide. These deaths from hemorrhage, sepsis, obstructed labor, eclampsia, and the sequelae of unsafe abortion are largely preventable with known interventions. In addition, more than 50 million women suffer from acute complications and an estimated 15 million women face chronic problems resulting from childbirth, such as uterine prolapse and fistula.

The risk of complications and death from pregnancy is even higher for young women in the region, making it particularly urgent that reproductive health programs reach out to adolescents. This increased risk also mandates that policies regarding age of marriage and girls' education be consistent with the goal of reducing adolescent pregnancy and that cultural norms prescribing early marriage and childbearing be changed.

It is also estimated that worldwide, more than 500 million women suffer from anemia and other nutritional deficiencies—more than 70 percent of all pregnant women in some ANE countries—whereas 150 million more acquire sexually transmitted infections (STIs) that place women at higher risk for human immunodeficiency virus (HIV) transmission and contribute to poor birth outcomes.

Good maternal health is essential to the health and survival of newborns. On average, more than half of infant mortality in developing countries occurs during the neonatal period. Many of these deaths result from complications of labor and delivery or from low birth weight caused in large measure by maternal undernutrition or infection. Furthermore, when childbirth results in the death of the mother, the infant's chances of surviving the first year of life are extremely poor—poorer still in some societies if the child is female. Not surprisingly, most interventions designed to improve maternal health and nutrition have positive effects on neonatal survival.

Activities that incorporate both primary and secondary prevention are needed to improve and protect maternal health in the region. Interventions must focus on alter-

ing the distal determinants of women's ill health: poverty, powerlessness, and preference for sons. Because these issues are often viewed as outside the manageable interest of the population, health, and nutrition (PHN) sector, it is imperative that policy and program linkages be made with other development sectors.

Primary prevention includes providing family planning services for unmarried as well as married individuals, and promoting delayed childbearing and birth spacing through behavior change and communication or community mobilization efforts. These approaches create an enabling environment within which fewer pregnancies, with potential for complications, occur.

Other activities that will favor maternal and newborn health include eradicating female genital mutilation, improving girls' nutrition, preventing STIs, and preventing and treating other infectious and parasitic diseases such as hepatitis, rheumatic fever, malaria, schistosomiasis, and hookworm.

Secondary prevention becomes important once women are pregnant. Secondary prevention interventions include birth preparedness measures such as prenatal care and emergency plans for obstetric care should pregnancy complications arise. Interventions such as counseling mothers and their husbands on how to care for the newborn and planning for postpartum care for both mother and child are also essential.

Services validated by evidence of their health impact on mother and baby can be delivered during prenatal care. They include iron folate supplementation, tetanus toxoid immunization, diagnosis and treatment of hypertension, diagnosis of preeclampsia, diagnosis and treatment of syphilis and urinary tract infections, and, perhaps most important, counseling on birth preparedness. Women and their families should be assisted in recognizing the signs and symptoms of complications and encouraged to devise emergency plans for accessing essential obstetric care (EOC),¹ including arrangements for transportation and payment. Other promising interventions, such as prenatal vitamin A supplementation and distribution of safe birthing kits, require further testing.

Should complications arise during pregnancy or as a result of unsafe or incomplete spontaneous abortion,

women need access to EOC. An explanatory model, the Pathway to Survival, has been developed to clarify causal linkages between events and outcomes involved in reaching EOC (see Figure 3). There are four steps along the Pathway to Survival: sign and symptom recognition, decision to seek care, getting to care, and obtaining timely and appropriate care. At each step, good maternal health programs can improve the chances for a woman's and baby's survival.

During the last decade, interventions to improve and protect maternal health have included traditional birth attendant (TBA) training, provision of prenatal care, information, education, and communication (IEC) campaigns, micronutrient supplementation, community mobilization, protocol development, physician, midwife, and nurse training, EOC facility upgrades, quality assurance programs, and policy reforms. Many programs have been multifaceted, and evaluation has been challenging.

Key lessons that have been learned after a decade of programming for safe motherhood include the following: all pregnancies carry risk, having trained attendants at delivery saves lives, complications are generally neither preventable nor predictable, all pregnant women must have access to life-saving care, prenatal care should be evidence-based, community involvement is essential, and measuring success is possible with process indicators.

Approaches that have achieved results and are ready for scaling up include the following:

- Ensuring trained attendance at birth through physician and midwifery training, deployment to peripheral sites, and thorough coordination between the levels of care, as guided by protocols
- Improving the EOC capabilities of a) providers, through competency-based training based on national standards and protocols, and b) facilities, through low-cost upgrades and improved health management information systems
- Raising awareness and educating communities about maternal health issues, to build commitment to safeguarding women's lives, and to organize sustainable emergency responses, including transportation, assistance with service and drug fees, and blood donations

- Training women, families, and TBAs in birth preparedness, self-care, and newborn care, including early and exclusive breastfeeding
- Providing evidence-based prenatal services and postnatal follow-up
- Distributing iron folate tablets, designed for consumer appeal, through reliable distribution and supply mechanisms, including the commercial sector
- Diagnosing and treating syphilis during prenatal care
- Bringing appropriate technologies to the periphery such as manual vacuum aspiration for post-abortion care
- Establishing "no-fault" maternal and perinatal audits at district levels
- Establishing maternal health coalitions as advocacy groups at the national level
- Strengthening the ability of professional organizations to provide continuing medical education and monitor the performance of their members

Countries in the ANE region that are the focus of this report have widely differing levels of maternal deaths as evidenced by maternal mortality ratios (MMRs)² that range from 150 to 1,500 per 100,000. Country fact sheets that accompany this report provide information on maternal health and social indicators, and inventory significant maternal health programs.

Improving maternal health in the ANE region, as elsewhere, requires a multisectoral and multilevel—from community to hospital—approach that has as its most fundamental tenets zero tolerance for preventable maternal death and disability and dedication to improving the economic, educational, and social status of women. As empowered citizens, women will no longer face the class and gender discrimination that puts them at such peril and, as informed, entitled consumers, they will demand life-saving care that is both high quality and compassionate.

Preface

Significant progress has been made in reducing maternal mortality in some ANE countries during the last decade, but high mortality persists in others. This assessment was undertaken to aid the ANE Bureau of the United States Agency for International Development (USAID) in its strategic planning in maternal and newborn health by providing information on the current state of maternal health in ANE focus countries and by clarifying the most productive approaches to programming building on successes and lessons learned.

In September 1998, USAID awarded its centerpiece global program in maternal and neonatal health to a consortium of technical agencies led by the Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPIEGO), in support of the Agency's strategic objective to reduce deaths and adverse health outcomes of women and their newborns. Any strategic planning effort for advancing maternal and neonatal health objectives in the ANE region will be in coordination with the maternal and neonatal health activity, as well as with the PHN Center's global strategy for maternal health.

For the purposes of this report, maternal health is defined as those health conditions—structural, infectious, and nutritional—related to, resulting from, or directly affecting pregnancy, delivery, birth outcome, and the postpartum period. Maternal health is a subset of reproductive health that includes the health concerns of women outside pregnancy, such as family planning, sexuality and sexual health, STIs, HIV/Acquired Immune Deficiency Syndrome (AIDS), infertility, and reproductive tract and breast cancers.

Reproductive health is, in turn, a component of women's health that focuses on health throughout the life cycle—from infancy to old age. It addresses family planning, violence against women, infectious and parasitic diseases, menopausal health, alcohol abuse, smoking, and depression. While all these conditions merit attention, this report will primarily focus on improving and protecting maternal health during pregnancy, delivery, and postpartum.

Part I outlines the global and regional status of maternal and newborn health.

Part II presents primary and secondary prevention strategies, and highlights the range of interventions that have been fielded internationally to improve and protect maternal and newborn health.

Part III looks at key lessons learned after a decade of programming for maternal and newborn health.

Part IV identifies challenges and opportunities for the ANE Bureau in maternal health programming that are within ANE's manageable interest and comparative advantage.

Part V presents a synopsis of the key findings of this report.

Part VI includes subregional and country fact sheets where USAID has a Mission or PHN program.³ The appendixes contain tools and indicators that are useful for maternal health planning and evaluation.

Data for this report were compiled from USAID assessments, evaluations, special reports, national censuses, vital health registration data, abstracts from technical and professional journals, and World Wide Web sites. Figures for maternal mortality were taken from revised 1990 estimates by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF).⁴

Introduction

Improving and protecting maternal health has only recently become a legitimate, stand-alone development objective. This reflects the growing global influence of women's advocacy groups and accumulating research data identifying women as the "key actors" in the development process. Documents from recent international conferences attest to the greater interest and commitment the global community now places on this previously neglected issue. The Safe Motherhood Initiative (SMI), conceived in 1987 by a handful of United Nations and other development organizations, has served as a catalyst for increasing public awareness and testing approaches to guarding maternal health, and challenging the world community to halve the number of maternal deaths, then estimated to be 500,000, by the year 2000.

During this 10-year period, that goal has been reiterated at the 1990 World Summit for Children, the 1994 International Conference on Population and Development (ICPD), the 1995 World Summit on Social Development, the Fourth World Conference on Women also in 1995, and the 1996 First Ladies of the Americas Meeting. In 1997, a major international consultation in Sri Lanka marked the 10th anniversary of the SMI. Policy makers and implementors met to share lessons learned from a decade of programming efforts and to identify remaining challenges. They designated 1998 as "The Year of Safe Motherhood" to keep maternal health on the global political agenda and in the public eye.

Rationale for Investing in Maternal Health

The focus on improving and protecting the health of women during pregnancy and childbirth is appropriate for several reasons. First, it is the right thing to do. Women in the prime of life are dying unspeakably painful and often protracted deaths from preventable causes or suffering chronic disabilities because society has not said enough, done enough, nor invested enough in this public health problem. Too often, protecting the health of women has not been perceived as sufficiently compelling to warrant priority attention and funding. USAID's ANE Bureau fully believes that improving the health and ensuring the survival of women during pregnancy and childbirth is a public health imperative.

Second, investing in maternal health programs will also reap benefits for other critical health issues—infant survival, family planning, and HIV/AIDS.

When women can negotiate pregnancy and childbirth safely, their newborns have a much greater chance of survival. Although infant mortality has declined dramatically in developing countries in the last decade, the proportion of infant deaths during the neonatal period—birth to 28 days postpartum—has increased, accounting for more than 50 percent of total infant mortality in many countries.⁵ These 5 million deaths a year⁶ are attributable to several factors: underlying poor maternal health, pregnancy-related complications that also kill women, and mismanaged deliveries. Thus, programs that focus on improving a mother's general health and ensuring a safe delivery will garner significant improvements in neonatal health and survival.

Benefits to the child of sound maternal health programs do not end at 28 days. Starting life with adequate birth weight and sufficient micronutrient stores—iron and vitamin A, among others—enhances survival and the attainment of a child's full mental and physical potential. Each year, 22 million babies are born at low birth weight, implicating inadequate maternal weight gain during pregnancy.⁷ A cost-efficient approach to optimizing the nutritional status of infants is to improve the nutritional health of pregnant and lactating mothers and to promote exclusive breastfeeding for the first 6 months of life.

Family planning programs can also benefit from a focus on maternal health. Higher contraceptive prevalence rates are achieved when family planning services are integrated with maternal and child health (MCH), postpartum, and postabortion care programs.⁸ In a United Nations Fund for Population Activities (UNFPA) needs assessment in Pakistan, lack of integration with other reproductive health services was cited as a significant obstacle to increasing the use of contraceptives.⁹ Mothers who practice the lactational amenorrhea method go on to have higher utilization and continuation rates with other methods of family planning,¹⁰ and women who are counseled on family planning after abortion have greater acceptance rates and fewer repeat abortions.¹¹

In Jordan and Tunisia, successful postpartum care programs have provided needed follow-up for mothers and newborns while increasing subsequent utilization of modern family planning methods.¹² Informing prospective users about the important role that family planning plays in preserving maternal and child health challenges perceptions that family planning programs are solely concerned with fertility control.¹³

Diagnosing and treating reproductive tract infections (RTIs) during prenatal care improves women's health, leads to better birth outcomes and healthier infants, and in the case of syphilis, has been shown to be cost-effective.¹⁴ Treating RTIs also decreases the likelihood of HIV transmission to the pregnant woman, thus protecting her and, in turn, her unborn child.¹⁵

Third, a focus on maternal health is also a good health and development value. Women are the front-line health care providers and caretakers in most societies. Each year, women who die in childbirth or from unsafe abortions leave behind an estimated 2 million children,¹⁶ whose chances for survival are diminished by as much as 50 percent.¹⁷ Statistics are even more dismal if the child is female.¹⁸ Motherless children also spend less time in school. A study in Tanzania found that when a mother dies her children attend class only half as often, a change not evidenced if the father dies.¹⁹

Women contribute significantly to the informal and, increasingly, to the formal sectors of the economy. Mothers use their earnings to improve the nutritional and

educational status of their children and to access health services for them. A study of women in India found that their participation in the labor force would increase by 22 percent if maternal health problems, including anemia, were addressed.²⁰

Thus, efforts that keep mothers alive and healthy constitute important, yet undervalued approaches to child survival and community development. That these benefits can be achieved by interventions that are among the most cost-effective of all public health endeavors should be sufficiently compelling to warrant priority attention and adequate funding.²¹

I. Maternal and Newborn Health Status

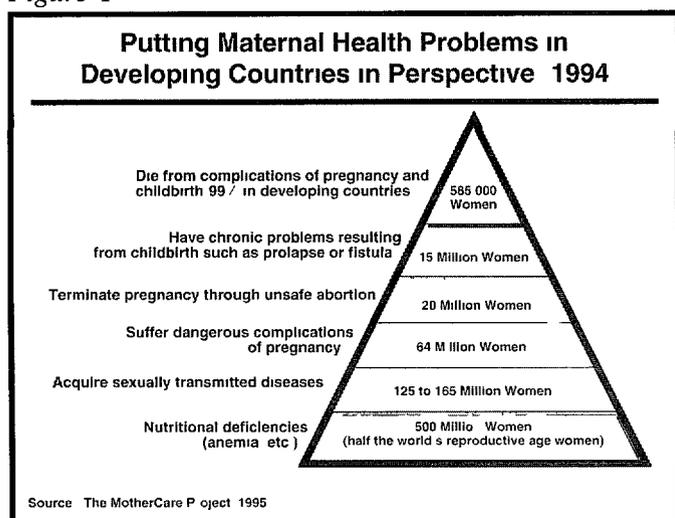
Mortality

It is difficult to understand why the deaths of 585,000 women each year—one every minute—have only recently called forth a global public health response, particularly when these deaths are largely preventable with existing, low-cost therapies. In fact, women in the developed world no longer dread childbearing nor regularly die of the five ubiquitous complications of pregnancy: hemorrhage, eclampsia, the consequences of unsafe abortion, obstructed labor, and sepsis. Fully 99 percent of maternal deaths occur in the developing world, 56 percent of them in the ANE region. When the high risk of death from pregnancy is coupled with the relatively high fertility rates in the region, the real dimensions of this uniquely female horror emerge. The lifetime risk of death from pregnancy averages 1 in 20 in ANE countries, compared with 1 in 9,000 in northern Europe,²² leading some cultures to refer to the time of delivery as one of the 'three sorrows.'

Morbidity

An estimated 40 percent of the 200 million women who become pregnant each year will experience some type of complication, 15 percent of these complications will be life threatening.²³ More than 50 million women experience acute morbidities. And 15 million survivors must cope with long-term disabilities such as severe uterine prolapse, which, along with daily discomfort, can cause sexual intercourse to be painful, or fistula, which allows the constant seepage of urine or feces into the vagina (see Figure 1). Both, though repairable with routine surgery, can lead to social marginalization or abandonment when services are not available. Studies from

Figure 1



Bangladesh, Egypt, India, and Indonesia have reported uterine prolapse rates of 15, 11, 3, and 16 percent, respectively²⁴

Other women become infertile as a result of infection and are doubly disadvantaged in societies where childbearing is the only route to legitimacy and improved status. Recent studies have concluded that maternal morbidity, both acute and long-term, is much more common than previously believed. In Egypt, there were 967 episodes of illness for every maternal death, in Bangladesh, 163 episodes, and in India, 541 episodes²⁵

Contributing Factors

The risk of death and disability from pregnancy-related causes is higher still for adolescents. A girl younger than 15 years of age has a five times greater risk of dying than a woman in her twenties, girls ages 15 to 19 have twice the risk²⁶. Worldwide, complications of pregnancy and childbearing are the leading cause of death for adolescent girls ages 15 to 19²⁷. In the ANE region, particularly in South Asia, more adolescents are exposed to this risk because cultural norms dictate early marriage and childbearing.

Such vulnerability can be ascribed to both social factors and physical immaturity. A woman's pelvis is not fully mature until approximately age 20, contributing to the increase in prolonged and obstructed labor, and potential for fistula, which occurs in adolescents²⁸. Girls are also more susceptible to hypertensive disorders of pregnancy. And should they choose to terminate a pregnancy, they often wait longer and suffer more life-threatening complications, resulting in substantial numbers of abortion-attributable deaths.

Women who are malnourished or suffer from micronutrient deficiencies are also at higher risk for poor birth outcomes. More than 70 percent of all pregnant women in some ANE countries are anemic (hemoglobin <11 mg/dL)²⁹. This places them at higher risk of death should postpartum hemorrhage occur. Survivors are left with even greater depletion of iron stores. Risk is also increased for women who are stunted or whose genitals have been mutilated, for the 12.5 million³⁰ pregnant women who suffer from acute and chronic diseases such as malaria, hepatitis, tuberculosis, HIV/AIDS, diabetes, and rheumatic heart disease, and for women who have had a previous problem pregnancy.

Eclampsia occurs more frequently in first pregnancies. Short birth intervals are known to be a significant risk factor for infant mortality, but the literature is not supportive of their direct impact on maternal survival³¹.

Sexually Transmitted Infections/HIV

STIs can increase the risk of infertility, ectopic pregnancies, cervical cancer, HIV transmission and, in the case of AIDS and syphilis, death. During pregnancy, STIs can negatively affect birth outcomes. STIs are common in the ANE region, WHO estimates that cases of curable STIs among adults in South and Southeast Asia total 150 million annually³². Studies from both Egypt and India have found high prevalence rates, more than 50 percent of the Egyptian women studied had one or more reproductive tract infections³³.

WHO estimates that more than 1.5 million women are infected with HIV in South and Southeast Asia, 75,000 in North Africa and the Middle East³⁴. Young women have the fastest growing seroconversion rates in the region, this is a consequence of the increased vulnerability of women vis a vis men to contracting the disease. Female physiology accounts for much of this: women have a larger mucosal surface area exposed, higher concentrations of HIV are found in semen than in vaginal fluid, and women are more likely to have asymptomatic and, thus, undiagnosed and untreated STIs, which facilitate HIV transmission. Social and economic factors include cultural norms that foster relationships with older men who are more likely to carry HIV, coerced sexual relations, and the inability to negotiate condom use or enforce spousal fidelity³⁵. Without access to peripartum zidovudine, approximately a quarter of all babies born to mothers with HIV will become HIV positive.

Unsafe Abortion

Of the 45 million pregnancies that are terminated each year, about half the procedures are performed under unsafe conditions, predominantly in developing countries. Unsafe abortions cause the deaths of more than 200 women every day and contribute to at least 13 percent of maternal deaths globally, 12 percent in Asia³⁶. Up to half of all women who undergo unsafe abortions require medical attention for incomplete abortion, hemorrhage, sepsis, or uterine perforation³⁷. Long-lasting sequelae include infertility, increased risk for ectopic pregnancy, and chronic pelvic pain. It is estimated that

nearly 50 percent of all the world's unsafe abortions, 9.2 million each year, take place in Asia.³⁸

Medical Care

Only 65 percent of pregnant women in Asia receive even the most rudimentary prenatal care—defined as “at least one visit”—and only 53 percent are attended at delivery by a skilled professional, only slightly better than the global skilled attendance rate of 50 percent. Worldwide, this leaves more than 60 million women to deliver alone, with a family member, or with a TBA.³⁹ Sixty-seven percent of women in ANE countries deliver at home, and only 30 percent receive postpartum care.⁴⁰ Such lack of medical attention during delivery and the postpartum period is especially serious as these are times of heightened vulnerability, when 80 percent of all maternal deaths occur.⁴¹

Overmedicalization of delivery in some areas of the ANE region places women at unnecessary risk for pregnancy-associated health complications. In some urban areas, rates of cesarean deliveries are much higher than the 5 to 15 percent estimated to be necessary by WHO, and can coexist with extremely low rates in other parts of a country, thus indicating a lack of accessible life-saving services. In other cases, TBAs have inappropriately accelerated labor using oxytocin, which increases the potential for uterine rupture and poor birth outcomes.

II. Primary and Secondary Prevention Strategies for Maternal and Newborn Health

WHO has called maternal mortality the ‘litmus test’ of the status of women in any given country because prevention requires committed action and concerted efforts, which are unlikely to be forthcoming from societies that undervalue women. The distal determinants of women’s ill health—poverty, powerlessness, and preference for sons—exist in many ANE countries, making childbearing a particularly dangerous undertaking. Girls are fed too little, worked too hard, married too young, and encouraged to have children before their own bodies have matured.

Tackling the distal determinants of ill health is often viewed as outside the manageable interest of the PHN sector, necessitating linkages and partnerships with other sectors such as education and economic growth.

These development sectors can address establishing or enforcing age-at-marriage laws, increasing incentives for girls to stay in school, and broadening economic opportunities for women. It is imperative that PHN activities work in tandem with these efforts.

Primary Health Interventions Before a Woman Becomes Pregnant

Improving General Health

Twenty percent of maternal deaths are attributable to indirect causes—existing health conditions that are exacerbated by pregnancy, such as diabetes or rheumatic heart disease. Treating or preventing these conditions will improve the health of women and help protect against death during pregnancy and childbirth.

Ensuring adequate nutrition for girls is a particularly powerful and protective general health intervention. An estimated 450 million women worldwide are stunted as a result of protein/calorie malnutrition during childhood. The highest levels of malnutrition are found in South Asia, where more than 60 percent of women are underweight, 60 percent are anemic, and 15 percent are stunted.⁴² In Bangladesh, fully 99 percent of pregnant women are anemic. To reduce this magnitude of anemia requires interventions during the preconception and interpartum periods. Prenatal supplementation alone, though important, cannot remedy iron deficiency anemia.

Other activities that will improve maternal and newborn health include eradicating female genital mutilation, preventing STIs, providing tetanus toxoid immunization, and treating parasitic infestations such as schistosomiasis and hookworm.

Family Planning

Primary prevention includes providing family planning services for unmarried and married individuals and promoting delayed childbearing and birth spacing. UNICEF estimates that 175,000 maternal deaths could be avoided each year if global family planning needs were met, and that unmet need is higher in ANE countries than in any other region: Nepal 31 percent, Philippines 26 percent, Jordan 22.4 percent, India 18 percent, Bangladesh 16 percent, Egypt 16 percent, Morocco 16 percent. Behavior change and community mobilization efforts, such as Indonesia’s ‘Honey-Year’ cam-

paign, which encourages newlyweds to wait a year before starting a family, can influence community norms that promote early and frequent pregnancies

School-based family-life education classes can contribute to later sexual initiation, a decrease in number of sexual partners, and delayed first births⁴³ Programs are evolving that train peer and parent counselors and involve men and boys in educational efforts that emphasize male responsibility in sexual expression and reproduction

Emergency Contraception

For those women at risk for unwanted pregnancy after coerced or unprotected sexual relations, emergency contraception, where legal, is effective in up to 75 percent of cases if it is taken within 72 hours after intercourse Progesterone-only regimens appear to be even more effective than standard estrogen/progesterone combinations⁴⁴ This is a relatively new, nonabortive option for preventing pregnancy Currently, Indonesia is one of the few countries in the ANE region that has a policy on the use of emergency contraception⁴⁵

Secondary Prevention Once a Woman Becomes Pregnant

Unwanted Pregnancies

Some women will seek to terminate unwanted pregnancies Abortion policies vary widely among ANE countries In Vietnam and India, termination is allowed on demand, in Nepal, abortion is illegal under any circumstance Even in India, however, where abortions have been legal since 1971, women have difficulty utilizing services because of distance, cost, or lack of female providers Out of 5.3 million abortions in 1989, more than 80 percent were performed outside approved health facilities,⁴⁶ and only 1 in 10 doctors has been trained in the use of manual vacuum aspiration, a safer and less costly procedure than dilation and curettage⁴⁷ Although abortion is illegal in Bangladesh, menstrual regulation is permitted up to 10 weeks after conception It is estimated that 241,000 menstrual regulation terminations are performed each year⁴⁸

Birth Preparedness

Crucial tasks for pregnant women and their families are to practice and support health-enhancing self-care, access appropriate prenatal care, and devise emergency

plans should problems arise Birth preparedness often mandates a community approach, as individual household plans may not be feasible in areas without transportation to health facilities Collective solutions to lack of transportation may be required, such as establishing community "action groups" that will hand-carry women to pickup sites, or working with unions to enlist the support of commercial carriers for emergency transportation Community-generated and -managed revolving funds for services or drugs help families surmount the cost barrier to accessing care A program in Nigeria organized prenatal blood donations from family members so that blood would be available in case of hemorrhage

Prenatal Care

Promoting self-care and facilitating emergency planning must be an integral part of any prenatal care program Counseling about obstetrical emergencies should include assisting women and their families with recognizing the signs and symptoms of complications, emphasizing the need to prearrange transportation and, potentially, payment, and identifying the closest EOC-ready referral site This component of prenatal care can be extremely difficult to carry out in some cultures, such as Indonesia, where it is believed that acknowledging the possibility of complications increases the likelihood that problems will occur

Some services, validated by their evidence of health impact on mothers and babies, can be delivered during prenatal care They include iron folate and iodine supplementation, malaria prophylaxis and distribution of insecticide-impregnated bednets, tetanus toxoid immunization, treatment of helminth infections, diagnosis and management of preeclampsia, diagnosis and treatment of hypertension, urinary tract infections, and syphilis, and, if additional funds are available (or as less expensive diagnostics become available), diagnosis and treatment of chlamydia and gonorrhea Prenatal zidovudine administration, to decrease vertical transmission of HIV is effective but is prohibitively expensive for most prenatal programs and does not affect maternal outcomes

Another crucial issue that should be emphasized during prenatal care is optimal maternal nutritional intake In South and Southeast Asia, cultural food taboos during pregnancy and lactation further limit access by women to protein and vitamins Many women also vol-

untarily limit food intake in the hope that a smaller baby will ensure an easier delivery. A recent study in India found that poor women were consuming only 1,400 calories a day and gaining an average of just 1.5 kg⁴⁹ during their pregnancies, dramatically less than the WHO recommended 5 to 9 kgs.

Counseling that promotes newborn care—immediate warming, proper hygiene, and early initiation of exclusive breastfeeding—should also be included during prenatal care visits, along with postpartum family planning, especially the lactational amenorrhea method. In areas where smoking by women is increasing, counseling regarding its adverse health effects, including higher risk of stillbirths, premature labor, and low-birth-weight babies, is warranted.

Some prenatal programs utilize home-based maternity care records that are filled out by TBAs or midwives but kept by the pregnant woman. The information recorded is used to identify problem pregnancies that need closer follow-up. Other programs, such as in Nepal, distribute or sell birthing kits that contain the bare necessities for a cleaner delivery.

Clean and Safe Delivery

Harmful traditional practices at the time of delivery are common, especially in South Asia, where birth itself is seen as a contaminating process. Women and TBAs must be encouraged to preserve healthful traditions while discarding those that imperil the lives of the mother and newborn. TBAs and family members are taught to follow the “five cleans” during delivery—clean hands, clean surface, clean blade, clean string, and clean cloth to wrap the baby—and may be encouraged to use safe-birthing kits. The use of a partograph by trained attendants assists in closely monitoring labor for indications of impending complications such as prolonged or obstructed labor.

Postpartum and Newborn Care

Many deaths to mothers and newborns occur during the immediate postpartum period, women dying primarily from postpartum hemorrhage the first week and sepsis the second. For the newborn, simple measures such as immediate warming, proper hygiene, and early initiation of breastfeeding will protect many from subsequent complications. Routine antibiotic prophylaxis

for the newborn's eyes will prevent ophthalmia neonatorum.

Medical supervision and access to emergency services are imperative should complications arise. In those ANE countries such as Bangladesh, Jordan, Pakistan, and Yemen, where it is traditional for women to be secluded for 40 days after delivery, the first postpartum checkup does not occur for 6 weeks, if it occurs at all. Thus, effective postpartum programs must be organized to visit mothers and newborns in their homes within 24 hours of delivery and at other scheduled times during the ensuing few weeks. The components of these visits are evolving but may include assistance with newborn care, such as breastfeeding, umbilical cord care, nutrition counseling, iron and vitamin A supplementation, family planning, and anticipatory guidance regarding immunizations. A training program developed for community midwives in Indonesia, Healthy Mother and Healthy Newborn Care, outlines the timing and content of serial postnatal visits.

Secondary Prevention and Treatment if Complications Occur

Women must have access to emergency services should life-threatening complications arise during pregnancy, childbirth, or as a result of incomplete, spontaneous, or unsafe abortion. It is estimated that 15 percent of all pregnant women will need these services, at least 5 percent will require a cesarean delivery. WHO advises that EOC must be available in order to ameliorate or treat complications and effect a safe outcome for the

Figure 2

| Elements of Essential Obstetric Care | |
|--------------------------------------|--|
| Basic EOC | |
| • Problem pregnancy management | |
| • Medical treatment | |
| • Manual procedures | |
| • Monitoring of labor | |
| • Neonatal special care | |
| Comprehensive EOC | |
| • Surgical obstetrics | |
| • Anesthesia | |
| • Blood replacement | |

woman and her child⁵¹ Figure 2 lists the components of EOC services

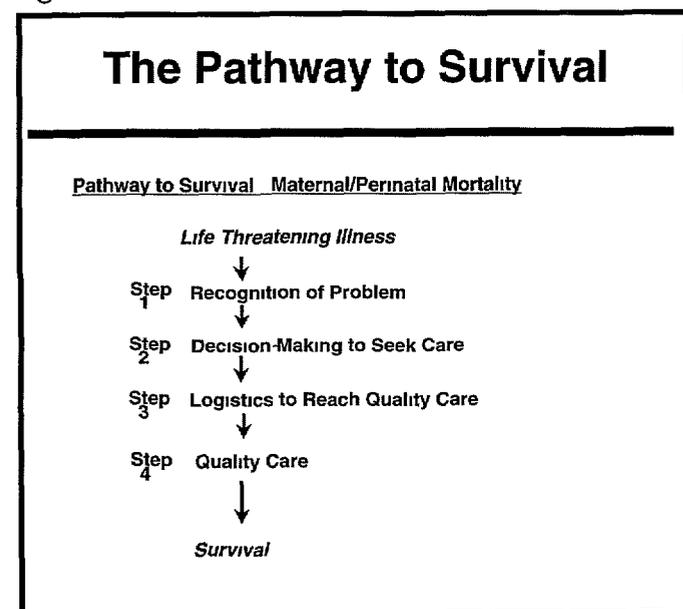
Basic EOC can be delivered at health centers and, in some cases, at health posts by nonphysician providers, ideally midwives. It has been estimated that two-thirds of serious complications could be treated or stabilized with this subset of EOC services.⁵² WHO recommends four fully functioning basic EOC facilities for every 500,000 people.

Comprehensive EOC includes basic EOC plus surgery, anesthesia, and blood replacement. WHO recommends that comprehensive EOC be available at first-referral or district-level hospitals with the goal of having one fully functioning facility per 500,000 people. Both basic and comprehensive EOC must be accessible on a 24-hour basis.

Pathway to Survival

Getting women with complications to the life-saving care they need is a multitask process. An explanatory model, the Pathway to Survival, has been developed to break this process into a series of steps and to elucidate the causal linkages between events and outcomes. Programs can then be designed to intervene at various points along the Pathway.

Figure 3



The Warmi Project

Save the Children/Bolivia began MotherCare-assisted activities in 50 communities of the remote, rural Inquisivi Province in July 1990. Births are typically attended by the spouse, there are no TBAs and few health facilities are available.

The “autodiagnosis” is a participatory research process in which women’s groups are organized in selected communities and hold discussions to explore their maternal and neonatal health problems. A major goal of the process is to foster women’s confidence to speak up about health problems, explore the commonality of the issues through discussions and interviews with other women, and learn to prioritize the problems that are identified.

Examples of the actions taken by women’s groups as a direct result of the autodiagnosis include the following:

- Provision of family planning services through a local nongovernmental organization (NGO)
- Training of 42 community women as traditional birth attendants (*parteras*) at a private hospital in La Paz
- Income-generating projects to provide emergency funds for obstetric complications, including the production and sale of safe-birthing kits
- Credit and literacy training programs
- Training of hundreds of community members—both men and women—in various aspects of maternal and neonatal health and family planning
- The development of booklets by and for women on pregnancy, birth, postpartum care, and care of newborns

(From *Healthy Pregnancy, Safe Delivery—The MotherCare Experience* *MotherCare Matters*, Vol 14, No 2, 1997 Special Edition)

The Pathway to Survival is depicted in Figure 3. The four steps along the Pathway are recognizing the problem, deciding to seek care, getting to care, and receiving quality care. At each step, targeted interventions help ensure that women get the life-saving emergency care they need, should complications arise.

Steps and Illustrative Interventions

Step 1 Sign and Symptom Recognition

Problem identification in pregnancy and childbirth is not always straightforward. Some conditions become “problems” along a continuum from normal. For example, when does normal bleeding become hemorrhage? When does labor become prolonged or obstructed? When does fever signal sepsis? In several recent studies, women could consistently identify only eclampsia and antepartum hemorrhage as complications, because “fits and bleeding before labor were outside the range of normal.”⁵²

Paradoxically, in various cultures, some signs or symptoms of impending complications are interpreted as normal or beneficial. Studies from South Asia indicate that many women consider weakness, dizziness, and fatigue as part of a normal pregnancy, rather than as indicators of anemia. Women will not take iron supplements for fear of having a large baby and, potentially, a more difficult labor.⁵³ Other cultures view swelling of the feet, hands, and face as the buildup of “good blood” to help expel the newborn⁵⁴ or view heavy bleeding as cleansing the body.

Illustrative Interventions

- Community diagnoses, such as those done by MotherCare in Egypt and Indonesia, using focus groups and in-depth interviews to understand local concepts regarding complications and the terms used to describe them
- Autodiagnosis or other participatory methods to facilitate the identification of complications by community members
- Behavior change and communications efforts—using radio, comic books, novellas, and skits—that describe complications and their seriousness
- Community mobilization with districtwide or nationwide Safe Motherhood days, such as in Nepal

The Faisalabad “Flying Squad” Project

Faisalabad, the third largest city in Pakistan, with a population of 1.2 million people, has a teaching hospital with full capacity for emergency obstetric care. Most births take place at home and are attended by a TBA. The majority of maternal deaths occur at home even though many homes are only a few kilometers from a hospital that can manage maternal complications.

The Mother and Child Welfare Association of Faisalabad, a local NGO, initiated a project to address this problem in 1991. Key elements of the program include the following:

- The establishment of a maternal health ‘Flying Squad,’ an ambulance and paramedic team dedicated solely to transporting maternal emergency cases. The Flying Squad established an exclusive phone number for emergency care.
- Organization and training of TBAs using the neighborhood health center as the base. TBAs are informed of both the availability and value of the Flying Squad service and are encouraged to call for help when complications occur.
- An IEC campaign through a popular radio talk show. Community members are given information about the importance of seeking medical assistance for maternal complications quickly and about the Flying Squad’s availability.

The Flying Squad has a good record of rapid response and has engendered enthusiastic support from the community and TBAs. The project has increased referrals for maternal complications, and the number of maternal deaths has declined from 41 in 1991 to 19 in 1995.

(From *Proceedings of Safe Motherhood Asia: A 10-Country Consultation Workshop on Lessons Learned*, Canadian International Development Agency/UNICEF, 1997.)

- Counseling of pregnant women and influential family members in sign and symptom recognition and referral

Step 2 Decision to Seek Care

Once symptoms have been recognized and determined to be serious, a decision must be made to access appropriate services. Women in the ANE region are rarely empowered to make such decisions themselves, rather, the decision may be up to husbands, mothers-in-law, or other family members. Furthermore, regardless of a woman's level of self-determination, she may be incapacitated and thus unable to assess the seriousness of her condition or arrange for transportation.

The decision to seek care can be based on multiple factors, including the relative value placed on a woman's life vis à vis the cost for treatment, the belief that complications are the result of fate or are retribution for proscribed behaviors, with the outcome unalterable, and a perception that the quality of medical services is poor and will not save a woman's life. In some cultures, such as in parts of Indonesia, women themselves prefer to remain at home even in the face of life-threatening complications.

Emergency Loan Funds

The Benin/Nigeria Prevention of Maternal Mortality team worked with the traditional clan leadership to set up emergency loan funds for women with complications. With a small amount of seed money from the team, community members contributed several hundred dollars to establish the funds. The funds were managed entirely by the community, which decided on a 6-month grace period with nominal interest charged thereafter. In the first year of operation, several hundred small loans were granted, and almost all were repaid in full.

(From *The Design and Evaluation of Maternal Mortality Programs*. Columbia University Center for Population and Family Health, School of Public Health, 1997.)

Illustrative Interventions

Underlying this step in the Pathway is the relative lack of power that women have in many societies. Therefore, activities that seek to elevate the status of women are necessary. Health interventions must be allied with projects that open educational and employment opportunities to women. Such interventions include the following:

- Qualitative research that identifies the major decision makers in a given society and clarifies prevailing attitudes toward seeking care
- Counseling of gatekeepers on the importance of seeking care
- IEC campaigns that promote the image of gender partnership and caretaking by decision makers
- Autodiagnosis and other participatory planning methods that lead to women's empowerment
- Programs that focus on girls' education and women's literacy and microenterprise business opportunities

Step 3 Ability to Access Care

In the ANE region, several factors militate against gaining access to care: distance, road conditions, lack of transportation, and fees for drugs, services, and transportation. Many areas are served only once daily by public transportation. Taxi drivers or boat operators often raise their rates in emergency situations or refuse to transport a bleeding woman because they fear contamination. Roads may be impassible for several months of the year. In some areas, the travel time to reach EOC may exceed the margin of safety for a given complication. For example, hemorrhage must often be attended within 2 hours.

Illustrative Interventions

Program interventions can bring women closer to care, bring care closer to women, and lessen the barrier of cost. Getting women to services could involve the following:

- Establishing community transportation funds
- Making prior arrangements with transportation unions, taxi drivers, boat operators, and private citizens (such as through the use of hammocks to carry a woman)

IBI, Professional Peer Review and Institutional Strengthening in Indonesia

In-service training for midwives and village midwives has been integrated with a system of monitoring and support organized and implemented by the National Midwives Association of Indonesia (IBI). Through regular peer review, individual village midwives receive supervision and guidance from senior midwives who have been trained in the process of peer review. Continuing education materials are developed from the information collected during individual peer review visits on knowledge and skills requiring further reinforcement, and are presented to all midwives at IBI district-level monthly meetings to help them improve their skills.

The combined training and continuing education system represents a partnership between the Ministry of Health and IBI to maximize the use of local resources in supporting village midwives and to strengthen the quality of services provided at the community level.

To meet the challenges of a rapidly expanding membership and increasing prominence among donors working in Safe Motherhood, MotherCare is helping IBI to improve management at the national level and is also working with the Board of Directors on strategic planning.

(From *MotherCare Matters*, Vol 6, No 4, October 1997, Special Edition)

- Devising a system for radio contact with ambulances and emergency boat services

Bringing services to women could include the following interventions

- Making birthing huts and community maternity centers available
- Decentralizing care to the lowest-level facility and trained provider while maintaining good outcomes. This includes village-based midwives, midwives at health posts, cesarean deliveries performed by

Vietnam Safe Motherhood Demonstration Project

This project was designed to evaluate whether the quality of delivery care was improved by providing life saving skills (LSS) training to qualified clinicians working in primary and referral health care facilities, and by providing basic EOC equipment and supplies to these facilities. The major findings of the project are as follows:

Provision of LSS training and equipment improves the detection and management of life-threatening obstetric conditions at secondary health facilities.

Provision of LSS training and equipment improves the detection but not the management of life-threatening obstetric conditions in primary care facilities.

Overall obstetric management, including inappropriate management, was increased by LSS training.

Operating rooms in district hospitals are essential for women with dysfunctional labor requiring cesarean delivery.

The commonly identified barriers to the use of institutions for delivery, including cost, location, and transportation, were not overcome by upgrading facilities or staff.

(From Executive Summary, The Safe Motherhood Demonstration Projects, *Critical Issues in Reproductive Health*. The Population Council, New York, 1998)

- nurses, and active management of the third stage of labor with oxytocin
- Upgrading health centers to offer comprehensive EOC
- Distributing iron folate, vitamin A, and iodine at the community level

- Establishing home-visit postpartum programs immediately following delivery
- Distributing birthing kits to women and TBAs

Lessening the barrier of cost can include the following interventions

- Government-subsidized or free services for hospital stays, provider services, medicines, blood, and supplies
- Community revolving funds or loans
- Microenterprise activities—birthing kits, gardens, sewing—with profits reserved for obstetric emergencies

Step 4 Receipt of Timely, Appropriate Care

Women who have stayed on the Pathway to Survival may arrive at a facility only to find it closed or the physician or midwife gone. Medicines may be unavailable and equipment broken or missing. Women may wait for long periods of time before being seen or receiving care. They may be treated with disrespect or humiliated, particularly if they are of a lower class or caste or are seeking treatment for postabortion complications. What is perhaps most disturbing is that they may be misdiagnosed or incorrectly treated by specialist physicians. A study in Egypt found that 47 percent of preventable maternal deaths were attributable to obstetrician error⁵⁵

Illustrative Interventions

There are many ways to improve quality of care, including the following

- Establishing national policies and regulations for licensure and relicensure, accreditation, standard setting, protocol development, adoption, and dissemination, and preservice and in-service training requirements
- Competency-based in-service and preservice training with curricula developed from nationally adopted protocols, interpersonal communication skills training, and, at the facility level, training in using data for decision-making
- Instituting quality assurance mechanisms at the facility and district levels and community quality-maintenance committees at the local level

Sri Lanka

Since independence in 1948, the Government of Sri Lanka has placed great emphasis on improving maternal and child health. In 1945 the MMR was 1,650 per 100,000 births, today it stands at 30. The infant mortality rate has declined from 140 to 20. All these have been accomplished in a low-resource setting, the per capita gross national product of \$700 is similar to that of Côte d'Ivoire, where the MMR is 830.

Factors that have been credited with improving and protecting maternal health during this 50-year period include the following

- Introduction of family planning in 1953 (the current total fertility rate is 2.2)
- Early establishment of a network of MCH services that reach the community level
- Introduction of a national safe motherhood program
- Integration of family planning and MCH services into a separate section of the Ministry of Health,
- Expansion of midwifery services
- Increases in trained assistance at delivery—currently 96 percent of deliveries are assisted
- Increases in institutional deliveries—currently 90 percent of deliveries occur in hospitals or clinics
- Introduction of home-based mothers' records
- Introduction of the partograph
- Use of antibiotics and expansion of transfusion services
- Review of maternal deaths at the central level

(From *Safe Motherhood in Sri Lanka*. Ministry of Health, Family Health Bureau, and UNICEF, 1997.)

- Upgrading facilities and staff to allow 24-hour provision of basic or comprehensive EOC, depending on service-delivery level
- Establishing maternal and perinatal audits at district levels
- Upgrading health management information systems, including records and registries and logistics management systems, to ensure a constant and adequate stock of drugs and supplies, and well-maintained essential equipment

- Improving working conditions and salaries for health care personnel
- Strengthening provider associations to offer continuing education and peer review
- Formalizing referral systems from communities to health posts and centers to hospitals

III. Lessons Learned

After a decade of maternal health programming, many lessons have been learned that can inform future efforts to improve and protect maternal health

To substantially improve and protect maternal health there must be zero tolerance for preventable maternal death and disability

Political will must be summoned and strengthened so that sufficient attention and resources are brought to bear on improving and protecting maternal health. Even low-resource countries such as Sri Lanka, have achieved dramatic improvements in their maternal health profiles through focused programming and high political visibility.

Delay first births, whether they occur inside or outside marriage

Cultural norms that prescribe early marriage and childbearing place adolescents, who are more vulnerable to pregnancy complications, at great risk. For example, 48 percent of women in Bangladesh are married and sexually active by the age of 19⁵⁶, 21 percent of Asian women give birth before their 18th birthday⁵⁷. Addressing this risk among adolescents will require raising the age for marriage or advocating enforcement of already existing policies, enforcing dowry laws, expanding employment opportunities, and encouraging and facilitating girls' education, given its strong correlation with delayed childbearing. Research in Pakistan found that 54 percent of uneducated women gave birth before age 20, whereas only 16 percent of women with 7 years of education did so⁵⁸.

Although unmarried adolescents in ANE countries are less likely than girls in other regions to be sexually active, the evident trend is toward earlier sexual activity⁵⁹. Efforts to extend family planning and other reproductive health services to unmarried adolescents are needed,

as most family planning programs in all three subregions currently serve only married women⁶⁰. A large percentage of reproductive-age women in ANE countries are under age 20, making it particularly important that reproductive health programs reach out to adolescents in a culturally sensitive manner.

Ensure that all births are wanted

More than 75 million unwanted pregnancies occur yearly worldwide⁶¹. In ANE countries, with a total fertility rate (TFR) (excluding China) of 3.5 and a contraceptive prevalence rate (CPR) of 38 percent, unmet need for contraception is estimated to range from 16 to 38 percent in Asia, and from 16 to 25 percent in the Near East. If the need for contraception were met, approximately 25 percent of maternal deaths in the region could be averted⁶².

However, recent studies have questioned whether lack of access to family planning services is the primary reason that married women who do not desire a pregnancy are not contracepting⁶³. Programs must promote culturally appropriate client education, mandate improved provider interpersonal communication skills, and provide high-quality services with a reasonable mix of methods. To foster concordance on fertility objectives, programs should also provide reproductive and sexual health education for individuals and couples.

Family planning programs should be incorporated into postpartum and postabortion care services to facilitate birth spacing—an important child survival intervention⁶⁴—and to protect against the attendant risks of repeat, unwanted pregnancies and unsafe abortions.

All pregnancies carry the risk of complications that are largely unpreventable and unpredictable

It is estimated that 15 percent of all pregnant women will develop a serious complication—80 percent of complications occur at the time of delivery or in the early postpartum period. Various risk assessment tools, such as the “four toos”—too early, too late, too soon, too many—or anthropometric measurement, have been devised to determine which women are more likely to develop complications. These “high-risk” women are then advised to have closer prenatal follow-up and to deliver in a health care facility.

Bangladesh Emergency Obstetric Care Project

This project, carried out by UNICEF, the Ministry of Health, and the Obstetrics and Gynecology Society of Bangladesh, targets the medical staff of 64 district hospitals for mentoring by medical college obstetric staff. The mentoring is meant to improve clinical skills and to strengthen the referral system for complicated cases. Program components include the following:

- Establishment of obstetric first aid at union-level facilities
- Upgrading facilities to provide basic EOC at the thana level and comprehensive EOC at the district level
- Increasing the use of health facilities by women through behavior change efforts focused on the community
- Development of a proposal for a national plan of action

Before the intervention, only 5 percent of the predicted 544,000 complications were seen at health facilities in the catchment area. A knowledge, attitude and practice survey (KAP) on community perspectives found that accessibility and quality were crucial factors in the decision to seek care and that husbands and mothers-in-law were the main decision-makers in whether to seek care.

Such assessment tools, however, do not have the predictive power to save women's lives without overwhelming the health care system with normal deliveries. A study in India found that 88 percent of women designated as high-risk went on to deliver normally.⁶⁵ Another study from Egypt found that only 15 percent of deaths occurred in women under age 20 or over 40 years of age, both considered high-risk categories. Public confidence is also eroded when "low-risk" women develop complications and die.⁶⁶

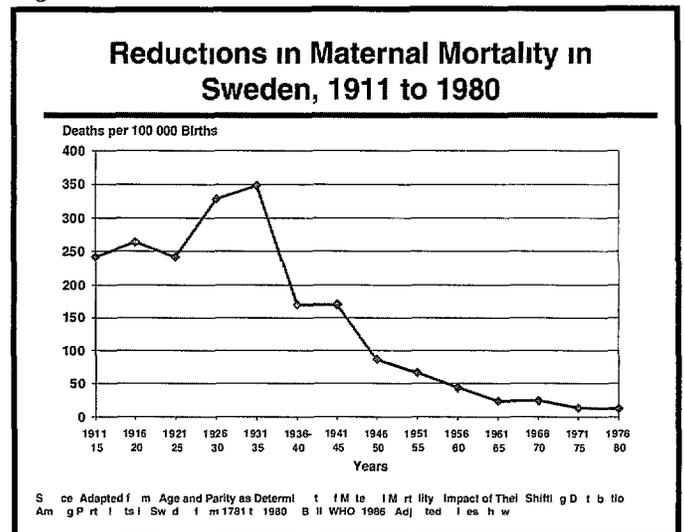
The programmatic focus must shift from trying to predict, during prenatal care, which women will develop complications to recognizing complications early and getting women to appropriate EOC. Thus, greater programmatic emphasis on the intrapartum and neopartum periods is essential.

All pregnant women must have access to EOC

Although pregnancy-related complications are largely unpredictable and unpreventable, deaths from these causes can be avoided. Life-saving therapies are well-established and are relatively low in cost. Basic EOC can be provided at peripheral health care delivery sites and comprehensive EOC at first-referral hospitals.

The evidence that providing EOC will save more lives than stand-alone prenatal care or TBA training interventions is based on analyses of historical trends in maternal mortality in the developed world. Until the mid-1930s, MMRs in the United States and Western Europe were as high as they are in many developing countries.

Figure 4



today (see Figure 4). High levels of maternal deaths had persisted coincident with nearly universal prenatal care, adequate nutrition, and a reasonable standard of living. It was not until surgical obstetrics, blood transfusions, and antibiotics became available that maternal deaths began to drop dramatically.

A 1984 study of a religious community in the United States that refused access to emergency services when

complications arose lent further credence to the theory that EOC was necessary to save lives. As fewer and fewer women died during childbirth in the general population, the number of maternal deaths in this relatively prosperous community remained astonishingly high, translating to an MMR of 872.⁶⁷ Prevention strategies must include improving self-care and community-based services, but it is imperative that all women have access to lifesaving EOC services.⁶⁸

Ensure skilled attendance at every birth

High maternal mortality levels correlate with lack of skilled attendants at delivery. Afghanistan, Nepal, and Yemen all share MMRs of 1,400 or greater and have the lowest percentage of medical professionals attending births in the ANE region. Conversely, countries that have achieved more than 90 percent delivery coverage have MMRs near 100. Even countries with low per capita incomes, such as Vietnam and Sri Lanka, can attain attendance rates of 50 percent or greater if there is strong political commitment.⁶⁹

Incorporate TBAs into a treatment team that is linked to EOC facilities

During the early years of the SMI, a great deal of effort was expended to train TBAs in clean and safe deliveries in the belief that this would significantly limit maternal mortality and morbidity. Such an approach was logical given that the majority of women worldwide, and in much of the ANE region,⁷⁰ deliver at home, under the care of a TBA. Evaluations of these programs have, however, failed to show that TBA training alone results in a reduction of maternal deaths.⁷¹ Other projects have focused on TBAs as the first line of referral with training in sign and symptom recognition and appropriate disposition of complicated cases. Results have been mixed.⁷²

TBAs can, however, be trained to recognize and treat neonatal pneumonia, which can lead to a significant reduction in neonatal deaths. A study in Gadchiroli, India, found a 44 percent reduction in neonatal mortality in the intervention area.⁷³

Even though TBAs may not have the capacity to provide life-saving care for women, it is clear that many women prefer their services—which can include clean-

ing, cooking, and caring for other children—to those of medically trained professionals. Programs will need to incorporate TBAs into the network of other skilled providers, such as 'twinning' them with community midwives, to acknowledge and honor this consumer preference while ensuring access to the professional skills that will save women's lives. Programs in Indonesia, Myanmar, the Philippines, and Thailand that encouraged TBAs to accompany women to first-referral hospitals and sensitized hospital staff to welcome them have increased utilization.⁷⁴ In Egypt, TBAs have been reimbursed by the public sector for their referrals.⁷⁵

Community involvement is a vital component of maternal health programs

Many health care facilities are underused. This leads to inefficiencies and higher cost for public health service delivery, and negligible health improvements in the target population. There are many reasons for this apparent disinterest in what modern health care has to offer, including strong cultural norms to deliver at home even

Improving the Capacity of TBAs Myanmar's Experience

In Myanmar, TBAs are approached through a policy of inclusion. TBAs are invited to visit health facilities regularly as VIPs in order to make them feel more comfortable with the personnel and increase the likelihood that they will not hesitate to make referrals when necessary. TBA training consists of a short-term intensive course and a longer-term training whereby once each week TBAs work in local clinics for a period of 6 months.

This interaction effectively promotes a functional working relationship between TBAs and the health facility personnel. TBAs who meet certain criteria are trained to become auxiliary midwives, formal members of the health system. At the same time, newly trained community nurse midwives are deployed throughout the country.

(From *Proceedings of Safe Motherhood Asia: A 10-Country Consultation Workshop on Lessons Learned* CIDA/UNICEF, 1997)

in the face of life-threatening complications, lack of funds for transportation, medicines, and services, and perceptions that services will be unavailable on arrival or of poor quality

During the last decade, the primary programmatic response to underuse of maternal health services has been IEC and behavior change efforts. IEC campaigns can increase awareness and change attitudes toward maternal health services and may result in behavior change if they are carefully crafted for segmented audiences.⁷⁶ Such campaigns do not, however, enlist community members as participants and stakeholders. Rather, research is done in the community to obtain formative information for IEC messages and campaigns.

Addressing the issue of underuse requires a community response to make certain that solutions are culturally appropriate, feasible, and sustainable. NGOs can often facilitate entry into communities, and many have a history of working at the grassroots level. Although they are labor intensive, mobilization efforts are generally inexpensive and serve to increase community investment in improving and protecting maternal health and in demanding good-quality services. Though necessary, behavior change and communication efforts are not sufficient for involving communities.

The quality of existing services must be improved

Qualitative research at the community level has consistently shown a widespread lack of confidence in the quality of services offered at health facilities. Hospitals are characterized as death palaces or “the place you never return from” rather than as life-saving institutions. Situation analyses and training needs assessments indicate that many facilities are dirty and rundown, equipment is broken or missing, supplies and medications are out of stock, and personnel lack the skills and motivation to carry out their duties and effect a positive outcome. Add the barriers of difficult access, high cost, and disrespectful treatment to these realities and it is easy to see why many women and their families elect to stay away.

Key components of good-quality maternal health services have been identified, and various assessment methodologies are available. Some of the most important determinants of good-quality services are the fol-

Morocco Emergency Obstetric Care Project

The obstetric care activity in Morocco, sponsored by USAID and John Snow, Inc. (JSI), began as a pilot in 1995 in two regions, Fez Boulemane and Taza-al Hoceima-Taounate. The project aims primarily at ensuring that timely and appropriate treatment is available at public health facilities, training health care providers to respond appropriately to obstetric emergencies, and providing essential emergency obstetric care equipment and building upgrades. In addition to renovating the maternity wards of 7 referral hospitals, 55 lower-level health facilities were upgraded to bring essential services closer to the community, thereby increasing access in regions where, before USAID's intervention, more than 75 percent of women delivered at home. The referral hospitals provide comprehensive EOC and the lower-level facilities provide basic EOC. IEC efforts targeting the community began in 1998, once the facilities were renovated. In 30 of the sites, obstetric services are available in the community for the first time. Accomplishments to date are as follows:

- Two hundred eighty-seven health providers have been trained in basic and comprehensive EOC.
- Sixty-two health facilities have been renovated, including four new maternity wards, which will provide comprehensive EOC.
- Seventy-five thousand pregnant women now have access to EOC.
- Medical school reproductive health curricula have been revised to incorporate EOC field realities.
- Awareness of the magnitude of maternal mortality in Morocco on the part of the country's most influential decision makers has increased. For example, as a result of USAID-sponsored public information campaigns, King Hassan II declared maternal health a national priority.

lowing providers must be competent in both clinical and interpersonal skills and be available on a 24-hour basis, facilities must be open, clean, and functioning, protocols must be used for clinical case management, necessary supplies and drugs and a system to prevent stock outages must exist, essential equipment must be well maintained, health and management information systems must be functional, and operative systems for patient education, counseling, follow-up, and referral must be followed ⁷⁷

Providing good-quality services also requires community input to define what good quality means to consumers. Community notions of quality might include more than that services be accessible, affordable, and effective. Community-defined quality may indicate that female providers are available, that child health and other reproductive health services are provided at the same locale and time as maternal health services, that on-site child care is provided, that local languages are spoken, that nonharmful, traditional practices are respected and, if possible, incorporated into treatment regimens, and that patients have a range of treatment options and can be involved in clinical decision-making.

The quality of client and provider interactions is an important determinant of utilization. In Bolivia, recent qualitative research revealed that women consider respectful treatment to be of paramount importance and that condescending provider attitudes are the greatest deterrent to use of services ⁷⁸. Clearly, improving provider attitudes through interpersonal communication skills training will help to increase utilization of services.

Some program evaluations have shown that as the quality and cultural sensitivity of health services improve, utilization increases, even in the absence of an IEC or community mobilization effort ⁷⁹. Whether improvements in quality can be maintained without ongoing consumer pressure remains unclear.

The marginal costs of upgrading facilities and staff to provide EOC are not high

One of the stumbling blocks to providing EOC for all women has been donor and government reluctance to pay for facility upgrades. They cite the potential high cost and seeming contradiction with the concept of primary care espoused at Alma Ata in 1978. Operations

Upgrading Health Centers to Provide EOC

The Freetown, Sierra Leone Prevention of Maternal Mortality team found an operating theater that was not being used for lack of a structure on which to mount a lamp. The lamp itself was also sitting unused in storage. At little cost, the team installed a beam and affixed the lamp. With the purchase of a laparotomy set and other equipment, an obstetric operating theater was put into service. The team also used low-cost equipment, where possible. For example, instead of buying expensive sterilizing equipment, they purchased a kerosene stove and several large pots in which the equipment is boiled.

(From *The Design and Evaluation of Maternal Mortality Programs*. New York: Columbia University Center for Population and Family Health, School of Public Health, 1997.)

research in Ghana, Nigeria, and Sierra Leone through the Prevention of Maternal Mortality (PMM) network has shown how health centers and first-referral hospitals can be made EOC ready with minimal investment. Many facilities have existing infrastructure that can be inexpensively put back into working order. In the PMM experience, even where such capabilities did not exist, the opening of blood banks and operating rooms cost, on average, less than \$15,000 per facility, with communities often donating labor or supplies to assist with upgrades ⁸⁰. Accessible EOC can start at the community level and link to first-referral hospitals.

Other potential EOC facilities exist with sufficient staff, but are poorly managed and offer substandard care. Thus, when projecting costs, only the marginal costs of upgrading staff capabilities and operating systems should be considered. Although there have been few cost-effectiveness studies done on maternal health services, the cost of these services is not high. In many ANE countries, it is more expensive to bury a woman than it would have been to provide her with life-saving care.

Measuring program success is possible with process indicators

Although attention to maternal health by policy makers, donors, and policy implementors has been increasing over the last 10 years, ongoing monitoring of the dimensions of mortality and morbidity and the assessment of programmatic success remain problematic. It would seem rational to monitor the changes in maternal deaths—in the form of a rate or ratio—to gauge the effectiveness of interventions. However, accurate and timely statistics on maternal mortality are difficult to obtain because of underreporting, nonexistent vital registration systems, poorly kept facility records and registries, and misclassifications. Although household surveys can be used to enumerate deaths in an area, sample sizes must be very large for results to be reliable given that maternal deaths, though profound, are rare events. Such surveys are expensive and may not be a prudent use of limited funds for maternal health activities.

The use of maternal morbidity as a proxy for maternal mortality has also been proposed. It is, however, even more difficult to statistically “capture” morbidity because its enumeration depends on recognition and recall, in the case of population-based surveys, or on correct diagnosis and recording at a health care facility. Recent studies have shown that women cannot reliably recall reproductive morbidities. Their self-reports of compli-

Experts have estimated that to establish an MMR of 300 per 100,000 live births with a margin of error of 20 percent, 50,000 live births would need to be identified. This could mean visiting some 200,000 households. The cost of such a survey is prohibitive in most countries.

(From WHO and UNICEF *The Sisterhood Method for Estimating Maternal Mortality* Guidance Notes Geneva World Health Organization April 1996)

cations do not closely correlate with conditions noted in records or registries.⁸¹

It is also possible that with successful interventions, more women will survive life-threatening complications only to face long-term disabilities. In this instance, the level of morbidity would increase as mortality falls. Another suggested proxy, peri-

Prenatal Vitamin A

Maternal vitamin A deficiency is extensive in South Asia, but its health consequences and the impact of its prevention on infant and maternal health and survival are unclear. The Nepal Nutrition Intervention Project (NNIPS-2) assessed the efficacy of supplementing women of reproductive age each week with 7,000 RE (23,300 IU), as either preformed vitamin A or beta-carotene versus a placebo control, in reducing fetal, early infant, and maternal mortality. The preliminary analysis, based on more than 20,000 pregnancy outcomes, found that weekly, low-dose beta-carotene or vitamin A supplementation markedly reduced risk of pregnancy-related mortality in malnourished populations.

All-cause pregnancy-related mortality among mothers through 12 weeks postpartum for the placebo, vitamin A, and beta-carotene groups was, respectively, 713, 443, and 354 deaths per 100,000 pregnancies, yielding relative risks of 1.00, 0.62, and 0.50. By combining vitamin A and beta-carotene intervention arms, supplementation decreased pregnancy-related mortality by 44 percent.

(From *Opportunities for Micronutrient Intervention* *MicroNutrient Update* November 1997)

natal mortality, does not consistently correlate with maternal mortality and thus is not a reliable substitute, especially where the number of low-birth-weight babies is high.⁸² Therefore, process indicators, rather than impact indicators, are more suitable for monitoring and evaluating maternal health programs.⁸³

The following are some examples of frequently cited process indicators:

- Percent of pregnant women attended at least once (other variants use four visits) by trained health personnel
- Percent of births attended by medically trained personnel
- Percent of pregnant women receiving two tetanus toxoid immunizations (or iron supplements)

- Percent of women with serious obstetric complications seen at EOC facilities (the met-need for EOC)

Another proposed indicator, the maternal all-case fatality rate (CFR), measures the number of obstetric deaths divided by the number of obstetric complications managed at a given facility during a specified time period. CFR is both a process and outcome indicator and can be useful as a quality assurance tool. In developed countries, CFR is expected to be around 1 percent. CFR may, however, fluctuate widely because both the number of complications seen and deaths at one institution may be small. Also, data to calculate this indicator may be absent or of poor quality, necessitating improvements in the facility's health information system.

Appendix D lists the recommended common indicators selected by a USAID technical group for monitoring and evaluating maternal and newborn health interventions.

Facility-based maternal and perinatal audits that involve in-depth reviews of maternal deaths can identify the causes of deaths and be used to facilitate quality improvements. Audits that review all deaths of reproductive-age women in a given area, Reproductive Age Mortality Surveys (RAMOSs), can accurately capture maternal deaths but are expensive and complex, and have been used in only a handful of developing countries.⁸⁴

The inability to easily, economically, and reliably monitor the effect of a package of services at multiple levels of the health care system has made cost-effectiveness studies difficult. Governments must proceed with scant data when planning and budgeting for maternal health interventions. Yet, this dearth of cost-effectiveness data is not unique to the field of maternal health and should not jeopardize the provision of services that we know save lives. At the same time, further refinement of appropriate effectiveness indicators must continue.⁸⁵

Prenatal care should be evidence-based

Historically, the range of services provided during prenatal care has not been based on its direct association with improving maternal and newborn health and survival. An ongoing WHO multicenter trial is testing the cost-effectiveness and level of patient satisfaction with

a streamlined, four-visit prenatal care program versus a traditional regimen. When available, this information will be extremely useful for developing rational prenatal care programs.

Once EOC services are functioning, prenatal care can provide a forum where evidence-based interventions are administered. Such interventions include the following:

- Counseling on birth preparedness, including recognition of danger signs and symptoms and plans for gaining access to EOC
- Tetanus toxoid administration
- Iron folate distribution and nutrition counseling
- Detection and treatment of hypertensive disorders associated with pregnancy
- Detection and treatment of urinary tract infections
- Diagnosis and treatment of syphilis in high-prevalence areas
- Counseling on postpartum care of the newborn, including warming, hygiene, and early initiation of exclusive breastfeeding
- Counseling on postpartum family planning, including the lactational amenorrhea method
- Iodine supplementation in low-iodine endemic areas (goiter rates in ANE >25 percent in Nepal and Indonesia, <15 percent in Bangladesh, Cambodia, and India—UNICEF 1997)
- Malaria prophylaxis and antihelminthic treatment in endemic areas
- Late visit to determine lie of the fetus

Other promising interventions that require further testing include the following:

- Prepartum, low-dose vitamin A supplementation
- Distribution of safe-birthing kits
- Diagnosis and treatment of additional STIs

Quality postabortion care saves lives

Regardless of the legal status of abortion, quality postabortion care must be available to all pregnant women, as the consequences of unsafe abortion or miscarriage can be serious. The right to postabortion services was mandated in both the ICPD's Programme of Action and the Fourth World Conference on Women's Platform for Action.

Midwives Providing Postabortion Care in Ghana

The Ghana MotherCare/IPAS Project to train midwives in postabortion care began by assessing existing postabortion care services. Midwives working in public health centers and private maternity homes, and physicians and midwives working in district hospitals, were trained together in week-long sessions.

Before postabortion care training, midwives could only refer women to a nearby hospital. Currently, trained midwives are successfully treating women locally who suffer from abortion complications, including incomplete abortions. The result is that life-saving therapy can be provided more conveniently and cost-effectively. Midwives are also providing family planning counseling and methods and referrals for other reproductive health problems. Political and community support is strong, and midwives report greater confidence in their clinical abilities.

General recommendations from the project are the following:

- Identify postabortion care as an important component of comprehensive reproductive health services and incorporate the decentralization of postabortion care to midwives and other nonphysician providers into national policies and training programs.
- Use operations research as a means to incorporate the perspectives of policy makers, physicians, midwives, and women into new policies, protocols, and training programs.
- Train midwives working at the primary level and physicians working in district hospitals together to initiate and strengthen referral mechanisms between these two levels of care.
- Devise ways for midwives at the primary level to gain supervised clinical practice.
- Ensure that monitoring support visits take place with all trained providers, and provide refresher training as necessary.

(From *MotherCare Matters*, Vol 6, No 4, October 1997 Special Edition)

Postabortion care includes family planning counseling and services and referral to other reproductive health services. Postabortion complications can also be treated by manual vacuum aspiration, a safe, low-cost method to treat postabortion complications that can be performed by nonphysician providers at peripheral service delivery sites. Treatment does not require general anesthesia or hospital admission. Costs are lower, outcomes are better, and patient satisfaction is higher than with dilation and curettage, the traditional method for managing incomplete abortions.⁸⁶

IV. Challenges and Opportunities

1. To ensure lasting benefits, the position, as well as the condition, of women in the region must be improved. Initiatives that form partnerships with other sectors, such as education, agriculture, or microenterprise schemes, will reap synergistic benefits while helping to remove the structural impediments to improving and protecting maternal health. Such linkages should be encouraged and supported.

Nepal Mission Strategic Objective for Women's Empowerment

The Mission and its partners are at the forefront of promoting increased women's empowerment. Community-based educational, economic, and advocacy initiatives have increased women's influence over decision-making in their households and communities and increased the number of women organizing to effect positive social change in their communities. In 1997, more than 200,000 women learned to read, write, and count through basic literacy programs, 41,000 of those who acquired basic literacy skills also learned about their legal rights in postliteracy classes, and almost 1,000 advocacy groups were formed to enable women to advocate for their rights and for positive social change. In addition, 23,000 women are now active account holders in saving and credit groups and development banks, 20,300 have taken a first or second loan, and more than 5,600 women either started or expanded microenterprises.

(From USAID Nepal Mission R4 FY 2000)

In most ANE countries, given the strong preference for male children and cultural patterns that reinforce gender inequities, expanding options for women will require that programs emphasize involving males—husbands, community leaders, community elders, and others

2 Some governments in the region have not yet fully embraced improving and protecting maternal health as a health and development priority worthy of substantial attention and funding USAID advocacy for this issue continues to be of critical importance

Governments should be encouraged to form maternal health coalitions if none exist or to expand the base of existing groups to include representatives from ministries of health, ministries of education, professional societies, private sector health care providers, trade unions, NGOs, and women's groups⁸⁷ Although large coalitions are more unwieldy and require strong leadership to ensure that all opinions are aired, the broader the base, the more inclusive and sustainable the response will be Safe Motherhood campaigns sponsored by multisectoral coalitions can inexpensively reach critical masses of people

Governments must also devise ways of regulating the performance of health providers and facilities, both public and private Performance regulation could include setting standards for licensure and relicensure, accreditation, endorsements, and financial incentives USAID Missions are well positioned to encourage these efforts

3 Low utilization rates of public health services require that greater attention be focused on the demand side of the health and development equation to ensure community support and participation

Households and community members must be trained to recognize complications of pregnancy and enabled to devise appropriate responses, such as ensuring transportation through various schemes or providing up-front funds for medical costs The Missions could work with NGO partners or through existing community-level structures, such as the Panchayati Raj in India or PKK in Indonesia, to effect this

4 Many basic EOC services can be provided safely at the periphery by general practitioners, midwives, or trained auxiliary nurses Policies that hamper the

Nepal Safe Motherhood Network

In 1996, the Centre for Development and Population Activities (CEDPA) began to integrate concepts of safe motherhood into its family planning program through the introduction of the Clean Delivery Kit To enhance community awareness of the importance of clean delivery and general maternal health issues, CEDPA and 10 other international NGOs and donor agencies planned and implemented National Clean Delivery Day, which was held on International Women's Day in 1996 The Prime Minister's wife, Arzu Rana, agreed to be the honorary chair and hosted the lead event in Patan, a suburb of Kathmandu The event used a festive approach with music, street drama, and even an elephant wearing a safe motherhood message! More than 30 of the 75 districts in Nepal were informed, a real accomplishment in a country where information dissemination to rural communities is difficult By working as a coalition, CEDPA and NGOs coordinated messages and sent them to the most remote sections of the country

The trust and enthusiasm generated by the process stimulated the formation of the Safe Motherhood Network Members now include more than 60 NGOs and government agencies By the second year of the event, the government had launched its Safe Motherhood Initiative and participated in Network events and meetings The 1997 Safe Motherhood Day theme was 'safe pregnancy as the responsibility of the family' In 1998, the event focused on postpartum care issues, reaching nearly all of the 75 districts

rational use of health care personnel must be addressed This may require greater efforts to work with ministries of health and professional organizations

Many operating theaters are underused because anesthesiologists are unavailable Operations research should be funded to test the acceptability and effectiveness of nurse anesthetists at first-referral centers This may require training the existing cadre of nurses in basic anesthesia

5 More than is the case with other health problems, maternal health interventions must prioritize referral links among communities, health centers, and first-referral hospitals and must emphasize a systems/team approach with a woman-centered orientation

Examples of a systems approach are “Mother-Friendly (Family-Friendly) Hospitals” at a district level that are held accountable for providing good-quality maternal care within the EOC facilities themselves and are also responsible for outreach into their catchment areas. Outreach activities might include ongoing supervision of TBAs and community midwives, sponsoring TBA and family tours of the facilities, organizing community educational programs, collaborating with professional organizations to provide continuing medical education, initiating and administering maternal and perinatal death audits, and reporting maternal deaths to the next administrative level

6 Program activities for the postpartum period have either been neglected or focused primarily on family planning and child survival around the fortieth day. Several ANE countries have existing postpartum programs that could be expanded to include early maternal surveillance during the “neopartum” period (within 24 hours of delivery and periodically during the first 2 weeks) and facilitate access to EOC

7 Programs have often cited client noncompliance as the chief impediment to improving maternal anemia, yet research has shown that women will take iron folate tablets if the formulation (i.e., coating, size, and color) and packaging are attractive, and if supplies are available.⁸⁸ Programs must guarantee that women have access to the full WHO-recommended course of iron folate during pregnancy (60 mg of elemental iron and 250 micrograms of folate daily during the last two trimesters) either through prenatal care or community-based distribution efforts, with the goal of extending such distribution to all reproductive-age women in areas where anemia is endemic. Distribution programs at schools, places of employment, or linked with marriage registration, such as in Indonesia, have shown promise. Iron deficiency anemia, often exacerbated by malaria or hookworm infestation, contributes significantly to maternal health risk and poor birth outcomes in the region

Sfax Postpartum Program

The first truly successful, comprehensive postpartum program began in 1983 in Sfax, the second largest city in Tunisia (pop. 400,000), as a collaboration between the University Teaching Hospital and the Maternal and Neonatal Hospital. To promote well-baby care and family planning, this innovative program treated a mother and infant as a synergistic pair (the “couple mère-enfant”). The mother and infant together were scheduled for a follow-up visit at the hospital 40 days postpartum. The program immediately proved to be very successful in getting women to return for follow-up care, and by 1987, 83 percent of women who had delivered at the Sfax Maternity Hospital that year returned for their postpartum visit (compared with 60 percent in 1983). Of those women who returned, 56 percent accepted a family planning method. Two factors were most responsible for this success:

- The appointment was for both the mother and child, for whom services were provided at the same time and the same place, and
- The appointment at 40 days postpartum respected the cultural and religious significance of this day for the Tunisian mother and child

8 All attempts should be made to establish competency-based EOC training in medical, midwifery, and nursing schools. Curricula should be developed from nationally adopted treatment protocols. Remedial in-service training cannot develop the knowledge and skills that are necessary to maintain quality without costly retraining. This does not imply that continuing medical education is unnecessary, but rather that fundamental knowledge and basic clinical skills must be imparted during preservice training. To facilitate this objective, competency-based training programs should be carried out in close coordination with training institutions and relevant ministries

USAID should also support programs that recruit, train, and deploy women physicians and midwives, acknowledging that many women in the region can or will use emergency care only from women providers. This will require policy work at the highest levels, across government sectors and professional societies

9 Encourage the use of maternal and perinatal death audits in districts This intervention, if correctly implemented, can accomplish several objectives As a policy intervention, audits focus attention on maternal deaths, as a fact-finding effort, they help to enumerate the problem, and as a quality assurance tool, they provide a mechanism for improving performance and outcomes To accomplish these objectives audits must be conducted in a nonaccusatory fashion

10 Programs that support the availability of manual vacuum aspiration as a life-saving intervention for postabortion care should be encouraged and supported Manual vacuum aspiration is one way to bring quality postabortion care for unsafe abortions and miscarriages to the periphery at low cost and with high patient satisfaction Studies confirm, however, that dilation and curettage continues to be the preferred method of treatment in the region⁸⁹

11 Support the use of the *Guidelines for Monitoring the Availability and Use of Obstetric Services*⁹⁰ in as many countries as possible as a critical first step in

Egypt Maternal Mortality Audits

The Government of Egypt joined the Safe Motherhood Initiative in 1990 and pledged to decrease the number of maternal deaths, then unknown The government undertook a country-wide maternal audit in 1992–93 to understand the magnitude of the problem Committees of specialist physicians were formed in all governorates to investigate the causes of maternal deaths

The medical specialists reviewed a nationally representative sample of maternal deaths, identified through the vital registration system, at governorate and central levels Among the leading avoidable factors contributing to maternal deaths were delay in seeking care (42 percent) and substandard care provided by obstetricians (47 percent)

(From *Lessons Learnt A decade of measuring the impact of safe motherhood programmes*, London School of Hygiene and Tropical Medicine, 1997)

National Program to Expand Community Midwifery Training in Yemen

A 3-month training-of-trainers (TOT) course was concluded in March 1997 It was the first major activity in the National Program to Expand Community Midwifery Training in Yemen Fifty-one community midwife trainers graduated These 51 trainers are currently working at 27 sites selected for training community midwives in 17 governorates

The 18-month performance-based curriculum requires trainers to use the training approach they learned during the TOT course It focuses on teaching the skills necessary for midwifery practice in Yemen and contains 81 checklists as well as 11 practical guides to assist trainers in teaching the community midwives and assessing their job performance

The curriculum contains six units Community Health and Nursing Principles, Antenatal Care, Labor and Delivery, Care of the Mother During the Puerperium, Family Planning and Common Gynecological Diseases, Child Care, and Management and Supervision This curriculum was needed to implement the National Training Program because there was no unified performance-based curriculum available in Yemen

(From *PRIME/INTRAH Trip Report #P-391*, Yvonne Sidhom)

assessing a country's EOC readiness There are often vast differences in EOC capability and utilization between urban and rural areas within a given country Information garnered from the guidelines will help policy makers and program specialists develop strategies that are locale-specific

12 Whereas it is imperative for program specialists to keep records of costs, including employee-equivalent salaries for volunteers and in-kind contributions, it will be difficult to calculate cost-effectiveness for multifaceted packages of services and programs that are implemented at multiple service-delivery levels Various components such as drug delivery, use of alternate practitioners, or use of streamlined prenatal care may be more

rigorously studied. Such work is ongoing in Egypt and Indonesia. While we are learning more about the cost-effectiveness of programs, we must not let our lack of definitive data rationalize inaction, nor should programs prioritize such research over implementation. Based on their use in developed countries, we know that the therapies needed to save women's lives are effective and low cost, and should not be held hostage to a research agenda.

13 In this era of shrinking budgets for health and development work, USAID needs to forge strong programmatic ties with other donors to ensure that ample attention and funding are directed to maternal health and to avoid redundancies. Such alliances will garner more than additive benefits. Similarly, all USAID-funded PHN programs in a given ANE country should coordinate their yearly work plans to decrease the Mission management burden and rationalize the use of finite program funds.

The ANE and Global Bureaus should also encourage all implementors to use, at a minimum, some common maternal health indicators so that comparisons can be made among projects and results can be aggregated. Process indicators, such as increased utili-

zation of EOC services by women with complications, should be used rather than outcome indicators. Compiling accurate data for these indicators will require a programmatic focus on improving health information systems. (See Appendix C.)

14 Research should continue on the effect of prenatal vitamin A supplementation on birth outcomes, of birthing kits on postpartum infections, of new STI diagnostics and treatment on birth outcomes, and of inject oxytocin and oral uterotonics (such as mifepristone) on active management of the third stage of labor and on postpartum hemorrhage.

Operations research is needed at all levels of service delivery. Models such as WHO's Mother-Baby Package or PMM's multidisciplinary team approach should be further tested to assess their cost and practicality on a larger scale. In addition, conducting research on the nature and extent of reproductive morbidities would expand the present knowledge base and facilitate strategic planning for increasing and improving maternal health services.

Lessons Learned

In sum, the lessons of a decade have taught us that a mixture of interventions focusing on the woman, her family and community, and the health care system are needed to significantly impact maternal and newborn mortality and morbidity. Successful interventions that are ready for replication or scaling up in the ANE region include the following:

- Ensuring trained attendance at birth through physician and midwifery training, deployment to peripheral sites, and coordination between the levels of care, as guided by protocols
- Improving the EOC capabilities of a) providers, through competency-based training based on national standards and protocols, and b) facilities, through low-cost upgrades and improved health management information systems
- Raising awareness and educating communities about maternal health issues to build commitment to safeguarding women's lives and to organize sustainable emergency responses, including transportation, assistance with service and drug fees, and blood donations

Postabortion Care Services

JHPIEGO helped to establish a model postabortion care service and training program at Maternity Hospital in Kathmandu. The goal of the postabortion care initiative is to reduce levels of maternal mortality and morbidity stemming from complications of unsafe abortion by providing safe outpatient treatment using manual vacuum aspiration. Postabortion care also includes family planning counseling and services, and referral for other reproductive health needs.

During its first 6 months of operation, the unit reduced length of stay, reduced the number of operations performed under general anesthesia, and resulted in a family planning acceptance rate of 70 percent. It is serving as a model for the development of postabortion care programs in seven countries in 1997-99.

ICDDR,B/Matlab Maternal Health Project

For the last 10 years, the Maternal Health Project has been providing some useful lessons on how to reduce the number of maternal deaths. Government-trained nurse midwives were recruited to provide prenatal care, home deliveries, and postpartum care, identify complications related to pregnancy, treat complications when possible and refer the rest, organize referrals and accompany patients to the Matlab central clinic providing basic EOC with a female physician available 24 hours a day, work with community health workers who would identify pregnant women and call the midwives when they are needed, and provide practical training to TBAs. In the Matlab model, efficient referral linkage was an important element. Boat operators were available to transport emergency cases within an hour to the government hospital that could provide comprehensive EOC.

There was a 50 percent drop in the number of maternal deaths over a 3-year period. Eighteen percent of complicated cases were referred to health facilities. Mortality was also reduced in a comparison area located closer to the referral hospital.

- Training women, families, and TBAs in birth preparedness, self-care, and newborn care, including early and exclusive breastfeeding
- Providing evidence-based prenatal services and postnatal follow-up
- Distributing iron folate tablets, designed for consumer appeal, through reliable distribution and supply mechanisms, including through the commercial sector
- Diagnosing and treating syphilis during prenatal care
- Bringing manual vacuum aspiration for postabortion care and other appropriate technologies to the periphery
- Establishing no-fault maternal and perinatal audits at district levels
- Establishing maternal health coalitions as advocacy groups at the national level
- Strengthening the ability of professional organizations to provide continuing medical education and monitor the performance of their members

V. Conclusion

The ANE and Global Bureaus have a unique opportunity to significantly impact the global magnitude of maternal mortality and morbidity given the high burden of disease in the region. More than half of maternal deaths worldwide could be prevented if USAID, along with its partners in health and development, succeed in addressing the problems of maternal mortality and morbidity in a more focused, sustained, and robust way.

Aided by the Global Bureau's maternal health strategy and the information and tools in this report, the ANE Bureau could consider developing a strategic plan for improving and protecting maternal and neonatal health in the region. Such a consideration would be a logical next step, but it should be taken only with the active involvement of field Missions as primary stakeholders. Any strategic plan should be jointly crafted with the PHN Center and involved Missions, and should be well conceived, adequately funded, and politically supported if it is to carry the moral force necessary for ending the needless death and suffering of countless women.

In developing such a strategic plan, goals and objectives must not have an exclusively technical focus. USAID should never lose sight of the most fundamental objective of all health and development work in maternal health: Women themselves must feel empowered and entitled to survive pregnancy and childbirth in good health. Women in the ANE region must be strongly supported to find their collective voice to proclaim, "We will not die!"

VI. Subregional and Country Fact Sheets

Data for the subregional and country fact sheets come from a variety of sources, including USAID field Missions. Attempts have been made to use a standard (single) source for a given indicator across countries. For example, the MMRs and lifetime risk (LTR) statistics in the report come from WHO/UNICEF's *1990 Revised Estimates*. For the cases in which MMR and LTR data from USAID field Missions differ from the standard source, a footnote has been added, as these differences may have implications for program development. Indicators have been drawn, in most cases, from the following data sources:

Demographic and Health Surveys

- Infant Mortality Rate
- Tetanus Toxoid
- Contraceptive Prevalence Rate
- Most Common Method
- Unmet Need for Family Planning
- Total Fertility Rate
- Prenatal Care
- Skilled Attendance at Delivery
- Median Age at First Marriage
- Median Age at First Birth
- Adult Literacy

Population Reference Bureau

- Female Population
- Women 15 to 49
- Percent Urban
- Female-Headed Households

United Nations

- Maternal Mortality Ratio
- Infant/Perinatal Mortality Rates

United Nations Population Division

- Sex Ratio

UNDP—Human Development Report

- Earned Income Share
- Per Capita Income

UNICEF—State of the World's Children

- Annual Number of Births
- Adult Literacy
- Secondary School Enrollment

South Asia

Bangladesh • India Nepal • Pakistan

Women in South Asia suffer the effects of extreme gender discrimination. The Gender Development Index—a measure of gender disparities in human development—for South Asia is 24 percent lower than the average for the rest of the world, and the Gender Empowerment Measure—which examines access to social, political, and economic opportunities—stands at 0.23, the lowest in the world.

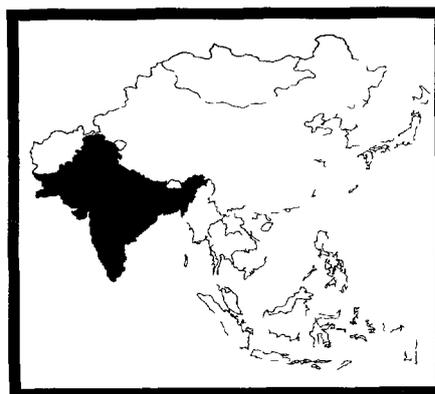


Photo by USAID

Son preference is strongest in this subregion, where males outnumber females by a ratio of 100 to 94. It has been estimated that about 4.5 million South Asian women are 'missing,' and that one in six female infant deaths in Pakistan, India, and Bangladesh is caused by discrimination and neglect.⁹¹

South Asian women are among the least likely of all the world's women to receive prenatal, delivery, or postpartum care. Only 52 percent receive prenatal care, 34 percent have skilled attendance at delivery, and 26 percent deliver in a health facility. Statistics enumerate the harsh consequences of such neglect: MMRs in this subregion are the highest in the region and, not surprisingly, among the highest in the world. Although contributing 28 percent of the world's births, India, Bangladesh, and Pakistan account for 46 percent of global maternal deaths.⁹² WHO estimates that 6 million unsafe abortions—one-third of the world total—take place each year in South Asia.⁹³

South Asia has the highest percentage of growth stunting and anemia in women of any region in the world. Women typically consume 500 to 700 fewer calories



than the daily recommended allowance, and many are chronically energy deficient. This is not solely a reflection of poverty but of cultural practices that mandate that women eat after men. Low iron and

vitamin C intake coupled with high tea intake results in poor iron absorption and consequent anemia, accentuated by parasitosis. The vast majority of women in South Asia are anemic, more than 80 percent of pregnant women in India are so.

There are areas in South Asia (Nepal-India, Bangladesh-India) where there is substantial cross-border or within-country trafficking in young girls for prostitution, an illicit practice that violates human rights and increases health risks.

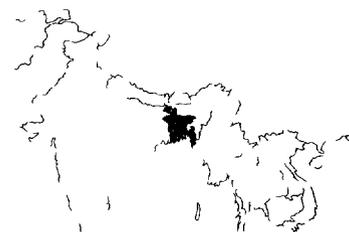
Women's Health Indicators in South Asia

| | |
|-----------------------------------|---------|
| Life Expectancy | 61 |
| MMR | 560 |
| LTR | 1 in 35 |
| TFR | 4.2 |
| CPR | 39% |
| Labor Force Participation | 30% |
| Mean Years of Schooling | 1.2 |
| Enrollment Rate in Primary School | 43% |
| Literacy Rate | 34% |

(Source: *Women's Health in Pakistan*, UNICEF 1997)

To be effective, maternal health programs must address gender discrimination through programming that empowers women and by linking with other sectors. Emphasis must be placed on improving girls' and women's nutrition and education, on enforcing age-of-marriage and dowry laws, on increasing the number of female providers, and on bringing services to women.

Bangladesh



Country Profile

Bangladesh has a population of approximately 125 million and is one of the most economically disadvantaged countries in the world. Agriculture dominates the nation's economy, accounting for 30 percent of the gross domestic product, and provides employment to 64 percent of the workforce. Sixty-six percent of women are in the labor force, 74 percent of these are in agriculture. Literacy rates for women are only 26 percent. About 13 percent of girls and 25 percent of boys are enrolled in secondary school. Only 2.4 percent of the gross domestic product is spent on health. Life expectancy for women equals that of men, suggesting that differential treatment has negated the expected biological advantage of females.

Maternal Health

Although child mortality has fallen by almost half and TFR by one-third in the past 20 years, maternal mortality remains unchanged. A woman's lifetime risk of dying from pregnancy or childbirth is 1 in 21. Only 16 percent of deliveries are assisted by a trained provider. More than half of all babies are born with low birth weight, indicating that pregnant women are not receiving adequate nutrition. Insufficient dietary intake of nutrients such as vitamin A, iron, and iodine remains widespread in Bangladesh. Anemia affects an astounding 99 percent of pregnant women. Gender discrimination also places girls and women at a health disadvantage before pregnancy because they have unequal access to food and health services.

Menstrual regulation is permitted up to 10 weeks after conception.

Demography

| | |
|---------------------------------|------------------------------------|
| Female Population (millions) | 60.5 |
| Women 15–49 (millions) | 32.2 |
| Urban | 19% |
| Female-Headed Households | 9% |
| Life Expectancy (M/F) | 58/58 years |
| Annual No. of Births (millions) | 3.6 |
| Births to Adolescents | 15% |
| Sex Ratio (M per 100 F) | 105 |
| Perinatal Mortality | 85 deaths per 1,000 live births |
| Earned Income Share (M/F) | 76.9%/23.1% |
| Per Capita Income | \$240 |

| | |
|------------------------------|------|
| Legal Age for Marriage | 18 |
| Median Age at First Marriage | 14.2 |

Reproductive Health

| | |
|--------------------------------|--|
| Maternal Mortality | 850* deaths per 100,000 live births |
| Lifetime Risk (1 in) | 21 |
| Contraceptive Prevalence | 49% |
| Most Common Method | Oral contraceptives |
| Unmet Need for Family Planning | 16% |
| Total Fertility Rate | 3.3 children per woman |
| Prenatal Care | 29% |
| Tetanus Toxoid | 72% of women |
| Skilled Attendance at Delivery | 16% |
| Anemia in Pregnant Women | 99% |
| Median Age at First Birth | 17.4 |
| HIV Prevalence (Adults) | 0.03% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 49%/26% |
| Secondary School Enrollment (M/F) | 24%/13% |

*The Mission reports an MMR of 450 per 100,000, which, with a total fertility rate of 3.3, would result in a lifetime risk of mortality of 1 in 67.

USAID Health and Population Strategy

In 1997, USAID launched a new strategy using an integrated approach to family planning and family health. The strategy focuses on the following:

- Increasing the use of high-impact family health services in target populations
- Increasing the capabilities of individuals, families, and communities to protect and provide for their own health
- Improving the quality of information, services, products, and customer satisfaction
- Strengthening local service delivery organizations and support systems for family health services
- Improving the sustainability of family health services and support systems

USAID Maternal Health Focus

The USAID program is emphasizing, in particular, improved antenatal and postnatal care, including tetanus toxoid immunizations, improved knowledge and response to danger signs and emergency situations, and birth preparedness. There are two indicators for maternal health: pregnancies attended by trained providers, and tetanus toxoid vaccination coverage of pregnant women.

Maternal Health Activities

Government Collaborative Programs

The Government of Bangladesh has undertaken several programs that are designed to improve maternal health and is working with a number of agencies in support of other initiatives. For example, the government has initiated the Health and Population Sector Program with the World Bank and other agencies. Among other things, MCH kits are distributed through this program and TBA training is provided.

UNICEF/World Bank In cooperation with UNICEF and the World Bank, the government has initiated a nutrition program.

UNICEF/Ob/Gyn Society of Bangladesh This project targets the staff of 64 district hospitals for mentoring by medical college obstetric faculty. (See highlight, page 20.)

European Union (EU) With support from the EU, the government has initiated the Thana Functional Improvement Pilot Project.

UNFPA MCH and EOC services are being strengthened through this program.

WHO With support from WHO, the government has initiated an intensified PHN project and the Maternal and Neonatal Health Pilot Project.

USAID Collaborative Programs

USAID is cooperating with the Government of Bangladesh and several local and international NGOs and PVOs on the following initiatives:

AVSC The Quality Improvement Partnership project involves upgrading standards and training for maternal health, especially for antenatal and postnatal care.

OMNI Project This micronutrient project is designed to address malnutrition issues in the country.

PATH Carried out by the Concerned Women for Family Planning, the project combines reproductive health information with participation in small credit groups.

PATHFINDER The rural Service Delivery Partnership project delivers an essential services package to rural families.

JSI The Urban Family Health Partnership project delivers an essential services package to urban families.

Bangladesh Institute of Research for Promotion of Essential and Reproductive Health Technology The institute is conducting a study designed to focus on maternal mortality as part of the Maternal Morbidity Network.

Save the Children This comprehensive maternal health project is known as MotherCare.

The Population Council The council has initiated various programs that include safe motherhood, preventing the consequences of unsafe abortion, and new approaches to postpartum care.

Other

Other PVOs/NGOs involved in maternal health issues include BAVS, Lamb Hospital, Kumudini Hospital, Grameen Bank Health Project, and the Red Crescent Society.

BRAC This project supports multisectoral projects with an emphasis on women's empowerment.

ICDDR,B Matlab Maternal Health Project This project deploys nurse midwives to the periphery and provides basic EOC from a female physician at a central clinic 24 hours a day. (See highlight, page 31.)



Country Profile

With nearly a billion people, India is the world's largest democracy and contains one-sixth of the world's population. At its current growth rate, India's population will reach 1.6 billion and surpass that of China by the middle of the next century. India has the world's greatest concentration of poor people, with a per capita income of \$340 and more than 400 million people living in poverty. One-third of its population lacks adequate food. The number of Indians estimated to be HIV positive is between 3 and 5 million. India spends 3.5 percent of its gross domestic product on health.

Forty-one percent of women are in the labor force, 74 percent of these in agriculture. The literacy rate is 38 percent for women, 66 percent for men. About 38 percent of girls and 59 percent of boys are enrolled in secondary school.

Maternal Health

India represents 16 percent of the world's population and contributes 25 percent to 40 percent of global maternal deaths. There are more than 125,000 maternal and 2.7 million infant and child deaths each year, with 4.5 million women suffering from pregnancy-related complications. The ratio of severe maternal morbidity to mortality in India is 100 to 1. Skilled medical professionals attend only 34 percent of births. Abortion is legal. Unsafe abortion is a major contributor to maternal mortality. It is estimated that 80 percent of all abortions in India are performed by unqualified providers.

More than 50 percent of all women and 80 percent of pregnant women in India are anemic, making iron deficiency anemia (IDA) the most prevalent nutritional deficiency. IDA has been identified as a major contributor to maternal mortality, causing up to 20 percent of deaths. Women who are anemic also suffer three to four times the morbidity of nonanemic women.

Protein/calorie malnutrition is also common. One-third of all babies born are low birth weight, reflecting poor maternal nutritional status. Gender-based disparities in feeding are common. Boys are more likely to be given fatty foods and dairy products, girls are four times more likely to suffer from malnutrition and 40

times less likely to be taken to the hospital (UNFPA 1992).

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 471.5 |
| Women 15-49 (millions) | 241.4 |
| Urban | 27% |
| Female Headed Households | 9% |
| Life Expectancy (M/F) | 59/59 years |
| Annual No. of Births (millions) | 24.4 |
| Births to Adolescents | 7% |
| Sex Ratio (M per 100 F) | 107 |
| Perinatal Mortality | 65 deaths per 1,000 births |
| Earned Income Share (M/F) | 74.3%/25.7% |
| Per Capita Income | \$340 |
| Legal Age for Marriage | 18 |
| Median Age at First Marriage | 16.1 |

Reproductive Health

| | |
|--------------------------------|--------------------------------|
| Maternal Mortality | 570* deaths per 100,000 births |
| Lifetime Risk (1 in) | 37 |
| Contraceptive Prevalence | 41% |
| Most Common Method | Female sterilization |
| Unmet Need for Family Planning | 18% |
| Total Fertility Rate | 3.2 children per woman |
| Prenatal Care | 49% |
| Tetanus Toxoid | 78% of women |
| Skilled Attendance at Delivery | 34% |
| Anemia in Pregnant Women | 80% |
| Median Age at First Birth | 19.4 |
| HIV Prevalence (Adults) | 0.82% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 66%/38% |
| Secondary School Enrollment (M/F) | 59%/38% |

*The Mission reports an MMR per 100,000 of 437, which, with a total fertility rate of 3.2, would result in a lifetime risk of mortality of 1 in 72.

USAID Health Strategy

USAID's health strategy for maternal health seeks to do the following

- Improve the quality of and access to family planning and reproductive health services and information in Uttar Pradesh, India's most populous state,
- In conjunction with health and nutrition education, improve MCH by delivering daily food supplements, to pregnant and lactating mothers in northern areas

USAID Maternal Health Focus

The Mission's strategic plan has the following indicators related to maternal health: births attended, iron supplementation, maternal nutrition, and percent of pregnant women receiving antenatal care services. In 1996, \$2.67 million was spent on maternal health activities.

Maternal Health Activities

Government Collaborative Programs

Government of India (GOI) The Family Welfare Programme aims to improve maternal health through various projects such as the Child Survival and Safe Motherhood program, schemes to eradicate anemia in pregnant women, and training of TBAs.

GOI/World Bank/UNICEF/SIDA Child Survival and Safe Motherhood Initiative (CSSM) 1992–96 program components included training of TBAs, anemia prophylaxis, establishment of subdistrict first-referral units, increased quality and coverage of antenatal care, emphasis on referral mechanisms, promotion of institutional delivery, and encouragement of birth spacing.

GOI/World Bank/European Union/UNICEF/DANIDA/DFID/UNFPA Reproductive and Child Health project The project, a follow-on to CSSM, will include components on STIs and RTIs. The World Bank credit is the largest support undertaken by the Bank or any other development agency for follow-up to the ICPD.

World Bank/SIDA/The Population Council Safe Motherhood Operations Research This project aims to increase knowledge of cost-effective strategies and specific interventions in reducing maternal morbidity and mortality.

USAID Collaborative Programs

USAID The OMNI project is providing technical assistance to implement sustainable, community-level projects for improving the nutritional status of target populations and to support the GOI's micronutrient goals.

CARE Maternal and Child Health Program The Integrated Nutrition and Health program targets an estimated 6.6 million women of childbearing age and children under 2, especially girls.

CARE Adolescent Girl's Health project is designed to address the reproductive health needs of nearly 32,000 adolescent girls, both married and unmarried, living in the slums of Japalpur City in Madhya Pradesh.

CARE Improving Women's Health in Urban Slums, Allahabad (Uttar Pradesh)

USAID/Johns Hopkins University Population Communication Services project The project's goal is to improve reproductive health through sustainable IEC activities.

IAEA Collaboration to Reduce Iron Deficiency This project focuses on improving knowledge about iron bioavailability in local meals and foodstuffs. **Initiatives for Eliminating Vitamin A Deficiency** This program addresses problems of vitamin A nutrition in children and pregnant or lactating women with a special emphasis on dietary improvement.

USAID/INTRAH/ACNM The PRIME project—Ob First Aid This project aims to improve maternal health by training families and TBAs in obstetrical first aid using a participatory, community-level, problem-solving methodology called the Community Action Cycle.

PERFORM A Safe Motherhood Model for Uttar Pradesh, PERFORM is a policy tool designed for use by those whose work is to apportion the resources available for medical care coverage provided to women during three states of reproduction: antenatal, delivery, postpartum.

USAID/MotherCare PVOH II project MotherCare is providing NGOs with state-of-the-art workshops on maternal health, conducting qualitative research on STIs, and funding four NGOs (SWACH, St. John's Medical

College, RUHSA, and Baroda Citizen s Council) to implement anemia control projects

SWACH This maternal health project includes use of home-based maternity care records, deploying nurse midwives to villages, general practitioner training on obstetric complication management at district hospitals, strengthening of the midwives association, and establishing a continuing medical education system

Jawaharhalal Institution of Postgraduate Medical Education and Research This institution is performing a population-based study of maternal morbidity as part of the Maternal Morbidity Network

USAID National Family Health Survey

Nepal



Country Profile

Nepal has an estimated population of 22 million people. Seven centuries of authoritarian rule ended in 1990 with the establishment of a constitutional monarchy and a multiparty system. Agriculture is the primary occupation for 80 percent of the population. Women comprise 40 percent of the adult labor force, their earned income share is about 33 percent. Annual per capita income is estimated to be \$200. The adult female literacy rate is only 21 percent. About 50 percent of girls and 75 percent of boys are enrolled in secondary school. Nepal spends 5 percent of its gross domestic product on health.

Maternal Health

Nepal has some of the worst maternal health indicators in the world. Only 10 percent of all births are attended by trained personnel, and 92 percent of births take place at home. At 1,500 per 100,000, Nepal's MMR is one of the highest in the world, a woman's lifetime risk of dying from pregnancy or childbirth is 1 in 10. Studies estimate that 15 to 30 percent of maternal mortality can be attributed to the complications of incomplete, spontaneous, or unsafe abortion, with abortion-related complications the leading diagnosis for hospital admissions. Tuberculosis (TB) is becoming increasingly common, and girls trafficked to India for prostitution return suffering from HIV/AIDS and TB. The average life expectancy for women is only 54 years.

Micronutrient malnutrition leads to tens of thousands of needless disabilities and deaths each year. Vitamin A deficiency results in night blindness, which affects 16 to 52 percent of all women during pregnancy. Iron deficiency anemia is an extremely serious problem, population-based studies in the Terai show 86 percent of pregnant women to be anemic, 8 percent severely so. In addition to low consumption and poor absorption of iron, hookworm infestation is a likely contributor to anemia. Iodine deficiency affects an estimated 10 million Nepalese.

The Government of Nepal's (GON's) National Safe Motherhood Action plan includes participation in a Safe Motherhood Intersectoral Coordination Committee, strengthening, upgrading, and equipping district hospitals to function as the first-referral level for obstetric emergencies, and training of physicians, nurses, and

auxiliary nurse midwives. National Maternity Care Guidelines have been developed.

Demography

| | |
|---------------------------------|-----------------------------|
| Female Population (millions) | 11.4 |
| Women 15-49 (millions) | 5.4 |
| Urban | 9% |
| Female-Headed Households | 12% |
| Life Expectancy (M/F) | 53/54 years |
| Annual No. of Births (millions) | 0.77 |
| Births to Adolescents | 19% |
| Sex Ratio (M per 100 F) | 103 |
| Perinatal Mortality | 75 deaths per 1,000 births |
| Earned Income Share (M/F) | 67%/33% |
| Per Capita Income | \$200 |
| Legal Age for Marriage | 16 with consent, 18 without |
| Median Age at First Marriage | 16.2 |

Reproductive Health

| | |
|--------------------------------|----------------------------------|
| Maternal Mortality | 1,500* deaths per 100,000 births |
| Lifetime Risk (1 in) | 10 |
| Contraceptive Prevalence | 29% |
| Most Common Method | Female sterilization |
| Unmet Need for Family Planning | 31% |
| Total Fertility Rate | 4.6 children per woman |
| Prenatal Care | 44% |
| Tetanus Toxoid | 11% of women |
| Skilled Attendance at Delivery | 10% |
| Anemia in Pregnant Women | 68% |
| Median Age at First Birth | 19.8 |
| HIV Prevalence (Adults) | 0.24% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 56%/21% |
| Secondary School Enrollment (M/F) | 76%/51% |

*The Mission reports an MMR of 539 per 100,000 which, with a total fertility rate of 4.6, would result in a lifetime risk of mortality of 1 in 40.

USAID Health Strategy

USAID is the leading donor for family planning programs and is a major contributor to selected maternal and child health programs. USAID's strategy provides support to both public and private sectors in the following key areas:

- Increased use of quality family planning services,
- Increased use of selected maternal and child health services,
- Increased HIV/STI prevention and control practices by high-risk behavior groups in targeted areas, and
- Strengthened capacity and programs to control selected infectious diseases (proposed)

USAID Maternal Health Focus

The Nepal Mission has a strategic objective for reduced fertility and improved maternal and child health, and women's empowerment, and an indicator for births attended. USAID also supports the Safe Motherhood Network, TBA training, and postabortion care services in three hospitals.

Maternal Health Activities

Government Collaborative Programs

UNICEF. In addition to supporting the vitamin A initiative, UNICEF is working on universal salt iodization.

The World Bank, Nepal Population and Family Health project. This project includes construction of facilities to increase access to prenatal care and referral to EOC services.

Family Health International (FHI) assisted the GON Family Health Division to develop and disseminate the government's Safe Motherhood Policy. As part of the support, FHI provided resource materials on safe motherhood, developed prototype advocacy materials, helped develop a documentary highlighting some key aspects of unsafe motherhood and the role of communities in making motherhood safer, and assisted in maternal health-related research.

DFID, Nepal Safe Motherhood Project. This project focuses on upgrading district hospitals, training key hospital staff, and mobilizing communities around Safe Motherhood issues in 7 of 10 designated Safe Motherhood districts.

USAID Collaborative Programs

USAID/CEDPA. This project has assisted in organizing the Safe Motherhood Network and serves as the network secretariat. The network, a coalition of more than 60 NGOs, government, and other donors, also includes IEC assistance from JHU/PCS, has sponsored several well-attended safe-motherhood awareness events, and promotes key safe motherhood messages. A recent assessment of impact showed that the network's messages and related activities have resulted in greater consensus on the issues affecting maternal health and family at the community level. This innovative and creative program takes place in all 75 districts in Nepal. (See highlight, page 27.)

JHPIEGO. Provides technical assistance to the Maternity Hospital, Kathmandu, to strengthen infection prevention procedures and establish a model outpatient clinic. Postabortion care units have also been established in two other hospitals (one in Kathmandu, one in Pokhara), and further expansion is being planned. JHPIEGO is working with DFID to improve training in critical aspects of emergency obstetric care for its Safer Motherhood project. (See highlight, page 30.)

Johns Hopkins School of Public Health. The Nepal Nutrition Intervention Project (NNIPS-2). The project's research on the impact of low-dose vitamin A administration during pregnancy on maternal survival and birth outcomes shows an apparent significant impact on maternal mortality, which will be validated through other country studies (such as Bangladesh). (See highlight, page 24.)

World Education, Health Education Adult Literacy (HEAL) Project. Since 1995, approximately 12,000 women have successfully completed 3-month literacy classes that utilize health messages, including safe birthing practices.

Pakistan



Country Profile

Pakistan has a population of more than 132 million people and a population growth rate of 2.2 percent. Half of the labor force works in agriculture. There is extensive use of child labor. Women comprise 24 percent of the adult labor force. The literacy rate for women is 24 percent, 50 percent for men. About 21 percent of girls and 38 percent of boys attend secondary school.

Maternal Health

Pakistan has an average birth rate of 5.4 children per woman, with only 19 percent of births attended by medical professionals. Thirty thousand women a year die in pregnancy. About 89 percent of deliveries take place at home, the vast majority attended by TBAs. It is estimated that on average, every village has three practicing TBAs. Since 1981, 50,000 TBAs have been trained by the provincial governments.

Only 1 in 20 women with complications reaches an EOC facility. Contributing factors include long distances to a limited number of facilities, the lack of an effective referral system, and the low status of women within the family and/or community. In rural Punjab, 66 percent of women require the permission of a male family member to go to a health center.

Pregnant women consume less than 70 percent of the recommended daily allowance of calories, and an estimated 34 percent of pregnant or lactating women are malnourished, 6.7 percent severely so. Poor maternal nutrition results in more than 25 percent of all babies being born with low birth weight.

Abortion is permitted to preserve a woman's physical or mental health or in cases of rape, incest, or fetal abnormality.

Demography

| | |
|---------------------------------|-------------|
| Female Population (millions) | 71.5 |
| Women 15–49 (millions) | 33.9 |
| Urban | 35% |
| Female-Headed Households | 7% |
| Life Expectancy (M/F) | 61/61 years |
| Annual No. of Births (millions) | 5.2 |
| Births to Adolescents | 7% |
| Sex Ratio (M per 100 F) | 107 |

| | |
|------------------------------|----------------------------|
| Perinatal Mortality | 70 deaths per 1,000 births |
| Earned Income Share (M/F) | 79%/21% |
| Per Capita Income | \$460 |
| Legal Age for Marriage | 16 |
| Median Age at First Marriage | Not available |

Reproductive Health

| | |
|--------------------------------|-------------------------------|
| Maternal Mortality | 340 deaths per 100,000 births |
| Lifetime Risk (1 in) | 38 |
| Contraceptive Prevalence | 12% |
| Most Common Method | Female sterilization |
| Unmet Need for Family Planning | Not available |
| Total Fertility Rate | 5.4 children per woman |
| Prenatal Care | 27% |
| Tetanus Toxoid | 54% of women |
| Skilled Attendance at Delivery | 19% |
| Anemia in Pregnant Women | 45% |
| Median Age at First Birth | Not available |
| HIV Prevalence (Adults) | 0.09% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 50%/24% |
| Secondary School Enrollment (M/F) | 38%/21% |

USAID Health Strategy

There is no USAID Mission in Pakistan, but a limited number of activities are currently ongoing as part of regional initiatives.

Maternal Health Activities

Government Collaborative Programs

The Government of Pakistan has set the following maternal health goals: decrease the MMR to 150 in 100,000, increase the life expectancy of women to 63 years, and increase the number of trained personnel attending childbirth to 90 percent.

Pakistan's First National Forum on Women's Health met in December 1997 to draft a proposal for concrete actions to address the nation's high MMR. Recommendations included provision of EOC, convergence of health and population services, and addressing social and cultural constraints to improving women's health.

The World Bank sponsors family health projects covering the Northwest Frontier, Sindh, Punjab, and Baluchistan, a population welfare program, and support to Pakistan's Social Action Program.

Family Care International is assisting the National Committee on Maternal Health with adapting documents that were originally developed to strengthen reproductive health education and communication in Anglophone Africa.

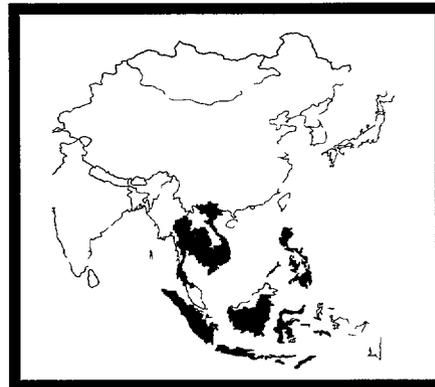
USAID Collaborative Programs

USAID/The Asia Foundation/Aga Khan Foundation
The Pakistani NGO. This project strengthens the capacity of Pakistani NGOs to mobilize community resources to gain access to and deliver social and health services, including maternal health services, and encourages women's involvement in decision-making processes.

South-east Asia

Cambodia • Indonesia Philippines • Vietnam

There is wide variance in the status of women's health among the South-east Asia focus countries. MMRs (based on 1990 estimates) range from 160 in Vietnam to 900 in Cambodia. What is perhaps most interesting and instructive is that Vietnam achieved this MMR with one of the lowest per capita incomes within the ANE region, through political will to prevent maternal deaths, an educated/literate female population, and a TFR of 3.1. A similar pattern is seen in China with a per capita income of \$620 and an MMR of 115. Both countries have achieved a greater than 80 percent skilled attendance rate.



WHO estimates that Southeast Asia contributes 37 percent of worldwide neonatal tetanus deaths, indicating that women are not receiving tetanus toxoid vaccinations during pregnancy.

Vaccination rates in the focus countries vary from 82 percent to 36 percent. HIV infection is also of major concern for this subregion. Incidence rates are rapidly increasing in several of the focus countries and policies are lagging behind.

Approximately 4.2 million abortions occur each year in Southeast Asia, many of them unsafe. There is a growing problem of adolescent prostitution, particularly in Cambodia, the Philippines, and Thailand. With the economic deterioration of the subregion, this trend may accelerate and encompass many other countries. Smoking and alcohol abuse among women is also a growing concern in the subregion.

Other countries in this subregion that have made significant strides toward preserving maternal health are Malaysia and Myanmar. Both countries have been successful in phasing out TBAs in favor of auxiliary midwives and in establishing maternal mortality review mechanisms to monitor quality of services.

Indonesia's Mother-Friendly Movement has resulted in the training and deployment of 54,000 community midwives. Some ascribe Indonesia's persistently high MMR to women's overwhelming preference for staying at home during childbirth even if life-threatening complications develop. Even in countries where maternal health has improved, significant urban/rural differences remain.

Cambodia



Country Profile

Cambodia's economy and new democratic government are fragile. The Cambodian people remain among the poorest in the world, with a per capita income of less than \$300. The population is approximately 11 million people. Cambodia's infrastructure was devastated in the past 25 years by the Vietnam War, the harsh rule of the Khmer Rouge, and the Vietnamese occupation. An estimated 10 million landmines continue to claim as many as 300 victims per month and impede Cambodia's potential for food security by limiting agricultural production.

Eighty-three percent of women are in the labor force, 78 percent of these are in agriculture. Literacy rates are 53 percent for women and 80 percent for men. About 7 percent of the gross domestic product is spent on health. Less than 50 percent of Cambodians have access to any health care.

Maternal Health

The maternal health situation is grim. The MMR is 900. A woman's lifetime risk of dying from pregnancy or childbirth is 1 in 17, even though skilled medical professionals attend 47 percent of births. HIV/AIDS is spreading rapidly, and Cambodia has the potential to become the most severely affected country in Southeast Asia. Protein-calorie undernutrition is a problem for many pregnant and lactating women due to traditional feeding patterns and taboos. Life expectancy for women is only 51 years, the lowest of all ANE focus countries. Abortion is legal to save a woman's life.

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 5.5 |
| Women 15-49 (millions) | 2.7 |
| Urban | 21% |
| Female-Headed Households | Not available |
| Life Expectancy (M/F) | 48/51 years |
| Annual No. of Births (millions) | 0.36 |
| Births to Adolescents | 6% |
| Sex Ratio (M per 100 F) | 94 |
| Perinatal Mortality | 65 deaths per 1,000 births |
| Earned Income Share (M/F) | Not available |
| Per Capita Income | \$270 |
| Legal Age for Marriage | Not available |
| Median Age at First Marriage | Not available |

Reproductive Health

| | |
|--------------------------------|-------------------------------|
| Maternal Mortality | 900 deaths per 100,000 births |
| Lifetime Risk (1 in) | 17 |
| Contraceptive Prevalence | 7% |
| Most Common Method | Not available |
| Unmet Need for Family Planning | Not available |
| Total Fertility Rate | 5.8 children per woman |
| Prenatal Care | Not available |
| Tetanus Toxoid | 36% of women |
| Skilled Attendance at Delivery | 47% |
| Anemia in Pregnant Women | Not available |
| Median Age at First Birth | Not available |
| HIV Prevalence (Adults) | 3.2% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 80%/53% |
| Secondary School Enrollment (M/F) | 32%/19% |

USAID Health Strategy

Since 1995, USAID's strategy has been to improve reproductive health and child survival. USAID is a leader in the maternal health sector, and works with the MOH, local NGOs, and the private sector to improve and strengthen health care service delivery. The Mission has contributed to the development and implementation of policies for reproductive health, including birth spacing and HIV/AIDS testing and prevention. (Each year, 10.5 million condoms are sold through the USAID-supported social marketing program to combat HIV/AIDS.) USAID implements its MCH activities through American, international, and local NGOs. Grantees include CARE, Helen Keller International, Medecins sans Frontieres, Partners for Development, Reproductive Health Association of Cambodia, Population Services International, and World Vision.

USAID Maternal Health Focus

The USAID Mission strategic plan includes a strategic objective—improved maternal and child health—and immediate results for births attended by trained health personnel, and improved maternal health policies. The Mission has formed a maternal and child health strategic objective team composed of all implementing partners—PVOs, cooperating agencies, donors, and the Ministry of Health, which meets monthly. USAID helped launch the first private-sector reproductive health center in Cambodia. In collaboration with the MOH, USAID helped develop a national safe-motherhood policy and strategy, which is now being implemented. USAID has also encouraged the integration of vitamin A activities into the national health system.

Maternal Health Activities

Government Collaborative Programs

The World Bank's Disease Control and Health project is targeting the control of preventable diseases and improving delivery of basic health services by rehabilitating the health system infrastructure.

UNFPA supports a national-level reproductive health and birth-spacing project in collaboration with the MOH, as well as continuing analyses of the recently collected national census data.

USAID Collaborative Programs

JSI/SEATS The Cambodia Maternal and Child Health program

USAID/WHO/UNFPA/JICA The National Safe Motherhood Situation Analysis

CARE/European Union/UNFPA The Adolescent Reproductive Health project aims to improve reproductive health conditions on a sustainable basis among working single adolescents and young adults in Phnom Penh and Battambang.

CARE The Jivit Thmey Mother Child Health project aims to establish a government-supported, community-managed health care system to meet basic needs, including postnatal care in Pursat, Banteay Meanchey, and Kampong Chhnang Provinces.

Reproductive Health Association of Cambodia Safe motherhood interventions include identification and treatment of STIs, prenatal care, including counseling

and tetanus toxoid injections, referral for delivery, and postnatal care and small-group education or individual counseling on an array of health topics.

Indonesia



Country Profile

Indonesia has more than 200 million people, making it the fourth most populous country in the world. Over the past 25 years, Indonesia's economic progress has been accompanied by improvements in quality of life for many segments of the population. However, current political and social unrest, and deteriorating economic conditions may impede further progress on improving the health status. Indonesia spends 7 percent of its gross domestic product on health.

Fifty-three percent of women are in the labor force, 67 percent are in agriculture. Literacy rates are high, 78 percent for women and 90 percent for men. About 53 percent of girls and 65 percent of boys are enrolled in secondary school.

Maternal Health

Although Indonesia has made great strides in reducing its total fertility rate to 2.8 by increasing the modern-method contraceptive prevalence rate to 55 percent, maternal mortality is still among the highest in the sub-region. Skilled midwives or other medical professionals attend fewer than half of births, most of which take place in the woman's home. Approximately 70 percent of women experience some pregnancy-related complication during their lifetime, with an estimated ratio of morbidity to mortality of 591 to 1 (Family Health International, 1994). In a Maternal Morbidity Network study, Indonesian women were much less likely to recognize complications than were women from Egypt, Bangladesh, or India. Abortion is prohibited by law.

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 103.4 |
| Women 15-49 (millions) | 50 |
| Urban | 37% |
| Female-Headed Households | 13% |
| Life Expectancy (M/F) | 62/66 years |
| Annual No. of Births (millions) | 4.7 |
| Sex Ratio (M per 100 F) | 100 |
| Births to Adolescents | 6% |
| Perinatal Mortality | 45 deaths per 1,000 births |
| Earned Income Share (M/F) | 67.1%/32.9% |
| Per Capita Income | \$1,080 |
| Legal Age for Marriage | 16 (female) |
| Median Age at First Marriage | 18.1 |

Reproductive Health

| | |
|--------------------------------|--------------------------------|
| Maternal Mortality | 650* deaths per 100,000 births |
| Lifetime Risk (1 in) | 41 |
| Contraceptive Prevalence | 55% |
| Most Common Method | Oral contraceptives |
| Unmet Need for Family Planning | 11% |
| Total Fertility Rate | 2.8 children per woman |
| Prenatal Care | 78% |
| Tetanus Toxoid | 49% of women |
| Skilled Attendance at Delivery | 43% |
| Anemia in Pregnant Women | 51% |
| Median Age at First Birth | 20.3 |
| HIV Prevalence (Adult) | 0.05% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 90%/78% |
| Secondary School Enrollment (M/F) | 65%/53% |

*The Mission reports an MMR of 390 per 100,000, which, with a total fertility rate of 2.8, would result in a lifetime risk of mortality of 1 in 92.

USAID Health Strategy

In fiscal year 1998, in response to the problems brought about by the Asian financial crisis, USAID developed a 5-year PHN strategy to address the immediate health issues and their threat to the health system. At the same time, the new strategy aims to build the foundations for a longer-term sustainable program. Its objective is to protect the health status of the most vulnerable women and children, by ensuring that households have access to essential primary health care services.

The three key intermediate results the strategy aims to achieve are

- Establish effective crisis monitoring and disease/nutritional surveillance to enable the GOI and donor partners to efficiently allocate program resources,
- Essential health services preserved, and
- Appropriate health services provided to families under financial stress

USAID Maternal Health Focus

An important element of USAID's current strategy is a cluster of maternal health interventions, including safe delivery, improving the skills of village midwives, providing prenatal and postnatal care, and strengthening national maternal and child health policies

The USAID Mission strategic plan includes these maternal health indicators: births attended, nutrition/iron supplementation, and referrals for obstetric complications

Although the new strategy emphasizes MCH and nutrition programs, attention to family planning and reproductive health will be maintained in close collaboration with the GOI and other donors. The contraceptive prevalence rate is expected to rise from its 1998 level of 55 percent to 60 percent by 2001.

Maternal Health Activities

Government Collaborative Programs

The GOI, with its "Mother Friendly Movement," has taken on the challenge of reducing maternal mortality as a priority, cross-sectoral effort. One GOI objective is to ensure that every community has access to a village-based midwife. This has entailed the training of more than 54,000 midwives and their deployment to rural areas. The GOI seeks to reduce the MMR to 225 per 100,000 by the year 2000.

GOI: Various micronutrient interventions are being made, including high-dose vitamin A, iron, and iodine supplementation, food fortification, food diversification, and nutrition education.

GOI/World Bank/UNICEF and other agencies: Training program for 5,000 village midwives. District hospitals are also being strengthened with the equipment, supplies, and drugs that will enable them to offer comprehensive emergency obstetric care.

USAID Collaborative Programs

USAID: Expansion of Private Sector Service Delivery. USAID has provided extensive training for private midwives and supported loans to start or expand their practices.

USAID: Health Sector Financing. USAID is working with the Ministry of Health to develop a private, managed-care scheme as a model for expansion nationwide. Regulations to govern managed care nationwide are also being instituted.

USAID/MotherCare Project: This is a comprehensive maternal health demonstration project in South Kalimantan that includes midwife training, prenatal care with iron folate distribution, improvement of records and registries, maternal/perinatal death audits, supervisory checklists, STI diagnosis and treatment, IEC, professional capacity building, and research on the effects of vitamin A on maternal and neonatal birth outcome and health.

Family Care International/Yayasan Kusuma Buana, a local NGO: These organizations produced a practical, low-cost health education resource, based on Healthy Women, Healthy Mothers, that can be widely distributed to rural health and community field workers.

JHPIEGO/National Family Planning Coordinating Board (BKKBN)/Ministry of Health (Depkes)/Indonesia Society of Obstetricians and Gynecologists: National Clinical Training Network. This is an effort to coordinate and consolidate all training activities within the clinical training network.

PATH/OMNI Project/Helen Keller International: This project is undertaking four interrelated activities to improve the general and reproductive health of women through improved micronutrient status (vitamin A, anemia, adolescent nutrition, and micronutrient status).

JHPIEGO/INTRAH/PRIME: These groups are performing activities to improve the quality of essential maternal and perinatal health care for midwives and of reproductive health training for village-based midwives.

PATH/BHR/PVC Healthy Start for Child Survival: This project includes prenatal and postpartum care components.

In addition, there are a number of ongoing activities in conjunction with Macro (DHS/Measure), the Policy project, other HIV/AIDS projects, and other maternal health activities that are being carried out along with child survival projects

Programs Sponsored by Other Donors

World Bank/CIDA/The Population Council Safe Motherhood Operations Research These groups are conducting research on integrating RTI/STI services into family planning clinics, monitoring quality of care, and advocating integrated services

The Padjadjaran University School of Medicine is conducting a population-based study of maternal morbidity as part of the Maternal Morbidity Network

The Association for Voluntary Surgical Contraception is pilot-testing a comprehensive, quality-improvement system for family planning services at the subdistrict health center level

The East-West Center is providing technical assistance to the BKKBN for a study of young adult reproductive welfare

Philippines

Country Profile

The Philippines has a population of about 76 million people. The Philippine economy has been affected by spillover effects of the Asian financial crisis that began in mid-1997, and which has led to a drop in gross national product and employment figures. Thus, the crisis has the potential to significantly increase poverty levels. Following an economic downturn in the 1980s, the economy until recently was growing at a rate of almost 7 percent per annum. About 2 percent of the gross domestic product is spent on health annually.

Women comprise 31 percent of the adult labor force. Literacy rates are very high: 94 percent for women and 95 percent for men. About 65 percent of girls attend secondary school.

Maternal Health

A woman's lifetime risk of dying from pregnancy or childbirth is 1 in 75, with an MMR of 280 in 100,000. Although the vast majority of women have access to prenatal care, only half of deliveries are attended by skilled medical professionals. Abortion is permitted only to save a woman's life.

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 35.8 |
| Women 15-49 (millions) | 18.3 |
| Urban | 52% |
| Female-Headed Households | 11% |
| Life Expectancy (M/F) | 65/68 years |
| Annual No. of Births (millions) | 2.03 |
| Births to Adolescents | 5% |
| Sex Ratio (M per 100 F) | 101 |
| Perinatal Mortality | 25 deaths per 1,000 births |
| Earned Income Share (M/F) | 69.3%/30.7% |
| Per Capita Income | \$1,050 |
| Legal Age for Marriage | 18 |
| Median Age at First Marriage | 22 |

Reproductive Health

| | |
|--------------------------|-------------------------------------|
| Maternal Mortality | 280* deaths per 100,000 live births |
| Lifetime Risk (1 in) | 75 |
| Contraceptive Prevalence | 30% |
| Most Common Method | Intrauterine device |



| | |
|--------------------------------|------------------------|
| Unmet Need for Family Planning | 26% |
| Total Fertility Rate | 4.1 children per woman |
| Prenatal Care | 83% |
| Tetanus Toxoid | 47% of women |
| Skilled Attendance at Delivery | 53% |
| Anemia in Pregnant Women | 43% |
| Median Age at First Birth | 23 |
| HIV Prevalence (Adults) | 0.06% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 95%/94% |
| Secondary School Enrollment (M/F) | 64%/65% |

*The Mission reports an MMR of 209 per 100,000, which, with a total fertility rate of 4.1, would result in a lifetime risk of mortality of 1 in 117.

USAID Health Strategy

The objective of USAID's strategy is to improve the health of women and children by expanding access to quality family planning and other reproductive health services in the public and private sectors, and to foster the continued child survival interventions at the local government level. USAID has played a key role in decentralizing health services in 66 local government units and in expanding integrated delivery of family and MCH services. The HIV seroprevalence of those at greatest risk of being infected with AIDS remains below 1 percent, in part because of USAID's surveillance and educational programs to reduce high-risk behaviors. USAID works with NGOs and the commercial sector to reach those who can afford to pay for contraceptives and quality MCH services at partial or full cost.

USAID Maternal Health Focus

The USAID Mission strategic plan includes these maternal health indicators: percent of births in high-risk groups and percent of pregnant women immunized against tetanus (TT2).

Maternal Health Activities

Government Collaborative Programs

Government of the Philippines (GOP) Fertility Reduction and Improved Maternal and Child Health This is an integrated family planning/maternal and child health program designed to increase the public and private sectors' provision of services at the local government level and strengthen the Department of Health's national programs

GOP Acceptance of the ICPD's Programme of Action by positioning women's health and safe motherhood as one of six priority health issues The reorganization of the Department of Health placed family planning, maternal and child health, and nutrition programs under one office and linked that office with hospital administration, which is essential for ensuring care for obstetric emergencies

GOP The Philippines Plan of Action for Nutrition, coordinated by the National Nutrition Council, calls for regular iron supplementation, fortification of staples such as rice and wheat, condiments such as salt, and possibly sugar, and a community-based nutrition program for improving dietary diversity and micronutrient intakes Vitamin A, iodized oil, and vegetable seed packets are distributed during the annual Micronutrient Day

World Bank The Women's Health and Safe Motherhood Project is implementing a comprehensive, nationwide reproductive health program, with special emphasis in 41 provinces

Asian Development Bank Provides a package of services to women, including iron supplements

USAID Collaborative Programs

OMNI project OMNI is working with the National Micronutrient Action Team, along with Helen Keller International and PAMM on fortification, behavior change, and advocacy

USAID/Helen Keller International The VITEX project is working with the nutrition service of the Department of Health in three provinces to train health workers in micronutrient deficiency prevention Project MATA provides NGOs with nutrition education materials and information Helen Keller International is also developing and testing a low-cost provincial micronutrient surveillance system

JHPIEGO/Department of Health Training for organizations that provide adolescent reproductive health services

East-West Center Conducted and produced the 1994 Young Adult Fertility and Sexuality Survey

Vietnam



Country Profile

Vietnam is a poor, densely populated country of 75 million people. It is still recovering from the ravages of war, but substantial progress has been achieved over the past 10 years, economically and socially. Women make up half the adult labor force, with an earned income share of about 36 percent. Literacy rates are high: 91 percent for women and 96 percent for men. Vietnam spends approximately 5.2 percent of its gross domestic product on health.

Maternal Health

Although it is a resource-poor country with a per capita income of only \$240, Vietnam has made improving and protecting maternal health a top priority. Currently, more than 90 percent of births are attended by skilled medical professionals, and the MMR is one of the lowest in the region, at 160 per 100,000. The total fertility rate is 3.1 children per woman. Abortion is legal.

Demography

| | |
|---------------------------------|------------------------------|
| Female Population (millions) | 39.4 |
| Women 15-49 (millions) | 20.6 |
| Urban | 20% |
| Female-Headed Households | 32% |
| Life Expectancy (M/F) | 65/69 years |
| Annual No. of Births (millions) | 1.98 |
| Births to Adolescents | 3% |
| Sex Ratio (M per 100 F) | 97 |
| Perinatal Mortality | 25 deaths per 100,000 births |
| Earned Income Share (M/F) | 57.7%/35.7% |
| Per Capita Income | \$240 |
| Legal Age for Marriage | 18 |
| Median Age at First Marriage | Not available |

Reproductive Health

| | |
|--------------------------------|-------------------------------|
| Maternal Mortality | 160 deaths per 100,000 births |
| Lifetime Risk (1 in) | 130 |
| Contraceptive Prevalence | 65% |
| Most Common Method | Intrauterine device |
| Unmet Need for Family Planning | Not available |
| Total Fertility Rate | 3.1 children per woman |
| Prenatal Care | Not available |
| Tetanus Toxoid | 82% of women |
| Skilled Attendance at Delivery | 95% |

| | |
|---------------------------|---------------|
| Anemia in Pregnant Women | Not available |
| Median Age at First Birth | Not available |
| HIV Prevalence (Adults) | 0.22% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 96%/91% |
| Secondary School Enrollment (M/F) | 44%/41% |

USAID Health Strategy

There is no USAID Mission in Vietnam, but activities are currently taking place as part of regional initiatives (primarily HIV/AIDS).

Maternal Health Activities

Government Collaborative Programs
Government of Vietnam (GOV)/JICA Reproductive Health Project. This project aims to improve access to safe delivery care and family planning.

The Population Council/World Bank/CIDA Safe Motherhood Demonstration Project. (See highlight, page 17.)

World Bank Population and Family Health Project. This is a multifaceted program to provide high-quality, reliable primary health care in 15 provinces and enhance the management, planning, and policy formulation capacity of the National Committee for Population and Family Planning.

UNDP/WHO/UNICEF/UNFPA Special Program for Safe Motherhood. This program is designed to reduce the high levels of maternal deaths and disabilities in 15 countries, including Vietnam.

UNICEF. Has a project to assist communities to form networks so that women with obstetric complications can quickly reach medical services.

International Projects Assistance Services Postabortion
Care Project

USAID Collaborative Programs

CARE The Ha Bac Maternal/Child Health Project and the Cam Son Lake ANR Project address the maternal/child health issues of nutrition, reproductive health, and access to community health clinics

Near East

Egypt • Jordan • Morocco • Yemen West Bank and Gaza

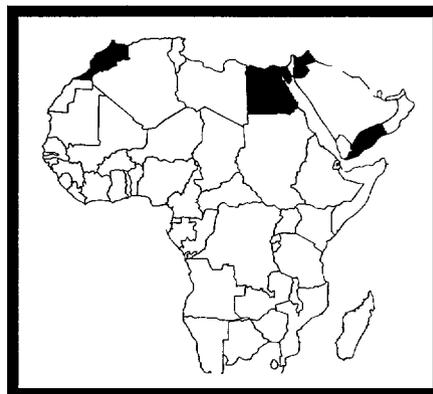
As in the Southeast Asia subregion, there are significant differences in maternal health parameters among the Near East focus countries—Egypt, Jordan, Morocco, Yemen, and the West Bank and Gaza. This is not surprising given their varied levels of development and the sevenfold difference in per capita income between these countries. MMRs (1990 estimates) vary more widely in this subregion than in South or Southeast Asia, ranging from 150 to 1,400. CPRs are similarly diverse, from more than 50 percent in Egypt to 10 percent in Yemen, TFRs range from 6.7 to 3.1.



World Bank Photo by Curt Cainermark

Maternal health conditions vary so widely that planning and implementing through a subregional approach may be problematic, though such a strategy is increasingly attractive given USAID's declining country-level presence. Where country-level programs remain, approaches that incorporate distinct urban/rural strategies would be more productive given that even countries with more favorable overall maternal health indicators often demonstrate significant differences within country, based on locale. Limited access to life-saving care exists throughout rural areas in the subregion.

In general, women in the subregion share low status and can exercise little self-determination, particularly in rural areas. This lack of power has been reinforced during a recent wave of conservatism. Female genital mutilation continues in Yemen and Egypt and, with the exception of Jordan, significantly less than half the female population is literate. The majority of working women are employed in the informal sector and have irregular, if existent, access to cash income.



Abortion laws are quite restrictive, implying that post-abortion care programs using manual vacuum aspiration would likely benefit many women who seek unsafe abortions and suffer complications. A survey

of several public hospitals in Egypt confirms that large numbers of women are seen for treatment of abortion complications.

Further studies from Egypt have exposed high levels of maternal and reproductive morbidity. Researchers conclude that there is a 'culture of endurance' shared by women in this subregion, endurance of genital prolapse, vaginal discharge, and the fatigue of severe anemia. Anemia continues to be a major health concern in this subregion as in the others, on average, more than 50 percent of pregnant women are anemic.

Egypt, Jordan, and Morocco are carrying out strategies that increasingly focus on maternal mortality issues. Egypt and Jordan with their maternal mortality audits and emphasis on postpartum services, and Morocco with its exemplary emphasis on EOC services.

The ANE region's maternal health strategy for this subregion must recognize its significant diversity and tailor programs to fit each focus country's needs and resources, paying particular attention to the needs of rural women.

Egypt



Country Profile

Egypt has a population of nearly 65 million. Although the Egyptian economy is expanding, rapid population growth will place increasing demands on limited services. Women's earned income share is about 25 percent. Literacy rates are 39 percent for women, 64 percent for men. Almost 70 percent of girls and 80 percent of boys are enrolled in secondary school. Egypt spends 4.9 percent of its gross domestic product on health.

Maternal Health

Women's overall use of health care services in Egypt has expanded, partially because there are more female physicians providing primary health care. Maternal mortality remains high in Upper Egypt. A woman's lifetime risk of dying from pregnancy or childbirth is 1 in 120. Home births are still favored with dyes in attendance, skilled professionals attend less than half (46 percent) of all births.

Abortion is illegal. A recent survey found that 28,000 women go to public-sector hospitals monthly for postabortion treatment (*Egyptian Fertility Care Society Postabortion Caseload Study*, Cairo, EFCS, 1997). Female genital mutilation is widely practiced, with the 1995 Demographic Health Survey showing 97 percent prevalence. More than 75 percent of pregnant women are anemic. Schistosomiasis is believed to be a major contributing factor to anemia.

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 32.3% |
| Women 15-49 (millions) | 16.3 |
| Urban | 45% |
| Female Headed Households | 13% |
| Life Expectancy (M/F) | 62/65 years |
| Annual No. of Births (millions) | 1.7 |
| Sex Ratio (M per 100 F) | 103 |
| Births to Adolescents | 6% |
| Perinatal Mortality | 45 deaths per 1,000 births |
| Earned Income Share (M/F) | 75.1%/24.9% |
| Per Capita Income | \$790 |
| Legal Age for Marriage | 16 |
| Median Age at First Marriage | 19.7 |

Reproductive Health

| | |
|--------------------------------|--------------------------------|
| Maternal Mortality | 170* deaths per 100,000 births |
| Lifetime Risk (1 in) | 120 |
| Contraceptive Prevalence | 55% |
| Most Common Method | Intrauterine device |
| Unmet Need for Family Planning | 16% |
| Total Fertility Rate | 3.3 children per woman |
| Prenatal Care | 39% |
| Tetanus Toxoid | 55% of women |
| Skilled Attendance at Delivery | 46% |
| Anemia in Pregnant Women | 75% |
| Median Age at First Birth | 21.4 |
| HIV Prevalence (Adults) | 0.03% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 64%/39% |
| Secondary School Enrollment (M/F) | 80%/68% |

*The Mission reports an MMR of 174 per 100,000, which, with a total fertility rate of 3.3, would result in a lifetime risk of mortality of 1 in 120.

USAID Health Strategy

USAID's previous emphasis on access to services has shifted to a focus on decreasing illness and mortality, targeting the seven governorates of Upper Egypt, where maternal, infant, and child mortality rates are disproportionately high in comparison with the rest of the country.

USAID Maternal Health Focus

The USAID strategic plan includes indicators for MMR, increased utilization of prenatal care, districts in Upper Egypt providing EOC, and favorable policy changes.

Maternal Health Activities

Government Collaborative Programs

Egypt initiated the National Maternal Mortality Study in 1992–93 as part of the government's commitment to lower the number of maternal deaths. This study will be repeated in 1999 and every 4 years thereafter. (See highlight, page 29.)

World Bank Egypt Health Sector Reform Project. The objectives of this program are to reduce infant and maternal mortality and contribute to a reduction in population growth.

USAID Collaborative Programs

USAID The Child Survival project supported the delivery of a comprehensive package of child health and reproductive health services. Project accomplishments included the 1992 Maternal Mortality Study, dya training, a strengthened expanded program of immunization, creation of an acute respiratory infection program, and the restoration of delivery rooms and laboratories.

USAID Health Care Financing and Health Insurance USAID supports improved management of the national health insurance organization and the expansion of private clinics. This financing and health insurance helps Egypt implement cost-recovery activities. Assistance in policy development increases Egypt's health budget and its capacity to plan, manage, and monitor health activities.

JSI Healthy Mother/Healthy Child Project This project is a follow-on to the child survival project, and is being implemented in Upper Egypt.

Centers for Disease Control and Prevention Field Epidemiology Training Program This project provides training for national epidemiologists and support for various public health studies.

CEDPA Girl's Empowerment/Education project

RAINBO This project developed educational materials on female genital mutilation.

UNICEF Through a grant from USAID/Egypt, UNICEF is working in three governorates—Assiut, Minia, and Sohag—in Upper Egypt. The focus of the project is increasing access to EOC services. An earlier project focused on TBA training.

Egypt Fertility Care Society The society is supporting a population-based study of maternal morbidity as part of the Maternal Morbidity Network.

Jordan



Country Profile

A country of 4.6 million people, Jordan has a birth rate of 2.6 percent. Population growth has put tremendous pressure on the water supply, Jordan's most scarce resource. About 92 percent of the country is desert.

Women make up 16 percent of the adult labor force. Literacy rates are high: 79 percent for women, 93 percent for men. About half of girls and boys attend secondary school. Jordan spends almost 8 percent of its gross domestic product on health.

Maternal Health

Extensive progress has been made to increase and improve family planning and maternal and child health services, with more than 96 percent of women accessing prenatal care and 87 percent of deliveries attended by trained professionals. The rates of maternal mortality are moderate, a woman's lifetime risk of dying in childbirth is 1 in 95. Abortion is permitted to preserve a woman's physical or mental health or in the case of rape.

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 2.9 |
| Women 15-49 (millions) | 1.1 |
| Urban | 78% |
| Female-Headed Households | Not available |
| Life Expectancy (M/F) | 66/70 years |
| Annual No. of Births (millions) | 0.16 |
| Births to Adolescents | 4% |
| Sex Ratio (M per 100 F) | 105 |
| Perinatal Mortality | 30 deaths per 1,000 births |
| Earned Income Share (M/F) | Not available |
| Per Capita Income | \$1,720 |
| Legal Age for Marriage | 15 |
| Median Age at First Marriage | 19.6 |

Reproductive Health

| | |
|--------------------------------|--------------------------------|
| Maternal Mortality | 150* deaths per 100,000 births |
| Lifetime Risk (1 in) | 95 |
| Contraceptive Prevalence Rate | 38% |
| Most Common Method | Intrauterine device |
| Unmet Need for Family Planning | 22.4% |

| | |
|--------------------------------|------------------------|
| Total Fertility Rate | 4.4 children per woman |
| Prenatal Care | 96% |
| Tetanus Toxoid | 41% of women |
| Skilled Attendance at Delivery | 87% |
| Anemia in Pregnant Women | 29% |
| Median Age at First Birth | 23.2 |
| HIV Prevalence (Adults) | 0.02 |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 93%/79% |
| Secondary School Enrollment (M/F) | 51%/55% |

*The Mission reports an MMR of 44 per 100,000, which, with a total fertility rate of 4.4, would result in a lifetime risk of mortality of 1 in 517.

USAID Health Strategy

Jordan's health and female education indicators are comparatively better than those in other Middle Eastern countries, however, it is unlikely that social services will be able to keep pace with population growth.

According to the Mission, the MMR has leveled off at about 40 in the past 5 years. One way of addressing this strategically and cost-effectively is through a national comprehensive postpartum program that synergistically addresses the needs of both mother and child at the same place and time.

Maternal Health Activities

Government Collaborative Programs

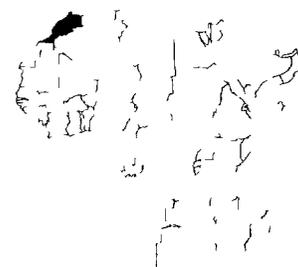
World Bank Jordan Health Management project. The project includes training of primary care doctors, nurses, and midwives. Other activities involve facility upgrades, management programs, and financial cost recovery.

USAID Collaborative Programs

USAID/Quality Assurance Jordan Family Services Project/Family Health Services Delivery Under this program, a quality assurance model hospital has been established as well as a maternal and child health/family planning center in Balqa' Governorate. Standards for maternal health were developed at the national level.

PATHFINDER/PATH Comprehensive Postpartum Project This project calls for the establishment of 21 comprehensive postpartum care centers in major maternity hospitals where women can go for postpartum checks and family planning counseling and services.

Morocco



Country Profile

The Kingdom of Morocco is a stable, lower-middle-income country with about 29 million people. Morocco has enjoyed a modest growth rate over the past decade and continues to make economic progress. Structural adjustments have brought progress in macrolevel economic stabilization, but poverty and illiteracy rates (69 percent) remain high, especially among women. Natural resources are scarce. Only 20 percent of the land is arable and, because of periodic drought, stable agriculture is dependent on irrigation.

Population growth and rural-urban migration are contributing to high unemployment and lack of access to housing, land, credit, and other productive resources. Women constitute 40 percent of the adult labor force, and their earned income share is 28 percent. About 33 percent of girls and 44 percent of boys are enrolled in secondary school. Morocco spends 3.4 percent of its gross domestic product on health.

Maternal Health

In Morocco, a woman's lifetime risk of dying from pregnancy or childbirth is 1 in 133. Skilled medical professionals attend only 43 percent of births.

Abortion is permitted to preserve a woman's physical or mental health or in case of rape, incest, or fetal abnormality.

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 14 |
| Women 15-49 (millions) | 7.4 |
| Urban | 53% |
| Female Headed Households | 15% |
| Life Expectancy (M/F) | 66/70 years |
| Annual No. of Births (millions) | 0.714 |
| Births to Adolescents | 4% |
| Sex Ratio (M per 100 F) | 100 |
| Perinatal Mortality | 45 deaths per 1,000 births |
| Earned Income Share (M/F) | 71.6%/28.4% |
| Per Capita Income | \$1,110 |
| Legal Age for Marriage | Parental consent required |
| Median Age at First Marriage | 20.2 |

Reproductive Health

| | |
|--------------------------------|--------------------------------|
| Maternal Mortality | 610* deaths per 100,000 births |
| Lifetime Risk (1 in) | 33 |
| Contraceptive Prevalence | 59% |
| Most Common Method | Oral contraceptives |
| Unmet Need for Family Planning | 16% |
| Total Fertility Rate | 3.1 children per woman |
| Prenatal Care | 42% |
| Tetanus Toxoid | 100% of women |
| Skilled Attendance at Delivery | 43% |
| Anemia in Pregnant Women | Not available |
| Median Age at First Birth | 22.7 |
| HIV Prevalence (Adults) | 0.03% |

Education

| | |
|-----------------------------------|---------|
| Adult Literacy (M/F) | 57%/31% |
| Secondary School Enrollment (M/F) | 44%/33% |

*The Mission reports an MMR of 332 per 100,000, which with a total fertility rate of 3.1, would result in a lifetime risk of mortality of 1 in 97.

USAID Health Strategy

There is currently a limited-presence Mission in Morocco, which manages activities to improve economic growth, the environment, basic education for girls, and maternal and child health services. USAID bilateral assistance to the health/population sector will be phased out by the year 2000.

USAID's current strategic objective in the health/population sector is to reduce fertility levels and improve the health of women of reproductive age and children under age 5. The postbilateral period will focus on human capacity development, health system sustainability issues, and expansion of maternal and child health services in the private and NGO sectors.

USAID Maternal Health Focus

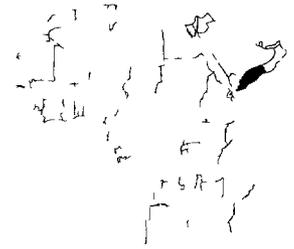
The USAID Mission has a strategic objective-level indicator for the MMR, and intermediate results for births attended, antenatal care, and the met-need for EOC in target areas

Maternal Health Activities

USAID Collaborative Programs

USAID/JSI Family Planning/MCH Project Phase V The two-pronged strategy of this project includes a sophisticated public education and advocacy campaign on maternal mortality and safe motherhood, and the introduction of improved EOC in two regions (See highlight, page 22)

Yemen



Country Profile

With almost 16 million people, the Republic of Yemen is the most populous country on the Arabian peninsula and remains one of the least developed countries in the world. Yemen has one of the world's highest population growth rates (3.75 percent), and spends only 2.6 percent of its gross domestic product on health.

There is widespread illiteracy, only 26 percent of women are literate, and 10 percent of girls are enrolled in secondary school. Average life expectancy for women is 53 years. Women comprise 30 percent of the adult labor force, primarily in agriculture.

Maternal Health

Yemen has one of the highest rates of maternal death and disability in the world. A woman's lifetime risk of dying from pregnancy or childbirth is 1 in 10. Most women do not receive prenatal care. Only 10 percent of women currently use modern contraception, resulting in an average birth rate of 6.7 children per woman. Lack of knowledge and religious prohibitions are the main reasons cited for low contraceptive use. Abortion is permitted only to save a woman's life.

Demography

| | |
|---------------------------------|----------------------------|
| Female Population (millions) | 8.4 |
| Females 15-49 (millions) | 3.6 |
| Urban | 25% |
| Female-Headed Households | 12% |
| Life Expectancy (M/F) | 57/60 years |
| Annual No. of Births (millions) | 0.76 |
| Births to Adolescents | 8% |
| Sex Ratio (M per 100 F) | 101 |
| Perinatal Mortality | 70 deaths per 1,000 births |
| Earned Income Share (M/F) | Not available |
| Per Capita Income | \$260 |
| Legal Age for Marriage | Not available |
| Median Age at First Marriage | 16 |

Reproductive Health

| | |
|--------------------------|---------------------------------|
| Maternal Mortality | 1,400 deaths per 100,000 births |
| Lifetime Risk (1 in) | 10 |
| Contraceptive Prevalence | 10% |
| Most Common Method | Oral contraceptives |

| | |
|--------------------------------|------------------------|
| Unmet Need for Family Planning | Not Available |
| Total Fertility Rate | 6.7 children per woman |
| Prenatal Care | 35% |
| Tetanus Toxoid | 55% of women |
| Skilled Attendance at Delivery | 16% |
| Anemia in Pregnant Women | Not available |
| Median Age at First Birth | 20.4 |
| HIV Prevalence (Adults) | 0.01% |

Education

| | |
|-----------------------------------|-------------------|
| Adult Literacy (M/F) | Not available/26% |
| Secondary School Enrollment (M/F) | 36%/10% |

USAID Health Strategy

There is no USAID Mission in Yemen, but some activities are currently ongoing as part of regional initiatives.

Maternal Health Activities

Government Collaborative Programs

German Technical Assistance Primary Health Care Project. This project in Hajja Governorate offers training to women selected by the community to become primary health care workers.

Netherlands Development Agency Comprehensive community-based primary health care projects in Dhamar and Hodeida.

USAID Collaborative Programs

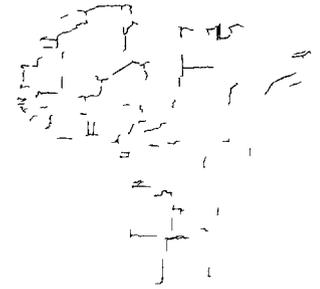
USAID National Program to Expand Community Midwifery Training. (See highlight, page 29.)

JSI/PATH Options for Family Care Project

ADRA Community-Based Maternal Health Project

World Bank The Family Health Project aims to improve access to and the quality of maternal and child health and family planning services in primary health care.

West Bank & Gaza



Country Profile

The West Bank and Gaza are two geographically separated areas with a combined size of 6,000 km². The 1997 census counted a population of 2,890,631. About 25 percent of the West Bank population and 56 percent of the Gaza population are registered refugees. The political status of the West Bank and Gaza is subject to the principles of the Israeli-Palestinian Interim Agreement, which was signed in September 1993. The interim period is transitional and characterized by complex peace negotiations. Negotiations have been slow and traumatic. Development constraints in the West Bank and Gaza include deteriorated infrastructure, limited natural resources and basic public services, and a rapidly growing population. Approximately 70 percent of the population is under age 30. Unemployment was estimated at 50 percent in 1996.

Population growth rates (West Bank, 3.6 percent, Gaza, 3.8 percent) and fertility rates are among the highest in the world. Although immunization rates are high and infant mortality is relatively low, early marriage, closely spaced births, and high fertility all adversely affect maternal and child health. By WHO standards, Palestinian households have access to only one-third of the minimum water requirement. Periodic closing of the borders between the West Bank, Gaza, and Israel severely hampers Palestinians' mobility and access to commerce, employment, health, and other basic services. Poverty is especially endemic in Gaza, where one out of three families live below the poverty line of \$470 a year.

Maternal Health

The World Bank estimates that the maternal mortality ratio is 70–80 per 100,000 live births. The United Nations Relief and Work Agency (UNRWA), which administers basic services for refugees, estimates that maternal mortality is 70 in the West Bank and higher than 100 for Gaza. According to the Ministry of Health, pregnancy- and maternity-related complications are the third leading cause of death among Palestinian women of reproductive age. Eclampsia, postpartum hemorrhage, and chronic diseases associated with pregnancy are the leading causes of maternal death. About 30 percent of mothers experience a birth interval of 15 months or less.

Lack of care for mothers and newborns during the perinatal period is the most serious gap in the primary health care system. Approximately 60 percent of pregnant women are anemic. Approximately 50 percent of pregnant mothers receive adequate antenatal care, and only 17–30 percent of mothers receive postpartum care. Approximately 70 percent of mothers deliver in hospitals, but because public hospitals are overcrowded, mothers can be discharged as early as one to six hours after delivery.

West Bank: Demography

| | |
|------------------------------|-----------------|
| Female Population | 921,783 |
| Females 15–49 (millions) | Not available |
| Urban | Not available |
| Female-Headed Households | 8.3% |
| Life Expectancy (M/F) | 70.7/74.3 years |
| Annual No. of Births | 66,600 |
| Births to Adolescents | 6% |
| Sex Ratio (M per F) | 1.02 |
| Perinatal Mortality | Not available |
| Earned Income Share (M/F) | Not available |
| Per Capita Income | Not available |
| Legal Age for Marriage | Not available |
| Median Age at First Marriage | 18 |

Reproductive Health

| | |
|--------------------------------|---------------------------------|
| Maternal Mortality | 70–80 deaths per 100,000 births |
| Lifetime Risk (1 in) | Not available |
| Contraceptive Prevalence | 34% |
| Most Common Method | Intrauterine device |
| Unmet Need for Family Planning | Not Available |
| Total Fertility Rate | 5.6 children per woman |
| Prenatal Care | 80.3% |
| Tetanus Toxoid | Not available |
| Skilled Attendance at Delivery | 90% |
| Anemia in Pregnant Women | 40% |
| Median Age at First Birth | 20 |
| HIV Prevalence (Adults) | Not available |

Education

| | |
|-----------------------------------|---------------|
| Adult Literacy (M/F) | Not available |
| Secondary School Enrollment (M/F) | Not available |

Gaza:

Demography

| | |
|------------------------------|-----------------|
| Female Population | 503 394 |
| Females 15–49 (millions) | Not available |
| Urban | Not available |
| Female-Headed Households | 6 4% |
| Life Expectancy (M/F) | 68 9/70 3 years |
| Annual No. of Births | 53,900 |
| Births to Adolescents | 3 5% |
| Sex Ratio (M per F) | 1 01 |
| Perinatal Mortality | Not available |
| Earned Income Share (M/F) | Not available |
| Per Capita Income | Not available |
| Legal Age for Marriage | Not available |
| Median Age at First Marriage | 18 |

Reproductive Health

| | |
|--------------------------------|---------------------------------|
| Maternal Mortality | 70-80 deaths per 100,000 births |
| Lifetime Risk (1 in) | Not available |
| Contraceptive Prevalence | 25% |
| Most Common Method | Intrauterine device |
| Unmet Need for Family Planning | 16% |
| Total Fertility Rate | 6 9 children per woman |
| Prenatal Care | 80 3% |
| Tetanus Toxoid | Not available |
| Skilled Attendance at Delivery | 90% |
| Anemia in Pregnant Women | 40% |
| Median Age at First Birth | 20 |
| HIV Prevalence (Adults) | Not available |

Education

| | |
|-----------------------------------|---------------|
| Adult Literacy (M/F) | Not available |
| Secondary School Enrollment (M/F) | Not available |

USAID Health Strategy

In May 1998, the USAID Mission made the policy decision to begin engaging in the health sector through a two-year Pilot Health Project to improve the health status of mothers and children, especially newborns. Antenatal and postpartum care systems are extremely limited in their coverage, the most serious gap is during the perinatal period, when mother and baby are at highest risk of illness and death. High fertility rates and closely spaced births aggravate the health risks, and an already stressed health system is unable to provide ad-

equate care. With NGO partners, the USAID Mission will implement the pilot project in three regions, testing a selection of interventions to expand and improve maternal and child health and family planning education and services. Clinical, outreach, and management systems will be upgraded, and operations research will test the effectiveness of alternative health education and service delivery approaches. The project will be implemented in close coordination with the Ministry of Health and other donors engaged in maternal and child health programs. Successes and lessons learned from the pilot project will be used as foundations for a prospective and more comprehensive program in the future.

Four major sectors currently provide health services: The Palestinian Authority through the Ministry of Health (31 percent), UNRWA (12 percent), NGOs (40 percent), and the commercial sector (17 percent).

Ministry of Health

The Ministry of Health took over responsibility for health services from the Israeli civil administration in May 1994 for Gaza and in November 1994 for the West Bank. The Palestinian Authority is committed to an ambitious goal of achieving Health for All by 2000 by delivering primary health care. Primary health care is delivered through 261 sites, and 14 hospitals deliver secondary care. Only the 250-bed Al Makassed Hospital in Jerusalem provides tertiary care, but this is augmented by the Ministry of Health, which purchases services from Israeli, Egyptian, Jordanian, and NGO hospitals.

The national health policy and plan contains specific objectives for improving women's reproductive health and reducing maternal mortality and morbidity. There are explicit approaches and targets for improving prenatal and postnatal care, reducing high-risk pregnancies, and increasing contraceptive use. Two parallel and autonomous Women's Health and Development Departments, one in Gaza and another in West Bank, administer the Ministry of Health's women's programs.

UNRWA

UNRWA provides health services for refugees through 22 primary health care clinics in the West Bank and 17 in Gaza, including six maternal and child health centers. These clinics provide a full range of preventive, curative, and community health care, all free, including drugs. UNRWA also runs one hospital, and purchases secondary and tertiary services from Ministry of Health,

NGO, and Israeli hospitals. Reproductive health and family planning are priority concerns for UNRWA.

In the West Bank, UNRWA and the Palestinian Authority have formed several committees, which have set technical standards for family planning, maternal and child health, and immunization. The highest reported contraceptive prevalence rate, 34 percent, is in areas served by UNRWA.

NGOs

NGOs primarily serve communities that are not covered by either the Ministry of Health or UNRWA, and through their 12 hospitals, they are a major provider of secondary services. Maternity services are available at many of these hospitals. NGOs employ the largest numbers of doctors and village health workers, and were the first to offer family planning services and to integrate family planning and reproductive health services into primary health care. NGOs suffered serious funding cutbacks following the 1991 Gulf War and were forced to close some of their clinics.

The Patients Friends Society (PFS) is a nonprofit organization, that offers PHC and medical services to improve health care standards and provide charitable services to the poor and handicapped. With complimentary donor support, PFS has been operating a hospital and health clinics in the Jenin area.

The Union of Palestinian Medical Relief Committees, the premier Palestinian NGO, began in 1968. It is active in both the West Bank and Gaza, and has affiliates in many districts. It has strong central management and can muster volunteer medical services through numerous clinics, which offer comprehensive maternal and child health and family planning services. Clinics have community outreach workers who perform education, motivation, and follow-up services for clinic clients.

The Union of Health Work Committees (UHC) also has district affiliates and a private, nonprofit hospital in Gaza, which is supported by international NGOs. UHC facilities provide maternal and child health and family planning services and use volunteer outreach workers as well.

The Health Development, Information and Policy Institute (HDIP) is a private, nonprofit organization that

focuses on primary health care, including maternal and child health. HDIP works closely with the Palestinian Authority to develop health policies, standards, and protocols.

The Center for Development in Primary Health Care (CDPHC), a nonprofit organization, is dedicated to improving primary health care and conducts regular training courses for health personnel. CDPHC is at the forefront of developing health policies and receives funding from the Palestinian Authority and international donors.

For-Profit Sector

A flourishing private sector of practitioners, hospitals, and private medical companies, particularly in West Bank urban areas, provides a wide range of primary and secondary services and diagnostic testing. There are more than 160 private clinics in the West Bank, and a few in Gaza. The for-profit sector is rapidly expanding because an increasing number of physicians are entering private practice.

Other Donor Activities

UNFPA approved \$7.2 million in 1996 for a four-year program to strengthen the Ministry of Health's Women's Health and Development and Primary Health Care directorates. The program supports reproductive health services in 100 public health and women's health centers, women-led NGOs, and population education and gender advocacy activities.

The European Union (EU) has become the lead donor in the health sector. It began providing assistance to the Palestinian Authority in 1990 and is currently spending about 20 million Euros a year on health activities. This is supplemented by bilateral funding from individual European countries. The EU is funding the construction of a tertiary-level hospital in Gaza, health education for adolescents, primary health care policy reforms and pharmaceutical management. The EU uses UNRWA as its agent for importing medical equipment and contraceptives.

IPPF, through its affiliate, Palestinian Family Planning and Protection Association (PFPPA), has been supporting family planning services in the region since 1963, and is currently the central contraceptive procurement agent for UNFPA and other donors.

Appendix A

USAID Strategy to Promote Increased Use of Key Maternal Health and Nutrition Interventions

Maternal Mortality Reduction A Conceptual Framework

Maternal survival is the primary focus for USAID's Global Center for Population Health and Nutrition's (G/PHN) Strategic Support Objective 2 (SSO2). The conceptual framework designed for SSO2 considers two contexts: the life cycle of a woman, including the needs of the adolescent female and the pregnant and postpartum female, and the Agency's and Center's overall goals. All pregnancies pose some risk. If pregnancy leads to complications (i.e., spontaneous or unsafe abortion, hemorrhage, obstructed labor, eclampsia, and/or sepsis) the mother is at increased risk of dying. Research has shown that specific interventions enhance a woman's overall chances of surviving pregnancy and childbirth.

Family planning helps reduce the number of unwanted pregnancies and abortions. This is currently under the Center's Strategic Support Objective 1 (SSO 1), *Increased use by women and men of voluntary practices that contribute to reduced fertility*.

High rates of maternal survival are achieved when the major complications of pregnancy are prevented, or rapidly recognized and treated. A program for maternal mortality reduction also contributes to reductions in maternal morbidity and infant mortality. This conceptual framework, therefore, considers the importance of interventions to improve survival outcomes for the mother-infant pair.

Interventions on the Pathway to Maternal Survival

Promotion of Improved Nutritional Status Maternal nutrition includes adolescent (pre-pregnancy), pregnancy and interval (between pregnancy) nutrition. Improving maternal nutritional status demands attention to both micro- and macronutrition throughout the life cycle. Appropriate micronutrient interventions include iron to reduce anemia, low-dose vitamin A in areas of deficiency, and others, enabling women to better cope

with life-threatening complications such as hemorrhage or sepsis.

Appropriate macronutritional interventions include increasing overall nutritional stores and weight gain during pregnancy, which is the strongest predictor of infant birth weight.

Birth Preparedness Every pregnancy carries risk. Thus, prenatal care must include information that can help save the lives of mothers and newborns. Birth preparedness includes interventions such as prenatal care, planning for a clean and safe delivery, attended by a skilled attendant, adequate nutrition, including micronutrient supplements, immunization for tetanus toxoid, malaria chemoprophylaxis and STI treatment when indicated, recognition of complications, and planning for emergency transport and payment of fees associated with emergency care.

Management of Complications Families and community members need to recognize complications of pregnancy and of abortion (e.g., bleeding, fever, prolonged labor, and signs of pre-eclampsia). They also need to have the necessary decision-making skills and economic resources to access care and obtain transport to a facility. Care for obstetric complications needs to be timely and of high quality. While some severe cases may require surgical intervention, many life-threatening complications can be treated by midlevel front line providers (i.e., midwives) using basic medications and manual procedures.

Safe Delivery, Postpartum, and Newborn Care Clean delivery, elimination of harmful traditional practices and promotion of evidence-based modern medical practices are the primary components of a safe delivery. Since approximately 70 percent of all maternal deaths occur in the seven-day period following delivery, recognition, referral, and treatment of maternal complications must continue into the postpartum period. Good postpartum care includes counseling on family planning, especially birth spacing, proper rest, nutrition and hygiene for the mother, awareness of possible signs of complications, and other reproductive health information.

For infants, the most vulnerable time is also the first seven days of life. Keeping the newborn warm, resus-

citation, if necessary, proper hygiene, and immediate initiation and support for exclusive breastfeeding are critical life-saving interventions

Approach to Maternal Health and Nutrition Key Principles

The approach to maternal mortality reduction is based upon the fundamental belief that women must be able to make decisions regarding their pregnancies and the birth of their children. Programs in support of the strategy will be based upon the following principles:

- Women's reproductive rights include the right to knowledge regarding their own bodies and to make decisions regarding becoming pregnant and seeking care,
- Women's full participation in planning, implementation and evaluation of maternity care programs in their communities is essential,
- Maternal mortality reduction is supported by gender equity in access to education, income, and decision-making in the community,
- Successful efforts to empower women must also involve men

Other Key Elements of the Approach

Geographic Focus

Over half of the world's maternal deaths occur in just eight countries—India, Nigeria, Bangladesh, Ethiopia, Indonesia, Pakistan, Nepal and Uganda. A number of other countries have extremely high maternal mortality ratios but, because of their smaller population size, contribute relatively fewer deaths to the global total. In order to maximize its impact on reducing the number of maternal deaths, priority should be given to USAID's Joint Programming Countries and, within that category and to the extent feasible, principally on those identified above. Severity criteria, and other relevant criteria, are also used to identify additional countries that may be eligible to receive funds.

Program Focus

The four technical areas identified as intervention on the pathway to maternal survival will be addressed through research, including operations research, advocacy and policy initiatives, increasing knowledge of and demand for care, and improvements in the quality of services.

Research Research will be focused on filling critical gaps in our knowledge of how to design successful and cost-effective maternal mortality reduction programs. In many cases, the best interventions have been identified. In a few cases, such as the use of low dose vitamin A in pregnancy, further research needs to be done. Models for delivering micronutrient supplements and for detection and treatment of infection and complications will be evaluated and disseminated. Models of integrated family planning/maternal health and nutrition, including postabortion care, will be tested and assessed. Measurement issues, particularly the field testing of indicators to assess program achievements, will receive focused attention.

Policy and Advocacy The policy environment for maternal health and nutrition can be improved at all levels. Health policy and systems reform is essential to lay the foundation for sustainable programs. The support of national-level policy makers can be a key factor in enabling communities to take action. There is consensus, however, that the community level (as opposed to the national level) is the most appropriate focal point for most maternal health interventions. The community must have the skills to advocate effectively for the required resources (personnel, funding, equipment), as well as for client-centered services. In the interest of promoting sustainable development, USAID will seek to address deficiencies in supplies, logistics, and transport through policy and systems reform, rather than through provision of commodities. The private sector must be encouraged to increase its participation in protecting the lives of women. Additionally, appropriate standards of practice need to be in place to guide the delivery of services. Barriers to provision of care must be reduced and eliminated.

Knowledge and Demand Many women do not know how to safeguard their health during pregnancy or how to recognize potential complications. In some settings, maternal mortality is so common that the woman, her family, and the community do not realize that it is preventable. Furthermore, the decision to seek care is rarely up to the woman alone. Therefore, efforts to increase knowledge of and demand for care must be targeted at a variety of decision-makers, with particular attention to gender issues and cultural norms. Community systems must be strengthened in order to support families to access health services, especially in the face of life-threatening obstetric complications.

Quality Programs and Services Significant improvements must be made in the provision of maternal health and nutrition services and women's access to those services. The existence of appropriate standards and norms and competency-based preservice education in accordance with those standards are necessary elements of any sustainable approach to improving service quality.

Monitoring and Evaluation

USAID is committed to monitoring, evaluating and documenting progress toward achieving Strategic Support Objective 2. Testing the indicators that relate to maternal health and nutrition will be part of the research efforts implemented under this strategy. In particular, measures of service quality will be field-tested. Indicators need to be developed for assessing policy interventions and women's participation.

Significant work remains to be done in identifying appropriate indicators for maternal mortality reduction. The maternal mortality ratio is best utilized as an indicator of the magnitude of the problem for the purposes of advocacy, but is unsatisfactory for measuring program progress over intervals of less than ten years. USAID and its partners also collaborate with WHO, UNICEF, the World Bank and others to develop international standards and indicators for maternal mortality reduction.

Appendix B

Tools for Maternal and Newborn Health Programming

Abortion

Clinical Management of Abortion Complications A Practical Guide WHO/FHE/MSM/94 1 Geneva World Health Organization, 1994

Complications of Abortion Technical and Managerial Guidelines for Prevention and Treatment Geneva World Health Organization, 1995

Postabortion Care A reference manual for improving quality of care Postabortion Care Consortium, 1995

Studying Unsafe Abortion A Practical Guide WHO/RHT/MSM/96 25 Geneva World Health Organization, 1996

Complication Management

Detecting Pre-eclampsia A Practical Guide Geneva World Health Organization, 1994

Eclampsia Module Geneva World Health Organization, 1996

Majai, M , et al *Management of Obstetric and Neonatal Emergencies in Community Health Centers* Arlington, VA MotherCare, 1993

Obstetric and Contraceptive Surgery at the District Hospital WHO/MCH/MSM/92 8 Geneva World Health Organization, 1992

Obstructed Labor Module Geneva World Health Organization, 1996

Postpartum Hemorrhage Module Geneva World Health Organization, 1996

Preventing Prolonged Labour The Partograph WHO/FHE/MSM/93 8 Geneva World Health Organization, 1993

Puerperal Sepsis Module Geneva World Health Organization, 1996

Diagnostics

Campbell, O , et al *Off to a Rapid Start Appraising Maternal Health and Services* *International Journal of Gynecology and Obstetrics*, Vol 48 (Suppl) June 1995

Guidelines for Monitoring the Availability and Use of Obstetric Services UNICEF/WHO/UNFPA

Miller, R , et al *The Situation Analysis Approach to Assessing Family Planning and Reproductive Health Services A Handbook* New York Population Council, 1997

MotherCare Diagnostic Tools Anemia Prevalence and Etiology Survey, Arlington, VA MotherCare, Autodiagnosis, Community Baseline Survey, Community Diagnosis, Situation Analysis, and Training Needs Assessment

Safe Motherhood Needs Assessment Methodology WHO/FHE/MSM/95 1 Geneva World Health Organization, 1995

Situation Analysis Tool for Obstetric Services New York Population Council, 1995

Emergency Contraceptives

Emergency Contraceptive Pills A Resource Packet for Health Care Providers and Programme Managers Welcome, MD Consortium for Emergency Contraception, 1997

Funding

Directory of Funding Sources for Safe Motherhood Projects WHO/FHE/MSM95 2E Geneva World Health Organization, 1995

Implementation of Safe Motherhood Programs

Care of Mother and Baby at the Health Center A Practical Guide WHO/FHE/MSM/94 2 Geneva World Health Organization, 1994

Cost Estimation for Reproductive Health Commodities RPM/MC 1997

Essential Elements of Obstetrical Care at First Referral Level Geneva World Health Organization, 1991

Feuerstein, M T *Turning the Tide Safe Motherhood A District Action Manual* London, U K Save the Children, 1993

Home Based Maternal Records Guidelines for Development, Adaption and Evaluation Geneva World Health Organization, 1994

Maine, D Lessons for Program Design from PMM Projects *International Journal of Gynecology and Obstetrics*, Vol 59 (Suppl 2) November 1997

Maine, D *Safe Motherhood Programs Options and Issues* New York Columbia University Center for Population and Family Health, 1991

McGinn, T, et al *Setting Priorities in International Reproductive Health Programs A Practical Framework* New York Columbia University Center for Population and Family Health, 1996

Measham, D , Koblinsky, M , and Tinker, A *Toward the Development of Safe Motherhood Program Guidelines Report of a Workshop Organized by the World Bank and MotherCare*, 1993

The Mother-Baby Package Costing Spreadsheet Geneva World Health Organization, 1997

Mother-Baby Package Implementing safe motherhood in countries WHO/FHE/MSM/94 11 Geneva World Health Organization, 1994

The Mother-Baby Package Opening the Gates to Life, A Video and User's Guide Geneva World Health Organization, 1997

MotherCare/The Manoff Group *Applying Social Marketing to Maternal Health Projects The MotherCare Experience*

MotherCare/Save the Children-Bolivia *The Warmi Project A Participatory Approach to Improve Maternal and Neonatal Health An Implementor's Manual*

Where Women Have No Doctor Berkeley, CA The Hesperian Foundation, 1997

Maternal Death Audits

Safe Motherhood Needs Assessment Part VI Maternal Death Review Guidelines WHO/FHE/MSM/95 1 Geneva World Health Organization, 1995

Verbal Autopsies for Maternal Deaths WHO/FHE/MSM/95 15 Geneva World Health Organization, 1995

Monitoring and Evaluation

Assessing Maternal and Perinatal Health Tools and Methods—The MotherCare Experience Arlington, VA MotherCare Project, 1991

Bertrand, J , and Tsui, A *Indicators for Reproductive Health Program Evaluation* Chapel Hill, NC University of North Carolina, September 1995

Guidelines for Maternal Mortality Epidemiological Surveillance Washington, DC Pan American Health Organization, 1992

Harrison, A *Assessing Maternal and Perinatal Health Tools and Methods* Arlington, VA MotherCare and John Snow, Inc , 1994

Indicators to Monitor Maternal Health Goals WHO/FHE/MSM/94 14 Geneva World Health Organization, 1994

Maine, D , et al *The Design and Evaluation of Maternal Mortality Programs* New York Columbia University Center for Population and Family Health, 1997

Measuring Health System Performance A Handbook of Indicators PHR, 1997

Rapid Evaluation Method Guidelines for Maternal and Child Health, Family Planning and Other Health Services Geneva World Health Organization, 1993

Revised 1990 Estimates of Maternal Mortality A New Approach by WHO and UNICEF WHO/FRH/MSM/96 11, UNICEF/PLN/96 1 Geneva World Health Organization, 1996

UNICEF/WHO/UNFPA *Guidelines for Monitoring the Availability and Use of Obstetric Services* New York United Nations Children's Fund, 1997

Nutrition

Anemia Detection in Health Services Guidelines for Program Managers Seattle, WA PATH, 1996

Preventing and Controlling Iron Deficiency and Anemia Through Primary Health Care Geneva World Health Organization, 1989

Safe Vitamin A Dosage During Pregnancy and Lactation Geneva World Health Organization, 1997

Protocols

Ministry of Human Development, National Secretariat of Health, and MotherCare/Bolivia *Care for Women and the Newborn in Health Posts, Health Centers and District Hospitals* LaPaz Bolivian Health Norm NB-SNS-02-96, 1996

Obstetric Management Protocols for Regional-Departmental Hospitals, Guidelines for the Management of the Principal Neonatal Emergencies for Regional Departmental Hospitals, and Management of Obstetric and Neonatal Emergencies in Community Health Centers and Health Posts Guatemala City Quetzaltenango Maternal and Neonatal Health Project INCAP/Pan American Health Organization, 1993

Research

Bentley, M, et al *A Protocol for Using Ethnographic Methods to Investigate Women's Health* New York The Ford Foundation and Johns Hopkins University, 1993

Chambers, R *Rural Appraisal Rapid Relaxed and Participatory* Institute of Development Studies Discussion Paper 331, October 1992

Graham, W, et al *Asking Questions About Women's Reproductive Health in Community-Based Surveys Guidelines on Scope and Content* London London School of Hygiene and Tropical Medicine, April 1995

Weller, S C, and Romney, A K *Systematic Data Collection* Newbury Park Sage Publications Qualitative Research Methods Series No 10, 1988

Syphilis Control

Brady, W, et al, eds *Training Package for Prevention and Control of Syphilis in Maternal and Child Health Programs* Arlington, VA MotherCare and John Snow, Inc, 1996

Training

Beck, D, Buffington, S, and McDermott, J *Healthy Mother and Healthy Newborn Care A Reference for Care Givers* 1997

Care in Normal Birth A Practical Guide WHO/FRH/MSM/96 24 Geneva World Health Organization, 1996

Care of Mother and Baby at the Health Center WHO/FHE/MSM/94 2 Geneva World Health Organization, 1994

Foundation Module The Midwife in the Community Geneva World Health Organization, 1996

Interpersonal Communication and Counseling Curriculum for Midwives Arlington, VA MotherCare/Family Health Services Project in Nigeria, 1993

INTRAH/PRIME *Sourcebook*

Klein, S *A Book for Midwives A Manual for Training Traditional Birth Attendants and Community Midwives* Palo Alto, CA The Hesparian Foundation, 1995

Management of Life Threatening Obstetrical Emergencies Arlington, VA MotherCare

Marshall, M , and Buffington, S *Life Saving Skills Manual for Midwives, Life Saving Skills Clinical Practice Guide, Life Saving Skills Manual for Policymakers and Trainers*, 3rd ed Washington, DC American College of Nurse-Midwives, 1998

Midwifery Education Modules (5-volume set) WHO/FRH/MSM/96 1 Geneva World Health Organization, 1996

Midwifery Practice Measuring, Developing and Mobilizing Quality Care WHO/FHE/MSM/94 12 Geneva World Health Organization, 1994

Safe Motherhood Training Package New York United Nations Children's Fund, 1994

Schieber, B , et al *Training Manual for Trainers of Traditional Birth Attendants* Arlington, VA MotherCare, 1993

Strengthening Communication Skills for Women's Health A Training Guide New York FCI

Thermal Control of the Newborn WHO/FHE/MSM/93 2 Geneva World Health Organization, 1993

Appendix C

Definitions

Lifetime risk The risk of a woman dying from pregnancy or childbirth during her lifetime, based on maternal mortality and fertility rate

Maternal death The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes

Maternal health Maternal mortality and morbidity related to pregnancy and childbearing,

Maternal mortality rate Number of maternal deaths per 100,000 women of reproductive age (15–49)

Maternal mortality ratio Number of maternal deaths per 100,000 live births

Met need for essential obstetric care Percent of women with serious obstetric complications seen at essential obstetric care facilities

Neonatal deaths Deaths within the first 28 days of life

Perinatal deaths Stillbirths and deaths within the first week of life

Perinatal mortality rate Perinatal deaths per 1,000 births

Rectovaginal fistula An opening between the rectum and vagina that allows fecal material to pass into the vagina

Skilled attendance at delivery Attendance by a skilled person (doctor, midwife, nurse) at delivery per 100 live births

Unmet need Women not desiring pregnancy who are not using contraceptives

Unsafe abortion The termination of pregnancy performed or treated by untrained or unskilled persons

Uterine prolapse Dropping down of the uterus into the vaginal cavity In extreme cases, the uterine cervix may extend beyond the vaginal opening

Vesicovaginal fistula An opening between the bladder and vagina allowing the seepage of urine into the vagina

Appendix D

USAID Indicators for Maternal and Newborn Health

3.3 Indicator *Early neonatal mortality rate (ENMR)*

Definition The death of a live-born infant during the first week of life (0–6 days). The rate is the number of early neonatal deaths per 1,000 live births. WHO estimates that there were 3,370,000 early neonatal deaths in 1995. The numerator is the number of infants dying within the first six days of life, the denominator is the number of live births.

Data source The principal source of the early neonatal mortality data is the demographic and health surveys. The early neonatal mortality rate can also be calculated from a WHO database that includes data from vital registration, sample registration, and community studies.

3.3 Indicator *Percent of women ages 15 to 49 with anemia*

Definition An estimate of the proportion of women ages 15 to 49 who are anemic (as indicated by hemoglobin less than 11 for pregnant women and 12 for nonpregnant women). The numerator is the number of women ages 15 to 49 with hemoglobin below the cutoff criteria for anemia (11 for pregnant women, 12 for nonpregnant women), the denominator is the number of women ages 15 to 49 who are surveyed.

Data source Special population-based household surveys or surveillance, routine maternal records in health services facilities.

3.3.3 a Indicator *National maternal health strategy operationalized*

Definition The percent of a government's administrative units that have operationalized the national maternal health strategy.

Measurement This indicator may best be measured through a composite of several indicators such as the existence of a maternal health strategic plan or operational plan that (1) defines the objectives of the country's maternal health program, (2) defines a clear strategy for attaining these objectives, (3) establishes an organizational structure for the program that is consistent with the strategy covering both public and private sec-

tors, (4) estimates and projects the resources required to implement the strategy and a specification of how these resources are to be secured, and (5) identifies resources allocated. A maternal health plan may be included or named as a safe motherhood, reproductive health, women's health, nutrition, or other plan. These policies may include other determinants of maternal survival such as girls' nutrition, female genital mutilation, family planning, infection, prevention, or control. Specific guidelines on essential components of a maternal health plan are to be determined nationally.

Data source Documents and budget and financial reports from the national government agency responsible for maternal or reproductive health.

3.3.4 a Indicator *Percent of births attended by medically trained personnel*

Definition The proportion of births that are attended by health personnel who have received medical training. The numerator is the number of births attended by medically trained personnel during a specified time period, the denominator is the number of live births during the same time period. Note: Other attendants (such as TBAs) should be excluded from this category. TBAs are those who have acquired skills by delivering babies themselves, through apprenticeship to other TBAs, or who have limited (less than 6 months) training. Other attendants such as family members designated by an extended family should also be excluded.

Data source Using routine health information system data reported by medical personnel, which are collected annually. Alternatively, less frequent household surveys could be done.

3.3.4 b Indicator *Percent of women attended at least once during pregnancy by trained health personnel*

Definition The proportion of pregnant women seen at least once during their pregnancy by trained health personnel. The numerator is the number of pregnant women attended by trained health personnel at least once during their most recent pregnancy, the denominator is the number of live births (this is a proxy for the number of pregnant women).

Data source Household surveys may provide a reliable method of coverage information and provide a means of collecting data that can be disaggregated by type of attendant. Where possible, facility records and registries can be used.

3.3.4.c Indicator *Percent of women with serious obstetric complications seen at essential obstetric care facilities (met need for EOC)*

Definition The proportion of women estimated to have serious obstetric complications that are seen at facilities reporting to offer essential obstetric care. The numerator is the number of serious, complicated obstetric cases in all facilities reporting to offer essential obstetric care (in a defined time period), the denominator is the number of cases of serious obstetric complications among pregnant women (in the same time period). The denominator can be calculated by taking 15 percent of the total number of live births.

Data source Estimates for the numerator may be found in health facility records.

3.3.4.d Indicator *Number of facilities providing basic essential obstetric care 24 hours/day (per 500,000 people)*

Definition The number of health facilities that provide basic essential obstetric care (available 24 hours a day) in the 6 months prior to the time of data collection, per 500,000 population.

Data source Data may be available from routine health services statistics but may also be obtained from health facility surveys.

3.3.4.e Indicator *Percent of pregnant women receiving any iron supplements*

Definition Proportion of pregnant women who receive any iron supplements. The numerator is the number of pregnant women receiving any iron supplements (in targeted areas), the denominator is the number of women who have delivered in the past 6 months (in targeted areas).

Note Ideally, the denominator should be the number of pregnant women; however, considering the sample size would have to be extremely large, it is recommended that women who have delivered in the past 6 months be used instead.

Data source Health service data or population-based household surveys and surveillance. A cross-sectional survey that asks pregnant women to recall receipt of supplements over a period of time (the past month) may be useful.

3.3.4.f Indicator *Percent of adults who are knowledgeable about maternal complications of pregnancy and childbirth*

Definition The percent of all adults who can identify four of seven warning signs of maternal complications of pregnancy and childbirth: antenatal vaginal bleeding, high fever, abdominal pain, swelling of hands and face, active labor for more than 12 hours, placenta retained for more than 1 hour, and seizures. The numerator is the number of adults who can identify four of seven warning signs of maternal complications, the denominator is the number of adults surveyed (men and women).

Data source Population-based household surveys of adult men and women.

3.3.4.g Indicator *Percent of facilities offering basic obstetric care that have current standards and protocols for essential obstetric care utilized by the providers and a process for assessing compliance*

Definition The number of facilities offering basic obstetric care that have current standards and protocols for essential obstetric care that are utilized by the providers. The numerator is the number of facilities offering basic obstetric care that have current standards and protocols for essential obstetric care that are utilized by providers, the denominator is the number of facilities offering essential obstetric care.

Data source Facility records and registry data or health facility surveys, and supervisory visits.

3.3.4.h Indicator *Percent of facilities offering essential obstetric care that have had no stock-outs in the last 6 months of any of the following: tetanus toxoid, oxytocin drugs, antibiotics, iron, and family planning commodities, including emergency contraception*

Definition The number of facilities offering essential obstetric care and that have had tetanus toxoid, oxytocin drugs, antibiotics, iron, and family planning commodities available throughout the 6 months prior to the data collection. The numerator is the number of facili-

ties offering essential obstetric care that have had no stock-outs during the 6 months prior to the data collection, the denominator is the number of facilities providing essential obstetric care

Data source Health facility surveys

3.3.4.1 Indicator *Percent of facilities offering essential obstetric care that have adopted prototype systems for monitoring maternal case fatality rates*

Definition The proportion of facilities offering essential obstetric care that have adopted standards for monitoring maternal case fatality rates. The numerator is the number of facilities offering essential obstetric care that record and aggregate data on obstetric complications and deaths, the denominator is the number of facilities offering essential obstetric care

Data source Health facility registers and client records

Appendix E

Gender Plan of Action
Statement by J. Brian Atwood, Administrator, U.S.
Agency for International Development
March 12, 1996

More than twenty years ago, the U.S. Agency for International Development (USAID) officially recognized the critical role of women in development by establishing an Office of Women in Development. This was only a first step in a long journey to fully address gender issues in USAID programs.

USAID has played a leadership role in the donor community in focusing on the crucial role of women in advancing social and economic development since the early 1970s. During the last several years, USAID has made significant increases in the level of funding directed to programs that directly benefit women and girls. The agency has also launched major new initiatives in the areas of reproductive health for women, girls education, women and microenterprise, and women's political participation and legal rights.

These represent significant accomplishments. But perhaps the greatest accomplishment is the increasing realization that for development to be effective, programs must pay attention to the central role of women in the economic and social advancement of a nation.

But does the agency still miss opportunities because we have not designed and implemented our activities in light of the different roles and needs of women and men in development? Undoubtedly.

We must make the most of our opportunities to achieve lasting results.

- Our efforts to strengthen democratic institutions must always consider the obstacles that women face as they attempt to gain access to their own political and legal systems,
- Our efforts to improve incomes must regularly consider whether the new earnings will be controlled by mothers who—research has found—who are more likely than fathers to spend it on children's nutrition, and,

- USAID's credit services and training programs must always make sure that office hours and course schedules take into account the different time constraints that men and women face.

To make sure that USAID programs continue to achieve their best results, we will make some changes in the way we do business. We will ensure that our systems facilitate and encourage attention to gender issues, and we will strengthen our technical capacity to address women's issues as development issues.

Some actions can be taken right away—and we are taking these actions. This year, the Agency Sector Reviews, in which we examine Agency performance against each of its objectives, will focus particularly on gender issues. We will modify the Agency's Strategic Framework to reflect the key role of gender considerations in the achievement of USAID goals. We have appointed a senior policy advisor on Women in Development, in the Bureau of Policy Planning Coordination, to reinforce the integration of gender issues into Agency policies across sectors. We are implementing a Women in Development Fellows program to help build our technical expertise. Several other key measures, noted in this Gender Plan of Action, will soon be underway.

Equally important, we explore additional measures that will ensure continued attention to gender issues in USAID—measures that might be taken in the areas of data collection and analysis, personnel recruitment, training and performance, or procurement systems.

To this end, I have charged the Agency's Counselor to draw on your expertise, and to work closely with the staff who will ultimately be held responsible for implementing such actions. While there may be some options that we will not be able to pursue for lack of resources, I am confident that actions we take will yield results in program performance. I look forward to receiving the results of the Counselor's work by May 31.

Through attention to gender issues, our development assistance programs will be more equitable, more effective, and—ultimately—more sustainable. We can all do a better job of making this come to pass.

USAID Gender Plan of Action March 1996

For more than 20 years, USAID has worked to ensure the integration of gender considerations into its programs. The Agency is continuing to foster the institutional changes needed to support women in development. Having reviewed a variety of options for “institutionalizing” attention to issues concerning women in development, USAID has developed this Gender Plan of Action.

In order to build commitment to consideration of gender issues as key development issues, USAID will

- Modify the Agency’s strategic framework — objectives, approaches and indicators, as appropriate — to reflect under each strategic objective the key role of women in development,
- Update and strengthen the Agency’s Women in Development Policy Paper, and,
- Ensure that gender considerations are incorporated into the key strategic framework, forthcoming implementation guidance.

In order to build capacity to address women in development issues in all Agency programs, USAID will

- Appoint a senior policy advisor on Women in Development in the Policy Planning Coordination Bureau to reinforce the integration of gender issues into Agency policies across sectors,
- Implement a Women in Development Fellows program to help build a technical cadre to support the integration of gender issues into development programs, and to allow for the assignment of advisors in all USAID Bureaus,
- Develop guidance regarding the authority, mandate, and technical qualifications of Women in Development officers and coordinators throughout the Agency, and

- Incorporate gender considerations into Agency guidance on re-engineering and re-engineering training that encompasses all functions, including monitoring and evaluation, CDIE training in the development of indicators, new entry training, and sectoral training.

In order to build incentives for the consideration of gender issues, USAID will

- Establish a Women in Development Performance Fund to award supplementary program funds to Agency programs that best address gender issues as integral components of effective development assistance.

Finally, the Agency’s Counselor will

- Report to the Administrator regarding the feasibility of actions such as addressing program performance on Women in Development via the Agency’s system for evaluating the performance of personnel, improving direct-hire staff expertise in Women in Development through the Agency’s system of technical backstops and/or training of personnel, improving USAID’s collection and use of sex segregated indicators of results, and, providing incentives for improved Women in Development expertise among contractors and collaborators via USAID’s procurement procedures,
- Develop and report to the Administrator on implementation plans for those actions deemed necessary and feasible, and
- Monitor the overall implementation of the Gender Plan of Action, including such additional feasible actions as are agreed.

In undertaking this charge, the Counselor will consult with, and receive the strong support of USAID central and regional Bureaus. The Counselor will also consult with the USAID partner community — nongovernmental organizations (and, in particular, the Advisory Committee on Voluntary Foreign Aid), universities, and consulting firms. The Counselor will report to the Administrator as follows:

- By May 31, 1996, provide recommendations regarding the feasibility of various options for further building USAID's ability to incorporate Women in Development considerations throughout its programs
- By July 31, 1996, provide implementation plans for feasible actions approved by the Administrator
- By October 31, 1996, report on the overall implementation of the Gender Action Plan. It is expected that, at this point, the Plan in its entirety will be substantially implemented
- Language will be included in the Automated Directives System specifying that strategic planning and results reporting documents should indicate how gender considerations are being addressed
- Each full mission will review and revise its Mission Orders as necessary in order to apply to its directives the forthcoming revision of the Agency's WID Policy

USAID Gender Plan of Action Additional Measures June 12, 1996

- Position descriptions for Agency Program Officers will be revised to specifically include responsibility for addressing gender issues
- Experience and understanding of Women in Development issues will be taken into consideration in recruitment for Program officers and appropriate technical officers
- Guidance concerning the critical need to address gender issues in development will be issued to the staff and committees that rate the performance of both civil service and foreign service personnel, and to the boards that select foreign service personnel for promotion
- USAID competitive assistance guidelines will include a requirement that applicants for assistance demonstrate their abilities to address gender/WID issues. In contracting, a methodology will be developed for including a technical requirement regarding gender issues in statements of work for RFPs
- Indicators of program impact on the social and economic status of women will be included in the menu of indicators being developed for USAID missions. In addition, the Agency Strategic Framework will be supported by sex disaggregated results indicators and the collection and analysis of sex disaggregated data, as appropriate

Appendix F

List of PHN Strategic Objectives/Intermediate Results Including Maternal Health by USAID Missions

| USAID mission | Objectives and Results in the PHN Sector |
|---------------|--|
| Bangladesh | <p>SO-1 Fertility Reduced and Family Health Improved SO level Indicator: Pregnancies Attended by Trained Provider Intermediate Results 1 1 Use of High Impact Family Health Services Increased IR Indicator 1 1 5 Tetanus Toxoid Vaccination Coverage of Pregnant Women Increased</p> |
| India | <p>SO 2 Reduced Fertility and Improved Maternal and Child Health SO level Indicator 2 1 Percent of Pregnant Women Receiving Antenatal Care SO level Indicator 2 2 Percent of Recent Births Attended by a Trained Provider IR level Indicator 2 3 1 Number/Percentage of Pregnant Women Receiving Antenatal Care (ANC) Services IR level Indicator 2 3 2 Number and Percentage of Deliveries Attended By Trained Provider</p> |
| Nepal | <p>SO 2 Reduced Fertility and Improved Maternal and Child Health Intermediate Result 2 3 Increased Use of Selected Maternal and Child Health Services Indicator 2 3 4 Births in the Last Three Years in Which Mothers Received Antenatal Services from a Trained Provider</p> |
| Cambodia | <p>SO 2 Improved Maternal and Child Health Intermediate Result 2 1 Leadership for Quality Maternal and Child Health Assumed by Public Sector IR level Indicator 2 1 1 Key Policies in Place for Reproductive Health Child Survival and Sustainability Intermediate Result 2 2 Improved Service Delivery in the Public and Private Sectors IR level Indicator 2 2 1 Births Attended by Trained Health Personnel</p> |
| Indonesia | <p>SO 5 Sustained Improvements in Health and Reduced Fertility SO level Indicator 5 2 Proportion of Births Attended by Trained Health Personnel During Delivery Intermediate Result Increased Use Quality and Sustainability of Family Planning and Other Reproductive Health Services IR level Indicator 5 1 3 Proportion of Obstetric Complications Referred to Treatment Facilities in Demonstration Areas IR level Indicator 5 1 4 Proportion of Pregnant Women Who Consume Appropriate Iron Supplementation in Demonstration Areas Indicator 5 1 6 Number of Provinces and Districts With a Fully Functioning and Institutionalized National Clinical Training Network (NCTN)</p> |
| Philippines | <p>SO 3 Reduced Fertility Rate and Improved Maternal and Child Health SO level Indicator: Percent of Births in High Risk Groups Intermediate Result Increased Public Sector Provision of FP/MCH Services</p> |
| Egypt | <p>SO 5 Sustainable Improvements in the Health of Women and Children SO level Indicator: Maternal Mortality Ratio Intermediate Result 5 1 Improved Quality and Increased Utilization of Maternal Perinatal and Child Health Services IR level Indicator 5 1 1 Districts in Upper Egypt Providing Effective Essential Obstetric Care Intermediate Result 5 3 Improved Environment to Plan Manage and Finance Sustained Maternal & Child Health Systems IR level Indicator 5 3 1 Annual Increase in MOHP Funding Allocated for Primary and Preventive Services</p> |
| Jordan | <p>SO 3 Improved Access to and Quality of Reproductive and Primary Health Care Intermediate Result 3 2 Increased Availability of Reproductive and Primary Health Care Services in Public Sector IR level Indicator 3 2 1 Percentage of Women Who Deliver in Hospitals with Comprehensive Postpartum Centers (CPP) and Return for Postpartum Care</p> |
| Morocco | <p>SO 1 Reduced Fertility and Improved MCH Intermediate Result 1 1 Greater Access to Quality FP/MCH Services Responsive to Client Demand IR level Indicator 1 1 3 Met Need for Emergency Obstetrical Care in Target Areas Intermediate Result 1 2 Improved Policy Environment Supporting FP/MCH Services IR level Indicator 1 2 1 Increased Proportion of Operating Costs Associated With USAID FP/MCH Program Financed by the GOM IR level 1 2 2 Policies/Regulations Supportive of Improved FP/MCH Services Access and Quality</p> |

Appendix G

Endnotes

- 1 WHO defines essential obstetric care as including problem pregnancy management, medical treatment, manual procedures, monitoring of labor, neonatal special care, surgical obstetrics, anesthesia, and blood replacement
- 2 The maternal mortality ratio is the number of maternal deaths per 100,000 live births
- 3 They include Egypt, Jordan, Morocco, West Bank and Gaza, and Yemen in the Near East, Bangladesh, India, Nepal, and Pakistan in South Asia, and Cambodia, Indonesia, Philippines, and Vietnam in Southeast Asia
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Appendix H

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