MNPI 2002

A Tool for Maternal Health Advocates

Maternal and Neonatal Program Effort Index

Egypt

Results from the 2002 Survey

Worldwide, over 500,000 women and girls die of complications related to pregnancy and childbirth each year. Over 99 percent of those deaths occur in developing countries such as Egypt. But maternal deaths only tell part of the story. For every woman or girl who dies as a result of pregnancy-related causes, between 20 and 30 more will develop short- and long-term disabilities, such as obstetric fistula, a ruptured uterus, or pelvic inflammatory disease (see box on page 2).

Egypt's maternal mortality rate continues at an unacceptably high level. Although maternal mortality figures vary widely by source and are highly controversial, the best estimates for Egypt suggest that some 1,400[1] women and girls die each year due to pregnancy-related complications. Additionally, approximately another 28,000[2] Egyptian women and girls will suffer from injuries or disabilities caused by complications during pregnancy and childbirth each year.

The tragedy—and opportunity—is that most of these deaths can be prevented with cost-effective health care services. Reducing maternal mortality and disability will depend on identifying and improving those services that are critical to the health of Egyptian women and girls, including antenatal care, emergency obstetric care, adequate postpartum care for mothers and babies, and services for family planning and sexually transmitted infections (STIs), including HIV/AIDS. With this goal in mind, the Maternal and Neonatal Program Effort Index (MNPI) is a tool that reproductive health care advocates, providers, and program planners can use to

- assess current health care services
- identify program strengths and weaknesses
- plan strategies to address deficiencies
- encourage political and popular support for appropriate action
- track progress over time

Health care programs to improve maternal health must be supported by strong policies, adequate training of health care providers, and logistical services that facilitate the provision of those programs. Once maternal and neonatal programs and policies are in place, all women and girls must be ensured equal access to the full range of services.

At-a-Glance: Egypt

Population, mid-2004	73,390,000
Average age at first marriage, all women	19 years
Births attended by skilled personnel	61%
Total fertility rate (average number of children born to a woman during her lifetime)	3.2
Females giving birth by age 20	14.4%
Children who are exclusively breastfed at ages less than 6 month	56%
Contraceptive use among married women, ages 15-49, modern methods	57%

Sources: Population Reference Bureau – *2002 Women of Our World; 2004 World Population Data Sheet; The World's Youth, 2000*; and *1999 Breastfeeding Patterns in the Developing World* (see *www.prb.org/datafinder*); 2003 Egyptian Demographic and Health Survey.

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Understanding the Causes of Maternal Mortality and Morbidity

Maternal mortality refers to those deaths that are caused by complications due to pregnancy or childbirth. These complications may be experienced during pregnancy or delivery itself, or may occur up to 42 days following childbirth. For each woman who succumbs to maternal death, many more will suffer injuries, infections, and disabilities brought about by pregnancy or childbirth complications, such as obstetric fistula.[3] In most cases, however, maternal mortality and disability can be prevented with appropriate health interventions.[4]

Some of the direct medical causes of maternal mortality include hemorrhage or bleeding, infection complications from abortion, hypertensive disorders, and obstructed labor. Other causes include ectopic pregnancy, embolism, and anesthesia-related risks.[5] Conditions such as anemia, diabetes, malaria, STIs, and others can also increase a woman's risk for complications during pregnancy and childbirth, and, thus, are indirect causes of maternal mortality and morbidity. Because most maternal deaths occur during delivery and during the postpartum period, emergency obstetric care, skilled birth attendants, postpartum care, and transportation to medical facilities if complications arise are all necessary components of strategies to reduce maternal mortality.[6] These services are often particularly limited in rural areas, so special steps must be taken to increase the availability of services in those areas.

Efforts to reduce maternal mortality and morbidity must also address societal and cultural factors that affect women's health and their access to services. Women's low status in society, lack of access to and control over resources, limited educational opportunities, poor nutrition, and lack of decisionmaking power contribute significantly to adverse pregnancy outcomes. Laws and policies, such as those that require a woman to first obtain permission from her husband or parents, may also discourage women and girls from seeking needed health care services—particularly if they are of a sensitive nature, such as family planning, complications from abortion, or treatment of STIs.

Traditional practices that affect maternal health outcomes include early marriage and female genital cutting. In some countries, many women marry before the age of 20, and pregnancies in adolescent girls, whose bodies are still growing and developing, put both the mothers and their babies at risk for negative health consequences.

Female genital cutting, also known as female circumcision or genital mutilation, is a practice that involves removing all or part of the external genitalia and/or stitching and narrowing the vaginal opening (which is called *infibulation*). The practice is common in some parts of Africa and the Middle East. Social, cultural, religious, and personal reasons support the persistence of this practice. Some of these reasons include maintaining tradition and custom, promoting hygiene or aesthetics, upholding family honor, controlling women's sexuality and emotions, and protecting women's virginity until marriage.[7] Many women and girls who undergo female genital cutting, particularly those who undergo Type III cutting or infibulation, experience health problems including hemorrhage, pain, infection, perineal tears, and trauma during childbirth. They often also experience psychological and sexual problems.

The consequences of maternal mortality and morbidity are felt not only by women but also by their families and communities. Children who lose their mothers are at an increased risk for such problems as malnutrition or even death. Loss of women during their most productive years also means a loss of resources for the entire society.

Ensuring safe motherhood requires recognizing and supporting the rights of women and girls to lead healthy lives in which they have control over the resources and decisions that affect their health and safety. It requires raising awareness of complications associated with pregnancy and childbirth, providing access to high-quality health services (antenatal, delivery, postpartum, family planning, etc.), and eliminating harmful practices.

The Maternal and Neonatal Program Effort Index

In 2002, around 900 reproductive health experts evaluated and rated maternal and neonatal health services as part of an assessment in 55 developing countries.[8] The results of this study constitute the MNPI, which produced both international and country-specific ratings of relevant services. Using a tested methodology for rating programs and services,[9] 10 to 25 experts in each country—who were familiar with but not directly responsible for the country's maternal health programs—rated 81 individual aspects of maternal and neonatal health services on a scale from 0–5. For convenience, each score was then multiplied by 20 to obtain an index that runs from 0–100, with 0 indicating a low score and 100 indicating a high score.

The 81 items are drawn from 13 major components:

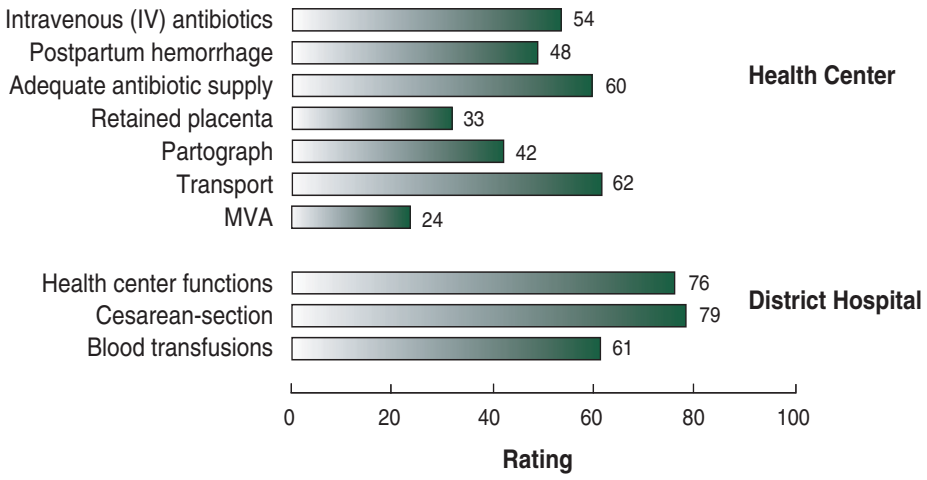
- Health center capacity
- District hospital capacity
- Access to services
- Antenatal care
- Delivery care
- Newborn care
- Family planning services at health centers
- Family planning services at district hospitals
- Policies toward safe pregnancy and delivery
- Adequacy of resources
- Health promotion
- Staff training
- Monitoring and research

Items from these categories can be further classified into five types of program effort: service capacity, access, care received, family planning, and support services. The following five figures, organized by type of program effort, present the significant indicators from the 2002 Egypt study.

Service Capacity

Overall, Egypt's capacity to provide emergency obstetric care received a rating of 59 out of 100. Figure 1 shows ratings of the capacity of health centers and district hospitals to provide specific services. Having transportation arrangements to quickly move a woman with obstructed labor to a district hospital (62) is the most commonly available service at health centers in Egypt, whereas providing manual vacuum aspiration of the uterus (MVA) for postabortion care (24) is the least available service. District hospitals received moderately high ratings for providing the basic set of health center functions (76) and performing Cesarean-sections (79). Blood transfusions (61) are the least available service among those assessed at district hospitals in Egypt.

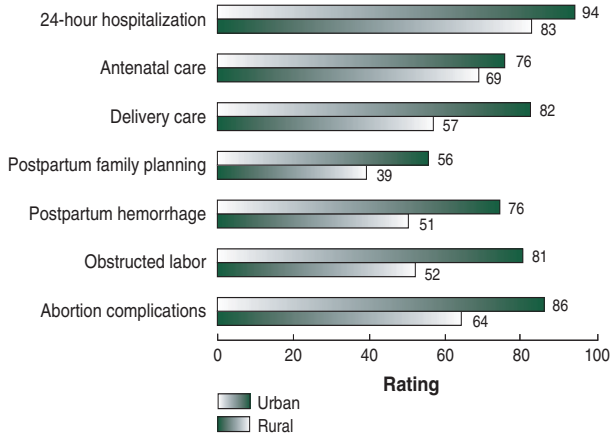
Figure 1. Service capacity of health centers and district hospitals in Egypt



Access

In most developing countries, access to safe motherhood services in rural areas is more limited than in urban areas. This issue is of particular significance for Egypt because the majority (58%)[10] of its population lives in rural areas. Overall, Egypt received a rating of 63 for access, with an average of 54 for rural access and 74 for urban access. Figure 2 presents the rural and urban access ratings for seven services. For many service areas, there are large gaps in the ratings for rural and urban access. Rural access scores ranged from a low of 39 for postpartum family planning services to a high of 83 for 24-hour hospitalization—suggesting an urgent need to increase access to a variety of services. Even urban access leaves definite room for improvement.

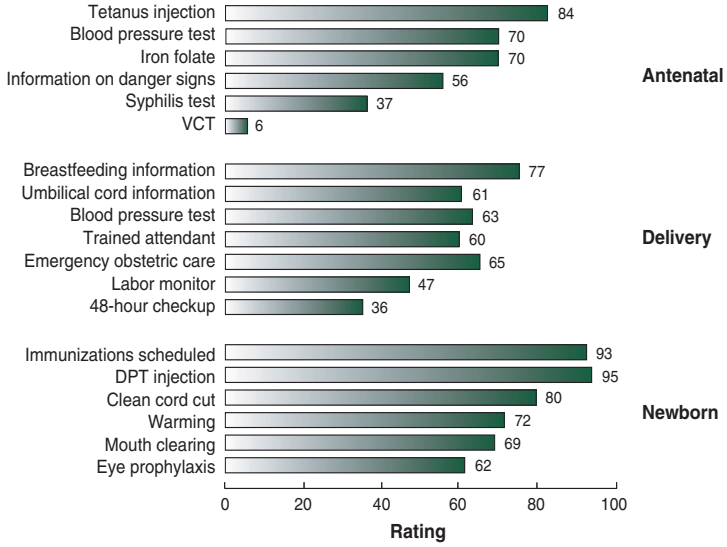
Figure 2. Comparisons of access to services in rural and urban areas in Egypt



Care Received

In most countries, newborn services are rated higher than delivery care or antenatal care, and this was the case for Egypt as well. Overall, care received was given a rating of 64, with newborn care receiving an average rating of 78 compared with 54 for antenatal care and 59 for delivery care. Figure 3 presents key indicators for each type of care. One of the more important indicators of maternal mortality is the presence of a trained attendant at birth,[11] which received a rating of 60. Other crucial elements that reduce maternal mortality are emergency obstetric care and the 48-hour postpartum checkup, which are rated 65 and 36, respectively. Voluntary counseling and testing for HIV (VCT) received the lowest rating (6), whereas providing DPT (diphtheria, pertussis, tetanus) injections at 3 months and immunization for newborns received the highest ratings (95 and 93, respectively).

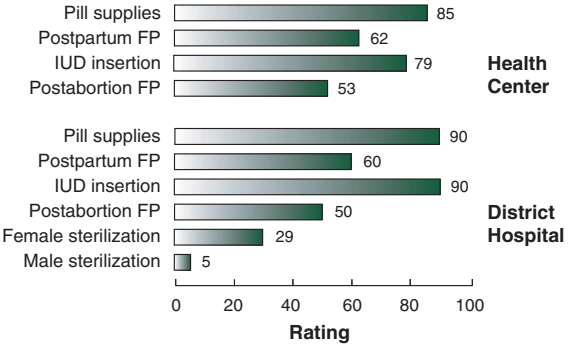
Figure 3. Antenatal, delivery, and newborn care received in Egypt



Family Planning

Egypt's family planning services provided by health centers and district hospitals together received an overall rating of 61. Figure 4 presents the ratings for individual family planning services provided by health centers and district hospitals. These ratings consider facility capacity, access, and care received. Both health centers and district hospitals received relatively high ratings for pill supplies (85 and 90, respectively) and IUD insertion (79 and 90). Postabortion family planning (53) was the lowest-rated service for health centers, whereas access to male sterilization was the lowest for district hospitals (5).

Figure 4. Provision of family planning services at health centers and district hospitals in Egypt



Policy and Support Functions

Policy and support functions in Egypt received an overall rating of 63. Ratings for support functions, shown in Figure 5, are divided into the following categories: policy, resources, monitoring and research, health promotion, and training. In relation to the other support functions, policy received the highest average ratings. Egypt's ministry-level policy on maternal health received a relatively fair rating of 78. Commitment to this policy and safe motherhood, however, needs to be reinforced through policies on the treatment of abortion complications—an aspect of policy that only received a rating of 60.

Figure 5. Policy and support services in Egypt

Policies, even when they have been adopted, do not automatically translate into high-quality services at the local level. Many of the support functions in Egypt, including resources, monitoring, health promotion, and training, are in need of further development. Ratings of the government budget (62) lagged behind the availability of free services and private sector resources, which received ratings of 65 and 74, respectively. The ratings also suggest that Egypt is in need of improved monitoring and research capabilities, particularly for the system whereby individual hospitals review and learn from each case of maternal death that occurs in the facility (52), and for regular analysis of results from routine statistics (60).

Health promotion and education of the public are important adjuncts to the provision of health services. Topics such as harmful home practices (57), pregnancy complications (70), and safe places to deliver (50) all require attention in Egypt. Mass media should be used to educate the public about safe pregnancy and delivery, and community-based organizations should assist these efforts through systematic programs.

Finally, the education and training of health professionals is an integral part of providing good-quality care and preventing maternal death and disability. Although ratings suggest that curricula (59) have been developed to some degree, actual training in Egypt is generally poorer, and was found to be weakest in the area of training for new doctors (45).

Global Comparisons

All ratings in the study are also organized under 13 major components (see page 3), which overlap the five types of program efforts above. The 13 components capture not only facility capacities, as in the first two items, but also the percentage of the whole population that has reasonable access to those facilities, in the third item. The next three items measure effort for antenatal, delivery, and newborn care. The next two concern the provision of family planning in health centers and district hospitals, because the prevention of unwanted pregnancies considerably reduces the numbers and rates of maternal mortality. The last set of items concerns support and back-up functions: policies and resources from the central level, then health promotion and training, and finally monitoring and research.

Table 1 compares Egypt's scores with the global averages for nine major components, two of which are broken down further, and the overall total of the MNPI. For Egypt, the highest ratings occur for obstetric care at the district hospital level (but not at the health center level), and for newborn care. Policies rank fairly high (71% of maximum), as do resources and family planning at health centers. The lowest ratings occur for obstetric care in health centers, antenatal care, and family planning at the district hospital level.

The two profiles, for Egypt and all countries, are roughly similar, suggesting that Egypt's experience is not far from that of the international average. The ratings clearly favor Egypt for the resources component. In the overall rating (bottom row), Egypt is above the average for all countries.

Table 1. Component Scores for Egypt and All 55 Countries in the International Study for 2002

Selected MNPI Indicators	Egypt	All Countries
Access to safe motherhood services by pregnant women*	63	56
Rural access	54	43
Urban access	74	69
Able to receive emergency obstetric care	59	58
Provided with appointment for postpartum checkup within 48 hours	36	44
Immunizations**	91	79
Maternal tetanus	84	80
Neonatal DPT	95	78
Other neonatal immunizations scheduled	93	80
Encouraged to begin immediate breastfeeding	77	76
Offered VCT	6	38
Postabortion family planning***	52	55
Adequate maternal health policy	71	72
Adequate budget resources	67	49
Overall MNPI Rating		
Total (average score for all 13 major components of maternal and neonatal health)	**62**	**59**

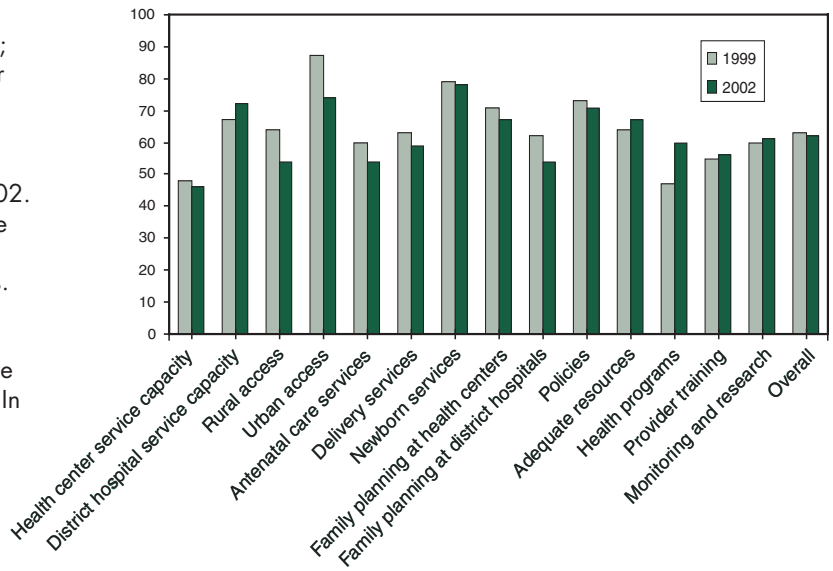
*Composite scores for all rural and urban access items
**Composite scores for maternal and neonatal immunizations
***Composite scores for health centers and district hospitals

Comparison Over Time

Between 1999, when the first MNPI was conducted in Egypt, and 2002, improvements can be seen in the effort put into maternal and neonatal services. Figure 6 illustrates how Egypt rated in 1999 and 2002, in 13 main areas, including staff trained in obstetric care in both health centers and district hospitals, percent of pregnant women who have access to care in both rural and urban areas, services provided at antenatal clinics and during delivery, neonatal services, provision of family planning at both health centers and district hospitals, policies that promote safe pregnancy and delivery, adequate resources to support services; health promotion programs, obstetric training for health care providers, and monitoring and research.

Egypt showed no improvement from 1999 to 2002. Egypt's overall score in 1999 was 63. This score decreased by one point in 2002, indicating a decline in the availability and access to services. Rural and urban access to safe motherhood services by pregnant women had the greatest score difference. In 1999, Egypt received a score of 64 for rural access and 87 for urban access. In 2002, these scores had gone down to 54 for rural access and 74 for urban access, a decrease of 10 and 13 points, respectively. Additionally, the score for antenatal care services decreased by 6 points—from 60 in 1999 to 54 in 2002. The greatest improvement was demonstrated in the provision of health promotion programs, whose score increased by 13 points—from 47 in 1999 to 60 in 2002. The availability of adequate resources also increased over the three-year time period by 3 points.

Figure 6. Comparison of selected items for Egypt MNPI scores in 1999 and 2002



Summary

The MNPI ratings indicate that Egypt's program efforts for better maternal and neonatal health have come a long way but still have far to go. The ratings for general policies are relatively high, but implementation for antenatal care and obstetric care at the health center level is not strong. In particular, use of a partograph and ability to deal with obstetric complications at the health center level receive low scores. Family planning is weak at the district hospital level, and postpartum family planning could be strengthened. Delivery care and training arrangements also receive lower ratings than most other components.

Favorable policies are common in the developing world, but implementation typically lags behind. Egypt needs to ensure that wise intentions are translated into high-quality, accessible services and programs at the local level. In some respects, there are large disparities in access to services between rural and urban populations.

Priority Action Areas

The following interventions have been shown to improve maternal and neonatal health and should be considered in Egypt's effort to strengthen maternal and neonatal health policies and programs.

- ***Increase access to reproductive health, sexual health, and family planning services, especially in rural areas.*** Due to the lack of access to care in rural areas, maternal death rates are higher in rural areas than in urban areas. In addition, many men and women in rural and urban areas lack access to information and services related to HIV/AIDS and other STIs.
- ***Strengthen reproductive health and family planning policies and improve planning and resource allocation.*** Although the MNPI scores demonstrate that many countries have strong maternal health policies, implementation of the policies may be inadequate. In some cases, advocacy can strengthen policies and increase the amount of resources devoted to reproductive health and family planning. In other cases, operational policy barriers—barriers to implementation and full financing of reproductive health and family planning policies—must be removed.
- ***Increase access to and education about family planning.*** Another feature that relates closely to preventing maternal mortality is the provision of family planning. Family planning helps women prevent unintended pregnancies and space the births of their children. It thus reduces their exposure to risks of pregnancy, abortion, and childbirth. Improved provision of a range of contraceptive methods can prevent maternal deaths associated with unwanted pregnancies.
- ***Increase access to good-quality antenatal care.*** High-quality antenatal care includes screening and treatment for STIs, anemia, and detection and treatment of hypertension. Women should be given information about appropriate diet and other healthy practices and about where to seek care for pregnancy complications. The World Health Organization's recommended package of antenatal services can be conducted in four antenatal visits throughout the pregnancy.
- ***Increase access to skilled delivery care.*** Delivery is a critical time in which decisions about unexpected, serious complications must be made. Skilled attendants—health professionals such as doctors or midwives—can recognize these complications, and either treat them or refer women to health centers or hospitals immediately if more advanced care is needed. Some women in rural areas lack easy access to high-quality obstetric care, so improvements depend greatly on early recognition of complications, better provisions for emergency treatment, and improved logistics for rapid movement of complicated cases to district hospitals. Reliable supply lines and staff retraining programs also are critical.
- ***Provide prompt postpartum care, counseling, and access to family planning.*** It is important to detect and immediately manage problems that may occur after delivery, such as hemorrhage, which is responsible for about 25 percent of maternal deaths worldwide. Postpartum care and counseling will help ensure the proper care and health of the newborn. Counseling should include information on breastfeeding, immunization, and family planning.
- ***Improve postabortion care.*** About 13 percent of maternal deaths worldwide are due to abortion complications. Women who have complications resulting from abortion need access to prompt and high-quality treatment for infection, hemorrhage, and injuries to the cervix and uterus.
- ***Strengthen health promotion activities.*** Mass media should be used to educate the public about pregnancy and delivery, and community-level organizations should assist this through systematic programs. An important step for health promotion, in order to prevent negative maternal health outcomes, is to have the Ministry of Health supply adequate educational materials regarding safe practices.

References

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[2] *www.unfpa.org/mothers/index.htm*

[3] Obstetric fistula occurs as a result of a prolonged and obstructed labor, which in turn is further complicated by the presence of female genital cutting. The pressure caused by the obstructed labor damages the tissues of the internal passages of the bladder and/or the rectum and, with no access to surgical intervention, the woman can be left permanently incontinent, unable to hold urine or feces, which leak out through her vagina. (UNFPA) Press Release, July 2001)

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[8] The MNPI was conducted by Futures Group and funded by the U.S. Agency for International Development (USAID) through the MEASURE Evaluation Project. For more information on the MNPI, see Bulatao, Rodolfo, A., and John A. Ross. 2002. " Rating Maternal and Neonatal Health Services in Developing Countries." *Bulletin of the World Health Organization* 80: 721–727 . Also see Ross, John A., Oona Campbell, and Rodolfo Bulatao. 2001. "The Maternal and Neonatal Programme Effort Index (MNPI)." *Tropical Medicine and International Health* 6(10): 787–798.

[9] This methodology for rating policies and programs was originally developed for family planning and has also been used for HIV/AIDS. See Ross, John A., and W. Parker Mauldin. 1996. "Family Planning Programs: Efforts and Results, 1972–1994." *Studies in Family Planning* 27(3): 137–147. Also see Stover, John, Joel Rehnstrom, and Bernhard Schwartlander. 2000. *Measuring the Level of Effort in the National and International Response to HIV/AIDS: The AIDS Program Effort Index (API)*. Geneva: UNAIDS.

[10] United Nations Department of Economic and Social Affairs, Population Division. 2002. "Urban and Rural Areas 2002." Retrieved from *www.un.org/esa/population/publications/wup2003/2003UrbanRural2003_Web.xls*.

[11] In the MNPI survey instrument, the term trained was used (as opposed to the term skilled) because it is empirically concrete for the respondent. Asking respondents about skill levels would require them to judge the probable quality of the original training and the deterioration of skills over time. Although knowing about skills is really more critical, it throws more subjectivity into the data, and as a factual matter, skills weren't measured.

For More Information

A complete set of results, including more detailed data and information, has already been sent to each of the participating countries. For more information, contact:

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