



Kenya

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 Kenya. 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).

Kenya's maternal mortality rate continues at an unacceptably high level. While maternal mortality figures vary widely by source and are highly controversial, the best estimates for Kenya suggest that approximately 14,700 women and girls die each year due to pregnancy-related complications. Additionally, another 294,000 to 441,000 women and girls will suffer from disabilities caused by complications during pregnancy and childbirth each year.¹

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 Kenyan women and girls, including antenatal care, emergency obstetric care, adequate postpartum care for mothers and babies, and family planning and STI/HIV/AIDS services. 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; and
- 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: Kenya

Population, mid-2001	29.8 million
Average age at first marriage, all women	20 years
Births attended by skilled personnel	44%
Total fertility rate (average number of children born to a woman during her lifetime)	4.4
Females giving birth by age 20	46%
Children who are exclusively breastfed at ages less than 6 months	12%
Contraceptive use among married women, ages 15-49, modern methods	32%
Abortion policy, 2000	Prohibited, or permitted only to save a woman's life

Sources: Population Reference Bureau – 2002 *Women of Our World*; 2001 *World Population Data Sheet*; *The World Youth 2000*; and 1999 *Breastfeeding Patterns in the Developing World* (see <http://www.worldpop.org/datafinder.htm>).

Understanding the Causes of Maternal Mortality and Morbidity

Maternal mortality refers to those deaths which 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.² In most cases, however, maternal mortality and disability can be prevented with appropriate health interventions.³

Some of the direct medical causes of maternal mortality include hemorrhage or bleeding, infection, unsafe abortion, hypertensive disorders, and obstructed labor. Other causes include ectopic pregnancy, embolism, and anesthesia-related risks.⁴ Conditions such as anemia, diabetes, malaria, sexually transmitted infections (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. Since 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.⁵ 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 impact 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 decision-making 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, abortion services, or treatment of STIs.

Traditional practices that affect maternal health outcomes include early marriage and female genital cutting. Many women in sub-Saharan Africa marry before the age of 20. 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.⁶ 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 death or other problems, such as malnutrition. 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 impact 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.

Maternal and Neonatal Program Effort Index

In 1999, around 750 reproductive health experts evaluated and rated maternal and neonatal health services as part of an assessment in 49 developing countries.⁷ The results of this study comprise the MNPI, which provides both international and country-specific ratings of relevant services. Using a tested methodology for rating programs and services,⁸ 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 categories, including:

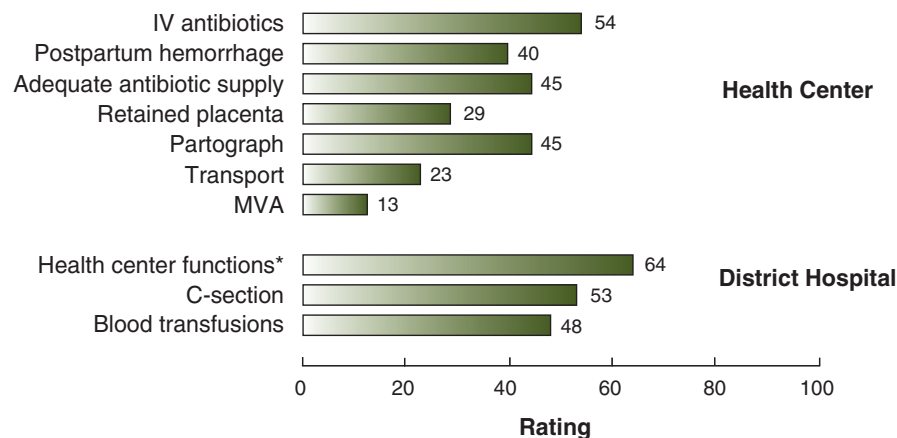
- Health center capacity;
- District hospital capacity;
- Access to services;
- Antenatal care;
- Delivery care;
- Newborn care;
- Family planning services at health centers;
- Family planning services at district hospitals;
- Policies toward safe pregnancy and delivery;
- Adequacy of resources;
- Health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

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

Service Capacity

Overall, Kenya’s service capacity to provide emergency obstetric care received a rating of 45 out of 100. Figure 1 shows ratings of the capacity of health centers and district hospitals to provide specific services. Administration of intravenous antibiotics (54) is the most commonly available service at health centers in Kenya, while providing vacuum aspiration of the uterus (MVA) for postabortion care (13) is the least available service. District hospitals received moderate ratings for providing a range of health center functions (64) and performing Cesarean-sections (53). Blood transfusions (48) were the least available service among those assessed at district hospitals in Kenya.

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

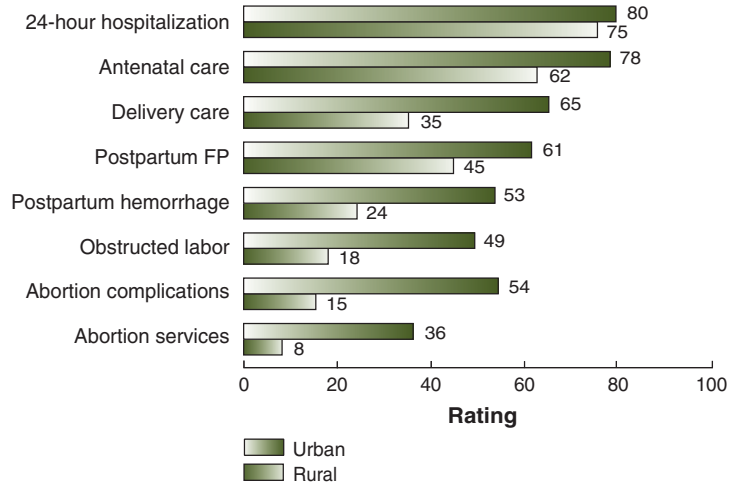


*Refers to all those functions performed by the health center.

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 Kenya since 80 percent of its population lives in rural areas.⁹ Overall, Kenya received a rating of 47 for access, with an average of 35 for rural access and 59 for urban access. Figure 2 presents the rural and urban access ratings for eight services. For many service areas, there are large gaps in the ratings for rural and urban access. Some of the largest disparities in ratings for urban and rural access are found in services for abortion complications (54 vs. 15, respectively), obstructed labor (49 vs. 18), and delivery care (65 vs. 35). Rural access scores ranged from a low of 8 for safe abortion services to a high of 75 for 24-hour hospitalization – suggesting an urgent need to increase access to a variety of services. Even when considering urban access, most services received only moderate scores and indicate much room for improvement.

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



Care Received

In most countries, newborn services are rated higher than delivery care or antenatal care, and this was the case for Kenya as well. Overall, care received was given a rating of 52, with newborn care receiving an average rating of 64 compared to 47 for antenatal care and 45 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,¹⁰ which received a rating of 38. Other crucial elements that reduce maternal mortality are emergency obstetric care and the 48-hour postpartum checkup, which are rated 35 and 28, respectively. HIV counseling and testing received the lowest rating (25), while providing breastfeeding information to pregnant women (79) and immunization scheduled for newborns (75) received the highest ratings.

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

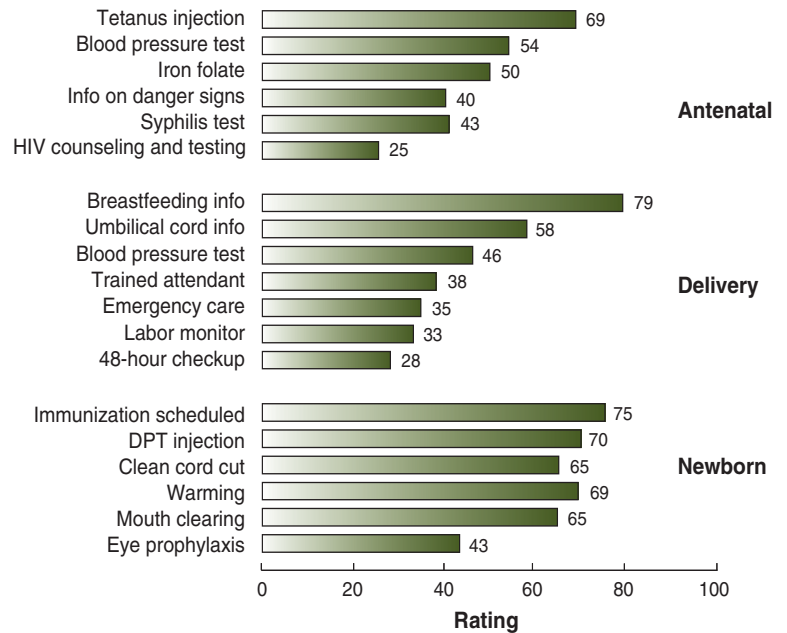
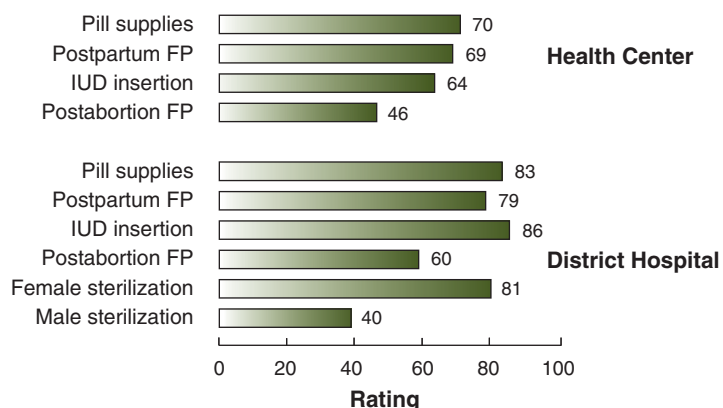


Figure 4. Provision of family planning services at health centers and district hospitals in Kenya



Family Planning

Overall, family planning services provided by health centers and district hospitals in Kenya received a rating of 68. 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. District hospitals received relatively high ratings for a range of services, including IUD insertion (86), pill supplies (83), female sterilization (81), and postpartum family planning (79). The lowest rated services among those assessed at district hospitals were postabortion family planning (60) and male sterilization (40). Pill supplies (70) and postpartum family planning (69) were the highest rated services at health centers in Kenya, while postabortion family planning (46) received the lowest rating.

Figure 5. Policy and support functions in Kenya



Policy and Support Functions

Policy and support functions in Kenya received an overall rating of 38. 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. Kenya's ministry-level policy on maternal health received a moderate rating of 63. Commitment to this policy needs to be reinforced through more frequent statements to the press and public by high-level government officials – an aspect of policy that only received a rating of 39. Policies regarding which personnel can provide maternal health services (60) and policies on treatment of abortion complications (52) should also be developed.

Policies, even when they have been adopted, do not automatically translate into quality services at the local level. Many of the support functions in Kenya, including resources, monitoring and research, health promotion, and training, are in need of further development. In terms of resources, ratings of the availability of free services (6) and government budget (26) lagged behind the private sector, which received a rating of 69. The ratings also suggest that Kenya is in need of improved monitoring and research capabilities, particularly systems whereby individual hospitals review and learn from each case of maternal death that occurs in the facility (31) and staff at the national level analyze data from routine statistical reports (32).

Health promotion and education of the public are important adjuncts to the provision of health services. Topics such as harmful customs (21), pregnancy complications (23), and safe places to deliver (31) all require attention in Kenya. 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 high quality care and preventing maternal death and disability. While ratings suggest that curricula including hands-on obstetric care training (76) have been developed to some degree, actual training in Kenya is generally poor, and was found to be weakest in the areas of training for new midwives and nurses (13) and in-service training for newly hired doctors (17).

Global Comparisons

Overall, the experts gave maternal and neonatal health services in Kenya a rating of 47, compared to an average of 56 for the 49 countries involved in the MNPI study. This rating places services in Kenya 44th among the 49 countries. Among the 13 developing countries studied in the sub-Saharan Africa region,¹¹ services in Kenya rank 12th. While comparisons across countries should be made with a certain degree of caution – given the subjective nature of expert opinions and evaluations in different countries – these comparisons may help maternal health care advocates and providers in Kenya identify priority action areas. It is also important to keep in mind that average scores may mask the differences among provinces within each country.

Table 1 compares Kenya's scores to the global averages for nine selected items of the MNPI. The table shows that Kenya's ratings for maternal and neonatal health services in some key areas lag behind the global average. The largest disparities between ratings for the global assessment and Kenya are found in budget resources (48 vs. 26, respectively), emergency obstetric care (55 vs. 35), and providing appointments for the 48-hour postpartum checkup (41 vs. 28). Kenya's highest ratings are for encouraging breastfeeding (79), immunization (71), and maternal health policy (63). The indicators receiving the lowest ratings in Kenya – and perhaps requiring urgent attention – are voluntary counseling and testing for HIV (25), adequate budget resources (26), and the 48-hour postpartum checkup (28).

Table 1. Comparison of global and Kenya MNPI scores for selected items, 1999

Indicators of Maternal and Neonatal Services	Global Assessment (49 country average)	Kenya
Access to safe motherhood services by pregnant women*		
Rural access	39	35
Urban access	68	59
Able to receive emergency obstetric care	55	35
Provided appointment for postpartum checkup within 48 hours	41	28
Immunization**	76	71
Encouraged to begin immediate breastfeeding	74	79
Offered voluntary counseling and testing for HIV	30	25
Postabortion family planning	54	53
Adequate maternal health policy	72	63
Adequate budget resources	48	26
Overall rating	56	47

*Refers to composite scores for all the rural and urban access items.
**Refers to a composite of three immunization items: maternal tetanus immunization, DPT immunization, and other immunizations scheduled.

Summary

The MNPI ratings indicate that Kenya has a moderate national policy on safe motherhood. The country has access to some private sector resources and curricula for training health care providers have been developed. The country must now make sure that these efforts are translated into high quality, accessible services and programs at the local level. The ratings suggest that women and babies, overall, have reasonable access to some types of services, including newborn care and family planning (e.g., pills, IUD insertion). However, there are vast disparities in urban and rural access to many services. Moreover, women in all

regions need access to improved antenatal and delivery care, including skilled attendants at birth, a 48-hour postpartum checkup, and emergency obstetric care. Voluntary counseling and testing for HIV is also extremely limited, which may be a concern since about 14 percent of Kenya's adult population (age 15-49) is living with HIV/AIDS.¹² Finally, as in most other developing countries, maternal and neonatal health care services in Kenya face resource shortages – particularly free services and government budget allocations – that hamper expansion of services to adequately meet the needs of women.

Priority Action Areas

The following interventions have been shown to improve maternal and neonatal health and should be considered in Kenya'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.** While the MNPI scores demonstrate that many countries have strong maternal health policies, implementation of the policies may be inadequate. Often, available resources are insufficient or are used inefficiently. 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. Reliable provision of a range of contraceptive methods can help prevent maternal deaths associated with unwanted pregnancies.
- **Increase access to high 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. Women in rural areas live far distances from 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. Increased medical coverage of deliveries, through additional skilled staff and service points, are basic requirements for improving delivery care. Reliable supply lines and staff retraining programs are also 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 unsafe abortion. 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

¹ The source used to calculate these figures is the 1995 WHO/UNICEF/UNFPA estimate of maternal mortality. See Hill, K., C. AbouZahr, and T. Wardlaw. 2001. "Estimates of Maternal Mortality for 1995." *Bulletin of the World Health Organization* 79 (3): 182-193.

² 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)

³ MEASURE Communication. 2000. *Making Pregnancy and Childbirth Safer*. (Policy Brief) Washington, DC: Population Reference Bureau. Available at <http://www.prb.org/template.cfm?Section=PRB&template=/ContentManagement/ContentDisplay.cfm ContentID=2824>

⁴ World Health Organization. 2001. *Advancing Safe Motherhood through Human Rights*. Available at http://www.who.int/reproductive-health/publications/RHR_01_5_advancing_safe_motherhood/RHR_01_05_table_of_contents_en.html

⁵ Dayaratna, V., W. Winfrey, K. Hardee, J. Smith, E. Mumford, W. McGreevey, J. Sine, and R. Berg. 2000. *Reproductive Health Interventions: Which Ones Work and What Do They Cost?* (Occasional Paper No. 5) Washington, DC: POLICY Project. Available at <http://www.policyproject.com/pubs/occasional/op-05.pdf>

⁶ Population Reference Bureau. 2001. *Abandoning Female Genital Cutting: Prevalence, Attitudes, and Efforts to End the Practice*. Washington, DC: Population Reference Bureau. Available at http://www.prb.org/pdf/AbandoningFGC_Eng.pdf

⁷ The MNPI was conducted by the 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, R. A., and J. A. Ross. 2000. *Rating Maternal and Neonatal Health Programs in Developing Countries*. Chapel Hill, NC: MEASURE Evaluation Project, University of North Carolina, Carolina Population Center.

⁸ This methodology for rating policies and programs was originally developed for family planning and has also been used for HIV/AIDS. See Ross, J. A., and W. P. Mauldin. 1996. "Family Planning Programs: Efforts and Results, 1972-1994." *Studies in Family Planning* 27 (3):137-147. Also see UNAIDS, USAID, and POLICY Project. 2001. "Measuring the Level of Effort in the National and International Response to HIV/AIDS: The AIDS Program Effort Index (API)." Geneva: UNAIDS.

⁹ Population Reference Bureau. 2001. *2001 World Population Data Sheet*. Washington, DC: Population Reference Bureau. Available at http://www.prb.org/Content/NavigationMenu/Other_reports/2000-2002/sheet4.html

¹⁰ In the MNPI survey instrument, the term "trained" was used because it is empirically concrete for the respondent, whereas "skilled" is more subjective. Asking respondents about skill levels would require them to judge the probable quality of the original training and the deterioration of skills over time. While knowing about skills is really more critical, it throws more subjectivity into the data and, as a factual matter, skills were not measured.

¹¹ Countries in the sub-Saharan Africa region that were included in this index are: Angola, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Nigeria, South Africa, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

¹² See UNAIDS. *Report on the Global HIV/AIDS Epidemic, June 2000*. Available at http://www.unaids.org/epidemic_update/report/Epi_report.htm

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:

The Maternal Health Study (MNPI)
Futures Group
80 Glastonbury Blvd.
Glastonbury, CT 06033 USA

E-mail: j.ross@fsgi.com
Fax: J.Ross +1 (860) 657-3918
Website: <http://www.futuresgroup.com>

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