

Nepal

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 Nepal. 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).

Nepal'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 Nepal suggest that approximately 6,900 women and girls die each year due to pregnancy-related complications. Additionally, another 138,000 to 207,000 Nepalese women and girls will suffer from 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 Nepalese 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: Nepal

Population, mid-2001	23.5 million
Average age at first marriage, all women	16 years
Births attended by skilled personnel	11%
Total fertility rate (average number of children born to a woman during her lifetime)	4.8
Females giving birth by age 20	52%
Children who are exclusively breastfed at ages less than 6 months	74%
Contraceptive use among married women, ages 15-49, modern methods	26%
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.

One traditional practice that affects maternal health outcomes is early marriage. Many women in developing countries 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.

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.

The 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.⁶ 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,⁷ 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:

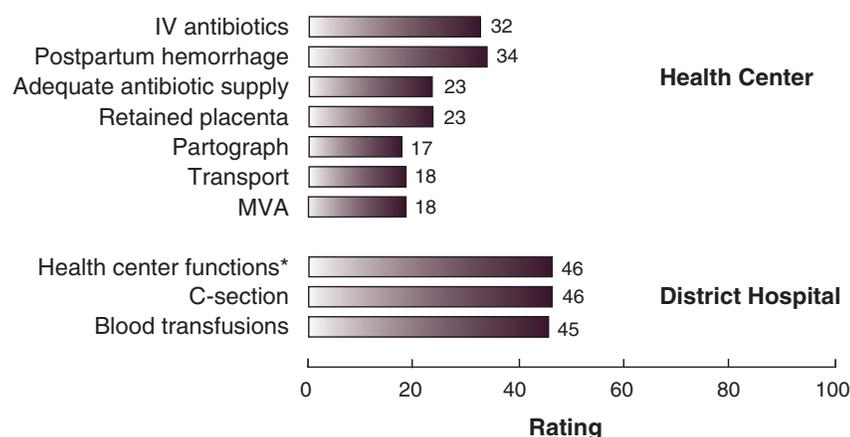
- Health center capacity;
- District hospital capacity;
- Access to services;
- Antenatal care;
- Delivery care;
- Newborn care;
- Family planning services at health centers;
- Family planning services at district hospitals;
- Policies toward safe pregnancy and delivery;
- Adequacy of resources;
- Health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

Service Capacity

Overall, Nepal’s service capacity to provide emergency obstetric care received a rating of 35 out of 100. Figure 1 shows ratings of the capacity of health centers and district hospitals to provide specific services. In general, both health centers and district hospitals received low ratings for providing these services. Administration of intravenous antibiotics (32) and the ability to manage postpartum hemorrhage cases (34) are the most commonly available services at health centers in Nepal, while providing vacuum aspiration of the uterus (MVA) for postabortion care (18), the ability to quickly transport a woman with obstructed labor (18), and the use of a partograph (17) are the least available services. District hospitals received low ratings for providing a range of health center functions (46), performing Cesarean-sections (46), and providing blood transfusions (45).

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

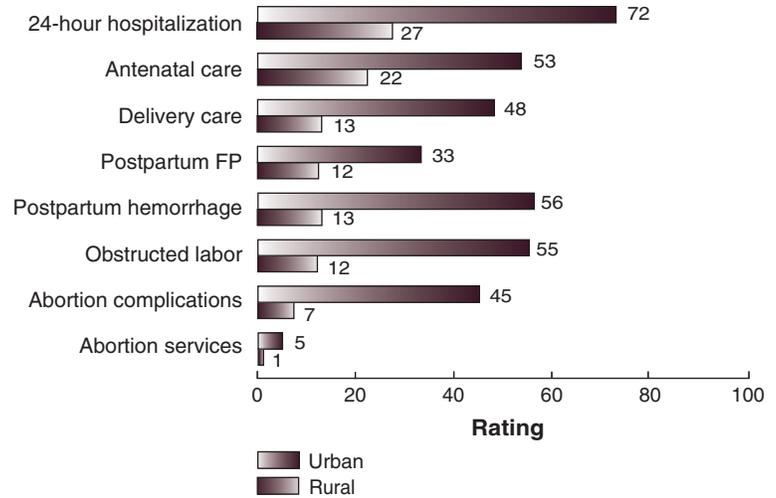


*Refers to all those functions performed by the health center

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 Nepal since most (89 percent) of its population lives in rural areas.⁸ Overall, Nepal received a rating of 30 for access, with an average of 13 for rural access and 46 for urban access. Figure 2 presents the rural and urban access ratings for eight services. For each service area, there are large gaps in the ratings for rural and urban access. Rural access scores ranged from a low of 1 for safe abortion services to a high of 27 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 these ratings indicate much room for improvement.

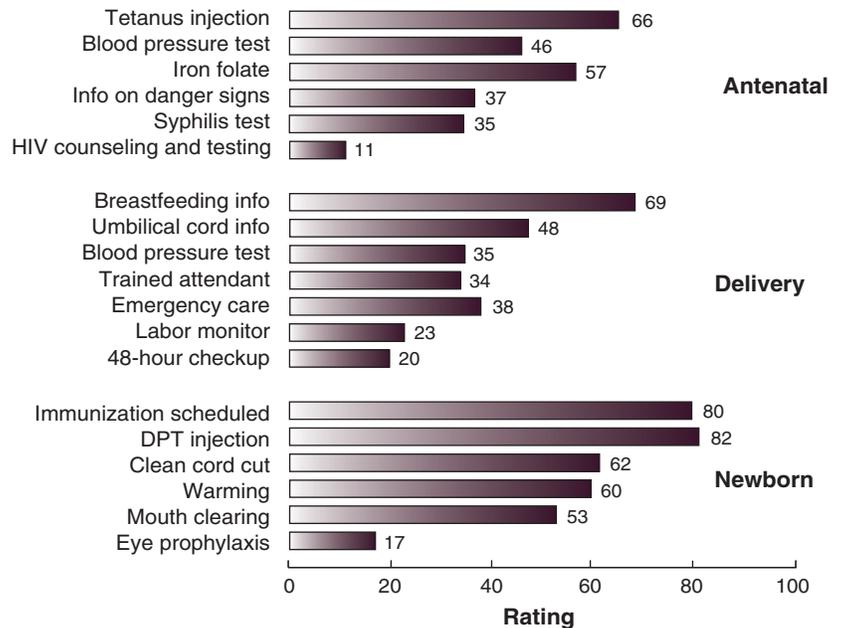
Figure 2. Comparisons of access to services for rural and urban areas in Nepal



Care Received

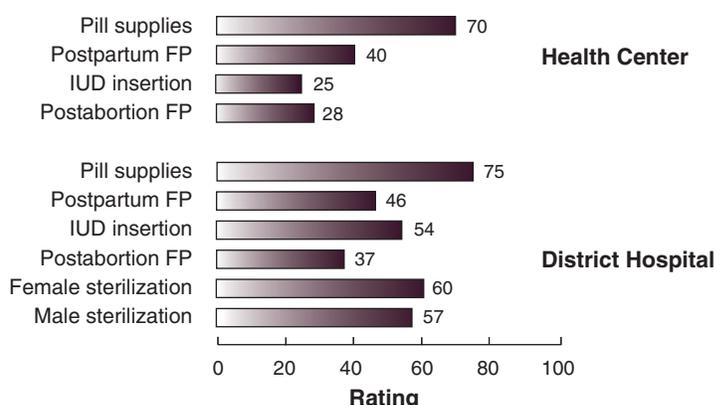
In most countries, newborn services are rated higher than delivery care or antenatal care, and this was the case for Nepal as well. Overall, care received was given a rating of 46, with newborn care receiving an average rating of 59 compared to 42 for antenatal care and 38 for delivery care. Figure 3 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,⁹ which received a rating of 34. Other crucial elements that reduce maternal mortality are emergency obstetric care and the 48-hour postpartum checkup, which are rated 38 and 20, respectively. Voluntary counseling and testing for HIV received the lowest rating (11), while DPT injection (82) and immunization scheduled (80) for newborns received the highest ratings.

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



Family Planning

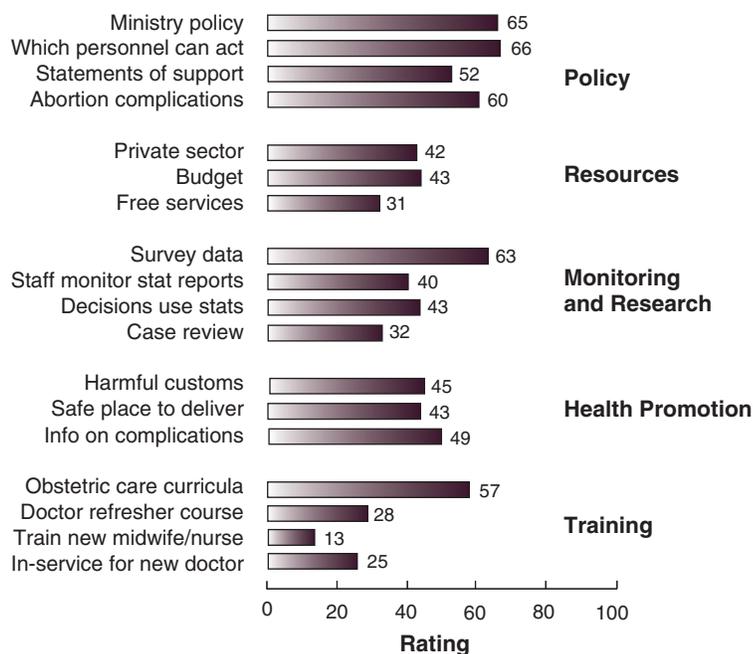
Figure 4. Provision of family planning services at health centers and district hospitals in Nepal



Nepal's family planning services provided by health centers and district hospitals together received a rating of 46. 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 (70 and 75, respectively). Postabortion family planning (28) and IUD insertion (25) were the lowest rated services for health centers, while postabortion family planning was the lowest for district hospitals (37).

Policy and Support Functions

Figure 5. Policy and support functions in Nepal



Policy and support functions in Nepal received an overall rating of 44. 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 generally received the highest ratings. Nepal's ministry-level policy on maternal health received a moderate rating of 65. Commitment to this policy, however, 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 52.

Policies, even when they have been adopted, do not automatically translate into quality services at the local level. Many of the support functions in Nepal, including resources, monitoring and research, health promotion, and training, are in need of further development. Ratings of the availability of free services (31) lagged slightly behind the government budget and private sector resources, which only received ratings of 43 and 42, respectively. The ratings also suggest that Nepal is in need of improved monitoring and research capabilities, particularly a system whereby individual hospitals review and learn from each case of maternal death that occurs in the facility (32).

Health promotion and education of the public are important adjuncts to the provision of health services. Topics such as safe places to deliver (43), harmful customs (45), and pregnancy complications (49) all require attention in Nepal. 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. Nepal received a moderate score for developing medical curricula that include hands-on obstetric care training (57). Actual training in Nepal received lower scores, and was found to be weakest in the area training for new midwives and nurses (13).

Global Comparisons

Overall, the experts gave maternal and neonatal health services in Nepal a rating of 41, compared to an average of 56 for the 49 countries involved in the MNPI study. This rating places services in Nepal 47th among the 49 countries. Among the four developing countries studied in the South Asia region,¹⁰ services in Nepal rank third. 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 Nepal 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 Nepal's scores to the global averages for nine selected items of the MNPI. With the exception of immunization, Nepal's ratings for maternal and neonatal health services lag behind the global average in all areas. The largest disparities between the global assessment and Nepal are found in rural access to safe motherhood services (39 vs. 13, respectively), urban access (68 vs. 46), and postabortion family planning (54 vs. 33). Nepal's highest ratings are for immunization (76), encouraging breastfeeding (69), and maternal health policy (65). The indicators receiving the lowest ratings in Nepal – and perhaps requiring urgent attention – are voluntary counseling and testing for HIV (11), rural access (13), and the 48-hour postpartum checkup (20).

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

Indicators of Maternal and Neonatal Services	Global Assessment (49 country average)	Nepal
Access to safe motherhood services by pregnant women*		
Rural access	39	13
Urban access	68	46
Able to receive emergency obstetric care	55	38
Provided appointment for postpartum checkup within 48 hours	41	20
Immunization**	76	76
Encouraged to begin immediate breastfeeding	74	69
Offered voluntary counseling and testing for HIV	30	11
Postabortion family planning	54	33
Adequate maternal health policy	72	65
Adequate budget resources	48	43
Overall rating	56	41

*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 Nepal does relatively well when it comes to providing some aspects of newborn care, including immunization scheduled and DPT injection. Nepal also received moderate scores for its maternal health policies. The country must now strengthen policy and program efforts to ensure access to a variety of services at the local level. The ratings suggest that women have reasonable access to some types of services, including antenatal care (e.g., tetanus immunization) and pill supplies. However, there are vast disparities in urban and rural access to many services. Moreover, women in all regions need

access to improved 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 it is important to maintain the relatively low prevalence (0.3 percent) of HIV/AIDS in Nepal's adult population (age 15-49).¹¹ Finally, as in most other countries, maternal and neonatal health care services in Nepal face extreme resource shortages – from both the public and private sectors – 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 Nepal'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 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, 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.
- ⁷ 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.
- ⁸ 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
- ⁹ In the MNPI survey instrument, the term "trained" was used because it is empirically concrete 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.
- ¹⁰ Countries in the South Asia region that were included in this index are: Bangladesh, India, Nepal, and Pakistan.
- ¹¹ 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:

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